

## **The Impact of Reciprocal Teaching on the Development of Musical Understanding in High School Student Members of Performing Ensembles: An Action Research**

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### **Abstract**

*We used action research to investigate whether the instructional method known as reciprocal teaching could nurture high school students' musical understanding. Reciprocal teaching was originally used to help students find meaning in literary texts (Palincsar & Brown, 1984) and comprises the classroom strategies of summarizing, question generating, clarifying, and predicting, typically involving dialogue between students and teacher. To bring meaning to musical repertoire in ensembles, D. Abrahams added connecting to Palincsar's (1982) original list of four.*

*One researcher studied students in the orchestra at an urban high school in the Midwest United States. The other applied the strategies in a high school honors choir at the preparatory division of a music college on the U.S. east coast. Data included dialogues or conversations between the researcher and the students, structured journal writing, and cross-curricular activities. In addition, each rehearsal was videotaped, and data were coded and analyzed to identify patterns and themes across cases. Verification was claimed through triangulation, face validity, catalytic validity, and construct validity. We found positive outcomes when we included reciprocal teaching in our separate ensemble rehearsals, such as faster and easier work in preparing literature.*

## Introduction

When teachers discuss integrating curriculum, they generally mean connecting topics across disciplines. For instance, schools will adapt a theme like patriotism and teachers in each subject area will develop learning modules that address the topic in their particular area. The music teacher may focus on nationalism in music or on some aspect of patriotic music like national anthems. The history teacher may look at the subject through the lens of politics. The language arts teachers may assign readings about victories in war and ask their students to write poems that reflect aspects of the patriotic spirit. In other instances, integrating curriculum occurs when a few teachers, often on their own, collaborate on topics. If the science classes are learning about whales, then perhaps the art teacher works with children to sculpt whales from pariscraft or papier-mâché. The music teacher develops a listening lesson to focus on “And God Created Great Whales,” by American composer Alan Hovhannes, in which the composer infused recorded whale sounds into the programmatic composition.

With the exception of cooperative learning, where children work together in groups to accomplish a particular educational task, it is less usual for teachers to use the teaching strategies associated with one subject domain in another. This study looks at an exception to this general rule. It offers school ensemble conductors a model for adapting a strategy borrowed from language literacy—reciprocal teaching—to facilitate the ability of students to understand the music they study and perform it with substance and depth. Reciprocal teaching also encourages students to make connections between subjects and to apply their learning to their lives outside the school music experience.

Another reason to integrate teaching strategies is federal mandates to ensure that all children are able to meet high standards in language literacy and mathematics. To demonstrate

those abilities, and for schools to be accountable to the government, students must achieve high scores on standardized examinations. Schools are directed by the national government to do whatever it takes to make that happen.

The question for music teachers is how they can meet the mandates of language literacy without compromising the goals and objectives of music education. In the instance of the high school in this study, the administration required all teachers, regardless of their subject area, to use reciprocal teaching in their classrooms. This mandate served as the catalyst for us to investigate how reciprocal teaching might be enacted in musical ensembles. We agree with Fowler's (2001) contention that strong arts make strong schools.

Reciprocal teaching is an instructional strategy used in language arts involving dialogue or conversation between teachers and their students. Palincsar and Brown (1985, 1986), generally credited with first describing reciprocal teaching, applied *summarizing*, *question generating*, *clarifying*, and *predicting* strategies to help students bring meaning to literary texts. Collectively, these strategies constitute what is now called reciprocal teaching.

### **Purpose of the Study**

The purpose of this study was to see what happened when ideas from reciprocal teaching were applied to ensemble rehearsals with the goal of improving students' musical understanding. The study involved using these ideas with an orchestra in an urban high school in the U.S. Midwest and an auditioned choral ensemble at an affluent community music school affiliated with a college on the U.S. east coast. Specifically, we asked to what extent do the strategies of reciprocal teaching foster the musical understanding of students in high school musical performing ensembles.

The study was bounded from September 2007 to May 2008.

### **Musical Understanding**

We define musical understanding as the abilities to engage musical imagination, musical intellect and musical creativity and to be able to apply evidence of such knowings to musical performance. A classic example of musical imagination is found in the very different ways that Franz Süssmayr, Richard Mauder, and Robert Levin finished Mozart's *Requiem*. We see a glimpse of musical imagination when we listen to Rod Stewart add his distinctive style to great American popular song standards. We hear musical imagination in the raps of hip-hop artists and in the ballads of pop singing stars. Imagining the music that could accompany the flying scene in the movie *E. T.* or the galactic explorations in the American film classic *Star Wars* are further examples of musical imagination. Children use their musical imaginations when they create a descant to sing over a given melody or when they work in what Lucy Green (2002, 2008) identifies as "friendship groups," creating their own versions of their favorite pop recordings. Kids in the garage jamming on their guitars, keyboards, basses, and drums show musical imagination of the highest order. Children in preschool use their musical imaginations when they find sounds to accompany the story in a picture book.

Musical intellect is the ability to see within the given. For example, reducing a Chopin *Nocturne* to five primary pitches by applying Shenkerian analysis is one instance where musical intellect is engaged. Finding the hemiola in the rhythm of an English madrigal is another such instance. When students are able to discuss with significance and substance two different performances of "Que nem maré" on the CD *Perfil*, by the artist Jorge Vercilo, they are engaging their musical intellect.

Musical creativity is the ability to use the tools of music making that are learned in one context and apply them in new, unique, innovative, and original ways that influence future musical efforts. Musical creativity is different from musical imagination in that examples of musical imagination connect to already existing forms. For instance, writing music to accompany something that already existed is one example. Musical creativity involves the invention of new forms. Robert Moog inventing the synthesizer is an example of creativity. Free composition and improvisation are other examples. Musical creativity might also include inventing new instruments, or preparing a piano, as John Cage did. When school children find new sounds on the synthesizer or invent a new form or genre, they are engaging musical creativity. Gardner (2006) claims creativity when children can pose new problems and ask new questions. This connects well to reciprocal teaching since questioning is a key component. Sometimes the categories overlap in ways akin to meta-cognition. For instance, inventing notation to document musical thoughts and ideas combines musical creativity with musical imagination and may involve the musical intellect as well. Clearly, musical imagination, intellect and creativity do not function as separate entities; rather, musicians apply them in a meta configuration calling on each in varying amounts mediated by the content and context of the musical experience in which they are engaged.

### **Reciprocal Teaching**

Reciprocal teaching involves dialogue or conversation between teachers and their students. Twenty years ago, Palincsar and Brown (1985) applied a series of classroom strategies to help students bring meaning to literary text; these strategies are now called reciprocal teaching. During reciprocal teaching, roles interchange, and the teacher can become

the student and the students, teachers (Palincsar & Brown, 1986).

Four strategies comprise the original reciprocal teaching model: summarizing, questioning, clarifying, and predicting (Oczkus, 2003). As this study progressed, connecting was added by Daniel Abrahams because he observed that the strategies acted in tandem, one with another, in ways that are inter-locking and holistic. We have reconceptualized the strategies of reciprocal teaching to apply them to rehearsing musical ensembles in schools. Frank Abrahams (in press) introduced the strategies in the forthcoming text *Teaching Music Through Performance in Middle School Choir*. The following descriptions are largely drawn from that text. Daniel Abrahams (Abrahams & Abrahams, 2005) applied the strategies when studying differentiated instruction in the high school band.

### **Summarizing**

Summarizing is the ability to identify and integrate the most important information within the music. The ability to realize that texture is the principal musical element in a particular piece or that issues of mixed meter are the most prominent challenge are examples of summarizing. For choirs, this aspect of reciprocal teaching engages students in the ability to summarize the text across sentences, paragraphs, or whole passages because understanding and communicating the text is paramount. A singer's initial focus will be on the text within musical phrases and then grow to encompass musical periods, then musical sections.

### **Questioning**

Questioning reinforces summarization. Students are challenged to frame significant and substantial questions. The questioning strategy is a catalyst for deeper understanding. In addition to students shaping questions, teachers also apply questioning when using reciprocal

teaching to suggest prompts that engage cognition. Students must think about what they don't know, what they need to know, and what they would like to know. Asking questions is a reciprocal strategy that allows students to infer and apply new information gleaned from the musical lines and phrases.

### **Clarifying**

In the musical ensemble, one goal for the conductor and the musicians is to make musical sense of what is being played or sung. Difficult musical concepts, such as phrase, intonation, dynamics, new vocabulary, or unfamiliar harmonic language, may render the music difficult to understand. When asked to clarify, the student's attention is called to consider the reasons why the music is difficult to understand. For instance, students often have difficulty relating to music of the Renaissance. They don't understand the style and context and are unfamiliar with the genre. They complain that such music is boring or uninteresting to perform. Placing the music into a context that connects to the music they enjoy outside the ensemble helps to clarify understanding. Students can be taught to be alert to such roadblocks and to take the necessary measures to restore meaning.

### **Predicting**

In predicting, players and singers along with the conductor hypothesize the musical and technical issues that will cause difficulty. When learning to sight read, students learn to predict what will come next. Confirming or refuting such predictions by playing the music is one purpose for rehearsal. Students in band, orchestra, or choir use clues such as cadences, motives, and musical ideas embedded in the composition to formulate their predictions. This is an opportunity to link new knowledge with knowledge already gained.

## **Connecting**

Connecting interconnects the strategies. Clearly, summarizing, clarifying, questioning, and predicting overlap at times in the rehearsal process. Sometimes students make the connections themselves, in other instances, the teacher serves as a catalyst to help students see the connections and apply them to their music making. Connecting supports constructivist principles where students are encouraged to make meaning on their own (McCarthy, 2000; Vygotsky, 1978; Wink, & Putney, 2001) and ensures that students are using higher-level thinking and understanding the musical concepts in the repertoire they are rehearsing.

As a collection, these strategies are consistent with the goals of high school ensembles, which are to perform new repertoire, nurture musical literacy and the abilities to listen critically, recreate a composer's musical intentions, experience musics of different genres and periods, and the like. The difference between using reciprocal teaching with a music ensemble and using it with text is that the ultimate outcome for the ensemble is public performance, whereas the desired outcome in language arts is to improve comprehension, which would of course improve higher scores on standardized tests.

## **Research on Reciprocal Teaching**

In 1982, Palincsar investigated the effects of explicit instruction using four monitoring activities (summarizing, questioning, clarifying, and predicting) with junior high students in language arts classes. She reported five findings. First, students made considerable improvement in their ability to answer reading comprehension questions. Second, the type of question, open or closed for example, used in the study had no effect on instruction. Third, students showed their increased ability to summarize and generate questions verbally. Fourth,



the students demonstrated skill transfer on three out of four tasks similar to but distinct from the instructional task. Finally, the results observed in the experimental setting were also observed in the classroom setting.

Two years later, Palincsar and Brown (1984) studied seventh-grade students who received instruction using reciprocal teaching strategies. Student comprehension was improved not only in language arts, but in science and social studies as well. “This is an impressive finding, particularly given the difficulty investigators have experienced getting generalizable effects of training across task settings” (Palincsar & Brown, 1984, p. 147). Rosenshine and Meister (1994), in their meta-analysis of 16 studies, conclude that reciprocal teaching is highly effective for teaching cognitive strategies to improve reading comprehension. The strategy was effective as long as the quality of instruction was high.

Other researchers, such as Levin (1989), studied the use of reciprocal teaching with learning-disabled intermediate school students. Levin found that the time needed for implementation of the strategy was longer than expected. Levin claimed that there were important gains for some teachers’ students on error-detection tests and Stanford comprehension tests and asserted that more time was needed to teach using the strategy and for students to practice with textbooks. He suggested that more teacher instruction, with modeling, feedback, and coaching, might have brought teachers to a higher skill level and that differences between the teachers influenced the results. Lindblom (2000) used the reciprocal teaching strategies with four students with low reading-comprehension skills. Lindblom found that all the students showed gains in reading comprehension measured by an informal reading inventory.

In 2003, Weedman published a descriptive study examining the effects of a reading

program that used the reciprocal teaching strategy with ninth-grade students. He compared the results of the reading comprehension tests of two groups, one whose instructors used reciprocal teaching and one whose instructors did not. The group that received instruction with reciprocal teaching had higher comprehension scores.

Galloway (2003) evaluated research on the effectiveness of using reciprocal teaching to improve reading comprehension. She used a traditional meta-analysis and reported a moderate improvement in reading comprehension for teaching using the reciprocal teaching strategy. Galloway also found that there was no difference between effects for norm-referenced and experimenter or teacher-generated tests. She suggests that the results of reciprocal teaching are maintained over time and that instruction using reciprocal teaching can help readers improve reading comprehension.

In an investigation of meta-cognitive reading strategies, teachers were observed implementing instruction using two of the four reciprocal teaching strategies: clarification and summarization (Hess, 2004). Hess reported that students improved the quality of their discussions of expository text, demonstrated a higher level of critical thinking in their questioning, and achieved higher comprehension test scores on district norm-referenced tests.

Diehl (2005) studied the effects of reciprocal teaching on fourth-grade students with low reading skills. Specifically, he looked at students who had difficulty decoding words and who demonstrated poor comprehension skills. Students relied heavily on their knowledge of the real world when using the predicting strategy, and questioning and clarification of ideas were the impetus for group discussions leading to the construction of meaning. Diehl states that the construction of meaning appeared to result from the interconnectedness of the four reciprocal teaching strategies.

Maria (1990) maintains that reciprocal teaching is a successful technique for children with difficulties in reading comprehension. She further indicates that there was substantial improvement in dialogue between student and teacher, improvement on standardized tests in measured comprehension, durability in the effect of the strategy over a period of six months, and improvement transferred to similar but separate classroom tasks. Maria attributed these improvements to the application of the strategies of reciprocal teaching by the teacher.

Wormeli (2001) states that the main advantage of reciprocal teaching is that it allows the teacher to differentiate instruction. That is, it accounts for students who develop intellectually at different rates and in different styles. The teacher individualizes goals within the classroom content and instructional strategies. Therefore implementation varies among classrooms. Tomlinson (2001) adds that students work in an atmosphere of respect and appreciation for their peers and their differences when teachers differentiate the instruction.

Bass (2005) applied the strategies to her high school music theory class. She notes that “a guiding principle of [reciprocal teaching] is focusing on what the learners should be able to recall, understand, and do in a given domain. Instruction ... is centered around the concepts, principles, and skills of the subject. It provides a way for the learner to understand and retrieve information, to construct meaning, and to see the relationship of the parts to the whole” (p. 3). Her findings indicated that students learned music faster and received higher scores in performance adjudications. Snow and Apfelstadt (2002) write that musical thinking and learning in the context of an ensemble experience are maximized when the musicians have multiple opportunities to make musical decisions and use musical judgment. Bass (2005) indicates that reciprocal teaching ensures that all students have the opportunity to develop their abilities and pursue both equity and excellence.

## **Method**

We chose action research as the qualitative design for this investigation because we both applied the strategies of reciprocal teaching to study our own students within our own ensemble rehearsals. Mertler (2006) defines action research “as any systematic inquiry conducted by teachers ... with a vested interest in the teaching and learning process” (p. 2). Mills (2003) adds that action research is the appropriate design when teachers wish to investigate how they teach and how their students learn. It is usually done by teachers for themselves. Teachers conduct research in their own classrooms, in this case, their own ensemble rehearsals, to better understand their students and to serve the students’ learning needs more effectively.

Always with the purpose of initiating change, action research has a long history, often associated with the work of Kurt Lewin (1946) who described action research as a collaborative process—teachers with their students (Stringer, 2004, 2007). Bogden and Biklen (2006) speak of action research as “the systematic collection of information that is designed to bring about social change” (p. 223). Reason and Bradbury (2001) extend the definition by writing that action research is “a participatory, democratic process concerned with developing practical knowing in the pursuit of worthwhile human purposes.” This resonates well with the objectives of reciprocal teaching.

### **The Setting**

The senior high school in this study is a comprehensive urban high school situated in what is called the heartland of the U.S. Midwest. It is almost exactly centered between the east and west coasts. One of seven public high schools in its district, it serves 1,750 students who come primarily from lower-middle-income families. The parents of most students do manual

labor in factories or work in some capacity with these industries. Many are also immigrants from Mexico, some legal and some not, who have come to the city seeking a better life and employment. While not at the poverty level, most students are eligible for the federally funded free breakfast program and nearly half of the students qualify for government funded free or reduced priced lunch. While the student body is 46.8% Caucasian, the diverse and multicultural school population includes Latino (40%), African-American (10.7%), Asian/Pacific Islander (1.3%), and Native American (1.2%) students. There is an average of 15 students for each teacher, and 36.7% of the students are formally recognized for outstanding academic achievement. This school's day consists of four 90-minute blocks of time. Students take four subjects each semester. In addition, all students participate in bimonthly advisement classes designed to provide them with the opportunity to ask questions and resolve issues that require counseling and guidance. School-wide activities, often connected to civic or social causes, are scheduled during the advisement period. As at many schools across the country, the faculty at this high school is concerned with the scores students earn on standardized tests, particularly in reading. As a result, there are periods during the day when students are required to read silently in the hopes of improving their skills.

The string orchestra in this study has 8 first-year students, 11 sophomores, 5 juniors, and 4 seniors. Most members are Caucasian; however, one student is African American, and 5 are Latino. A majority of the students who play violin and viola own their instruments. Students playing cellos and string basses do so on instruments that are owned by the school. These instruments are old and of poor quality. One student studies her instrument with a teacher outside of school. The rest learned to play their instruments in the school orchestra. The orchestra rehearses every day during the school day for 90 minutes and performs in several

concerts throughout the year.

The choir in this study is the senior high honors ensemble at a community music school that serves as the preparatory division of a college of music. Each year, the approximately 45 singers are selected by competitive audition from a geographical area of 1 hour's driving distance from the college. Rehearsals are weekly for 3 hours on Saturday mornings. Most students come from suburban public schools and many come from private schools. Some are home schooled. Most come with extensive choral experience, and most play musical instruments. The majority of students study voice privately and participate in their school choirs. Others also play in their school band and orchestra. Most students are Caucasian. There are two African American students and three Asian-American students. Several students are of Indian descent and two are Latino. One is from South America. Two students are alumnae of a boychoir where they toured internationally and sang with major orchestras. Most students audition for regional and all-state choirs and as a result, rehearsals are often cancelled during regional and all-state choir weekends as so many of the students are selected to participate. With few exceptions, the students are affluent and have no difficulty paying the annual tuition for membership. Without exception, all students have cell phones, most have MP3 players, and many have laptop computers that they bring to school each day.

### **Including Reciprocal Teaching**

During the period of study, each of us, acting as the conductor of the orchestra and chorus respectively, infused summarizing, clarifying, predicting, questioning, and connecting strategies into the ensemble rehearsals through conversations and other activities. The choir was preparing a performance of *Three Russian Folksongs* by Sergei Rachmaninoff for a performance with a

local community orchestra. The orchestra prepared music for spring performances, including Mikhail Glinka's *Overture to Ruslan and Ludmilla*. It was coincidence that both ensembles were working on music by Russian composers and had no impact on the study. The rehearsals were videotaped for later analysis. While it may not appear so from the descriptions of the use of reciprocal teaching in the rehearsal discussions were deliberately kept short so as not to compromise the intention of the rehearsals, which was to make music and not talk about it. When we did ask questions, however, we tried to use leading questions.

The methods of using reciprocal teaching with each ensemble are in the form of first-person narratives so the voice of each conductor is preserved and contributes to the descriptive character of qualitative inquiry (Plano Clark & Creswell, 2009). The two ensembles are presented in separate sections.

### **The Choir: Frank Abrahams, conductor**

The work with the choir using reciprocal teaching centered on the preparation of *Three Russian Folksongs*, Op. 41, by Sergei Rachmaninoff. Composed in 1926 for Leopold Stokowski and the Philadelphia Orchestra, the songs were the last choral pieces the composer wrote. Originally set in Russian and scored for alto and bass voices only, I decided to have the entire choir sing in English and in unison. In *clarifying* this with the choir, I explained that because of the dark, narrative texture, because the compositions were folk songs that would normally be sung in unison and by any voice part and because of the complex and subtle accompaniment by a very large orchestra, I believed that having everyone sing would make it easier for the choir to be heard and understood by the audience. Of the songs, Vladimir Wishau wrote “[As the music] moved along in its simple, folk-like fashion, I grew numb. My soul could take no more, and tears began to flow! Only a man who loves his fatherland could compose this way. Only a man

who in his inmost soul is a Russian. Only Rachmaninoff could have composed this!” (quoted in Van Ausdall, 1974).

In the first rehearsal, students listened to the recording and followed the score. A discussion followed where I asked students to *clarify* for me their overall impressions as well as their impressions about the style, harmonic language, and orchestration. Then they were asked (*questioning*) to *predict* what challenges they would face as they prepared the pieces for performance. One student, Clara (all students’ names have been changed to protect their identities) *predicted* that diction would be a priority so the audience would understand the story of each song. She noted that the texts were stories told in the first person. She *clarified* her statement by explaining that in the third song, a young wife was speaking to someone worried that her husband would return home and beat her in retaliation for her seemingly unfaithful behavior at a dinner party. In the second song, the main character yearns for her lost lover, Johnny. Kieran *predicted* that the timing would be a challenge and Jenna suggested that the complex intervallic relationships throughout would be difficult to navigate. The students were asked (*questioning*) to *summarize* the problems, to suggest solutions that would address the issues, and to provide the strategies to meet the challenges. This was a first step toward *connecting*.

I presented a brief account of Rachmaninoff by discussing his style and the color and texture of the music. I also talked about the texts. At the second rehearsal, we began with the third folk song, singing it on solfège syllables. Then we read the text aloud as fast as possible, each reading it at their own pace so as to get the words “into the mouth.” Next, singers were instructed to silently read the words as fast as possible, with dynamics, until they came to the hardest line for them to read. They were to read that line aloud, with everyone choosing their



own hardest part. This was a surprise. Students chose parts to read out loud that I would not have *predicted* would be hard for them. As a consequence, I *questioned* them, and they *summarized* and *clarified* why they were hard. Diane said that the line she chose, “A ay lulee ay da lushenkee lee!” was difficult because it was the one line that was not in English. Several other students confirmed that they had difficulty with this text as well.

Next, we *connected* the melody to the text. Singers were directed to audiate the melody, but to sing aloud what they thought was the hardest part. As a pre-step, they were asked to scan the music and *predict* which line that would be. Students did not share their answers at this time with me or with the rest of the choir. Instead, they were asked to confirm or *summarize* what they found after the exercise was completed. The instructions continued, “If the whole piece is hard, then sing the whole thing. If none of it is hard, then you won’t sing at all. But sing as fast as you can. Then find a buddy near you and sing to your buddy the hardest part. After, switch, and your buddy will sing his or her hardest part to you.” A discussion followed to *clarify* and to *summarize* what the hardest parts were as there was no consensus. I asked, “What makes the part hard?” Again, there was no consensus.

I then asked what strategy we should use to make “A ay lulee ay da lushenkee lee” perfect. Travis suggested that not everyone was pronouncing the words the same. He *predicted* that identical pronunciation would be the solution. I decided that it should be *ayee* not *eye*.

I asked the singers to take a pencil and circle the hardest dynamic. This required students to make *connections* and value judgments. I asked for *clarification*, “Is there anything anyone needs to hear, if so Ryan [the accompanist] will play it.” Again, it was “Ay loo lee.”

*Questioning* followed. What makes that hard? What is the difficult interval? Rickey offered that the intervals of a second were challenging. The choir sang from the beginning and missed the

phrase “my jealous husband.” I stopped and asked (*questioning*) what had to be circled. They *clarified* the correct parts. I *predicted* that we would have significant articulation issues when the community orchestra joined us.

Students broke into groups by sections to repair the issues they had identified. Afterwards, students were asked what they learned. *Summarizing*, they suggested: “Be aware of the notes after the page turn.” Many agreed that this was a problem. “Page 29 is not as easy as it looks” was contributed. Then, I asked the students to sing the entire song at performance level.

At the third rehearsal, I began with the question (*questioning* looking for a *prediction*), “What kind of a sound are we looking for when we know this was written for Russian altos?” Laurie responded, “Very dark.” I asked (*questioning* looking for a *prediction*), “If we are going for a very dark sound, what would one do to the vowels?” “Close them,” Mike answered. “Use a lot a schwa [the neutral vowel] vowel” Mateo added. “Make lots of space in the back of the throat by imagining a golf ball or something,” Andrew remarked. Some other students suggested more air; another said adding weight and not tightening the throat. All of these answers served reciprocal teaching through *questioning, predicting, clarifying, and connecting*.

I continued the discussion with the statement that color is often used as a metaphor for tone quality. To develop that idea, I asked (*questioning*), “What does a dark sound look like?” “Burgundy,” Ari suggested. I continued, “Change your image of your own body weight. Add pounds to your body weight. Think about the instrument as being supported by something larger than you might be. Think about those large green exercise balls. Think about sitting on one of those to support the sound. The color of Ben’s sweater [one of the staff in the room] is an example of the burgundy color we seek.”

One of the interns, Dan (his real name) who worked with me at rehearsals, felt that the

tone was tight. So, the class began a discussion of thinking about the whole body. My sense was that the sound was not connected to support and therefore would not be heard over the orchestra. “How do we do this?” I asked. Jason suggested that we think about the cello and bowing a cello. **Questioning** continued. I asked, “Do any of your voice teachers talk to you about support and connecting to the breath? What do they say?” Lindsay answered, “Breathe low.” I requested that the students who were taking voice lessons talk to their voice teachers about how connect the sound to the breath.

As the dialogue continued, Cory suggested that we were not taking in enough air. But my concern was what they would do with the air once they took it in. I **clarified** as follows:

Singing is a whole body experience. We talked about the way the conductor should be and the way the gesture should be, but you need to ask your voice teachers about “singing on the breath” and “engaging the support.” See what they say about these two items.

One student asked about “resistance.” We talked about tension, that there must be tension in certain places. Dialogue centered on the phenomenon that no one can see our vocal mechanism or hear our voices the way we do. “When you watched the conductor, you noticed that he was conducting with a low gesture,” I remarked, “and you noticed body posture. You must connect to that as well.”

More **questioning** followed. “Can you find “Lo the berries blue and red” and see how you might attend to the articulation of the second eighth note in each group? What might be a suggestion? What is the problem? Why am I stopping?” Rita remarked that “the notes are getting smaller.” “What must we do?” I asked. Rita answered, “Enunciate!” I asked, “If you were going to put a marking on those eighth notes, what marking might it be?” Jackie said, “Marcato!” I waited for students to put the marking in their scores. “We want to emphasize the second eighth note. Watch what happens when Ryan emphasizes the second and fourth eighth notes.”

**Questioning** continued: “What else will help the articulation? David suggested “Shadow vowels.” He added, “While it won’t help the eighth notes, it will help final releases.” These are examples of students taking information they know from previous encounters in the choir and applying them to the piece they are currently rehearsing. In reciprocal teaching, this exemplifies **connecting** and is clear evidence that students are synthesizing information and engaging cognitive and constructivist processes that facilitate their abilities to make meaning (McCarthy, 1987, 2000).

### **The Senior High School Orchestra: Daniel Abrahams, conductor**

The work with the orchestra using reciprocal teaching centered on preparing *Overture to Russlan and Ludmilla*, by Mikhail Glinka, arranged for string orchestra by Robert Sieving. The second of Glinka’s two operas, *Russlan and Ludmilla* is based on a fairy tale by the Russian author Alexander Pushkin. Set in 10th-century pagan Russia, the plot is a mixture of fantastic, romantic, and satirical motifs. Just before her marriage to Russlan, an evil dwarf kidnaps Ludmilla. To find her, Russlan embarks on a series of adventures. In the end, he does find her, they are reunited, and they marry. The overture is a popular showpiece for orchestras and is performed throughout the world. Originally scored for full orchestra, Robert Sieving arranged the overture for string orchestra, keeping the brilliance and essence of the original.

During the first week of rehearsals, students began to learn the notes and rhythms and listened to two different recordings. The first was the original arrangement and the second was the arrangement for string orchestra by Sieving. To prepare the students, and before listening to the examples, I asked, “What do you think will be similar and different between these two recordings?” Students were directed to write their answers on a sheet of paper (**questioning** looking for **a prediction**). I then suggested (**clarifying**): “While listening, look for clues within

your parts, and mark down information that will help you prove or disprove your prediction.”

Using the information collected, the students created Venn diagrams with differences on the outer edges of the circles and similarities in the intersecting or middle section. The Venn diagrams were used to compare their predictions with what they heard. A larger Venn diagram was constructed on the board with all of the student results (*summarizing*). Next, the students posed questions (*questioning*). Several students asked, “Why are the tempos different?” Another student asked, “Why do composers make arrangements of the originals? If the original is good enough, why change it?” Through sharing (*clarifying*), the students discovered that they made several similar predictions (*connecting*) and focused primarily on the differences. Several students noted that the music was the same, but the instruments playing the parts were different (*connecting*). Also, students became aware that not everything they predicted happened or was relevant to the assignment (*connecting*).

In the second and third weeks of rehearsal, we began to look at the relationship of the overture to the original story by Pushkin (*clarifying* and *connecting*). Students were asked (*questioning*), “Which musical themes represent the main characters of Russlan, Ludmilla, and Tchernomor?” This was an example of *predicting*. To help *clarify* student predictions, we read the Pushkin tale, looking for clues to the thematic relationship between music and characters (*summarizing, clarifying, and connecting*). When a character entered the tale, the orchestra performed what the majority of students believed to be the character’s main theme (*connecting*). Then, I facilitated a discussion, asking (*questioning*), “What evidence do you have to support your predictions?” Later, one student stated (*clarifying*), “this helps me visualize the meaning behind the piece, making it easier to understand.” And another (*clarifying*): “It [the poem] gave me a picture and my viola was the camera, but instead of seeing it with my eyes, I translated it

through music” (*connecting*). Students asked questions (*questioning*) of each other to help *clarify* and bring consensus to each theme and character. I asked (*questioning*), “How do you think your playing of each musical section will change now that you have identified the theme with a character?” Several students stated (*clarifying* and *connecting*), “we have to sort of imagine what it [the poem] said as we play.” Another student stated (*clarifying*), “I think it will help show to the listener what I was feeling. Another said, “I’ll still play it the way I was playing before; I don’t think it will affect my playing.” We then explored (*clarifying*) similarities and differences among each character’s theme and discussed how these similarities and differences relate to the telling of the story through the music. One student stated (*connecting*), “It helps me to think of how in a movie [it] would be and how an orchestra would play it.” I asked (*questioning*) the class, “If I play music from a movie, can you tell the character and movie that they’re from?” (*clarifying*). They responded with “Yes.” I then extended the lesson by playing several selections from movies, including “Yoda’s Theme” and “Darth Vader’s Imperial March” from the *Star Wars* movies, “Hedwig’s Theme” from *Harry Potter*, and the theme from *Jaws*. They knew all but Hedwig’s theme. They knew that it was from *Harry Potter*, but did not know the theme represented Harry’s owl, and not Harry Potter himself. I then assigned the students to select a song from their home music collection that would become their theme music (*connecting*). They had to choose one song that summed up who they were and present their themes in a later class.

During the fourth, fifth, and sixth weeks of rehearsal, I planned to teach texture and harmonic language through fabrics and colors. That changed when a sophomore violinist asked about the relationship of the poem of Russlan and Ludmilla to Greek mythology (*connecting*). I asked, “Do you think they are similar?” (*predicting* and *clarifying*.) She stated, “Yes, because it

has various obstacles that the hero must go through to succeed, just like what we are studying in our English class.” I then asked “What are you studying?” She replied, “We are reading Homer’s *Odyssey*, and then we are watching the movie. We also have to write our own mythological story” (**connecting**). Several of the other students, who are in the same class, began to state, “Yeah, it is just like that.” I immediately realized (**connecting**) that there was a teachable moment and a cross-curricular opportunity with the sophomore language arts curriculum. After a few meetings with the language arts teacher, we created a lesson and assignments that the students could use for both classes and receive dual credit. I asked (**questioning**) the orchestra students, “Do you remember the song that you chose as your theme music? How can you use that song to enhance your mythological story?” (**predicting**). One student stated that they could find other songs for the characters that they create. Others stated (**summarizing**) that they could use the music from *Ruslan and Ludmilla* and add it to their story. I then explained that both answers were correct. Either enhancement would work. The assignment was to create a mythological story in which the student was the main character (**connecting**). They had to include all of the requirements from their language arts class and add new elements from the orchestra class (**connecting**). If they had already completed the assignment because they were a junior or senior, they could use their prior work. From the orchestra class, the students had to include thematic music for each character. They could choose their themes from any genre and time period as long as they were able to justify their choices. A separate page was created at the end of the mythological story that explained each character and the reasoning behind their choice of thematic music. The students then created playlists on their MP3 players that contained all of their thematic music and presented their myths to each class (orchestra and language arts) with their added soundtracks. I asked (**questioning**) the orchestra class, “Do you think that the added

soundtrack will enhance or detract from the story?” (*predicting*). Several students replied for each: enhancement and distraction. One student stated, “It depends on their choice and if it makes sense, I may think it works, and others might not.” Students were allowed three minutes for a question-and-answer period with the author after each presentation (*questioning*). Several questions revolved around music choices, and there were many statements as to preferences and several suggestions of alternative choices. The presenters were able to help clarify their choices and offer insight to their process for choosing material (*clarifying*). At the conclusion of the lesson, I asked (*questioning* looking for *connecting*), “How did this exercise enhance your performance of the piece?” One student replied (*summarizing*), “It helped me play smoother because I had to think of more than just the notes.” Another student wrote, “It got me more in touch with the song. Another stated, “It makes us use our imaginations while we play” (*summarizing*).

## **Results and Discussion**

At the end of the rehearsal period, we reviewed the data, the videotapes, to identify patterns and themes. To do so, we exchanged tapes, acting as external auditors to analyze each other’s rehearsals. Verification of findings was made through triangulation (Plano Clark & Creswell, 2009), face validity (Kidder, 1982; Plano Clark & Creswell, 2009), catalytic validity (Lather, 1986) and construct validity (Lather, 1991).

### **Patterns and Themes**

We identified the following patterns:

1. The roles of teacher and student were constantly shifting. It should be noted that all of these strategies: questioning, predicting, clarifying, summarizing, and connecting, included both the



teacher and the students. This was consistent with the literature (Palincsar & Brown, 1985). There were instances where the conductor did predicting that sometimes proved correct and sometimes not. One instance of that was when the choir was asked to articulate out loud only the hardest text. They chose the one line that was not in English and was contrary to what I (Frank Abrahams) had thought they would select. But the important point here is that we were all learning together. As their teacher, I was continually learning as well. By asking them questions that engaged them in the processes of clarification and summarization, I was able to gain insights into their musical understanding each step of the way. As a result, I could instantly adjust my responses and re-clarify and re-question to help the singers make the connections that would enable them to make meaning of the music.

2. Students were always searching for and making connections. In each of the orchestra activities, students connected newly acquired knowledge with prior knowledge. This was achieved through their questioning and subsequent clarification of questions. Reciprocal teaching was the catalyst for them to connect concepts learned in the rehearsal with those they constructed on their own away from school. The experience with the film music was one example. Another was the connection a student made to mythological stories created and discussed in the sophomore language arts class to the story of *Ruslan and Ludmilla*. These connections were powerful and facilitated relationships among the lessons the teachers designed, the interests of students outside of school, and the coursework of both the orchestra class and the language arts class.

We also identified the following themes:

1. Reciprocal teaching differs from what a good teacher normally does in the routine and daily interactions of rehearsing with choirs and orchestras. Specifically, good teachers always question

and clarify. A goal of good teaching is for students to make connections. So, what makes this different? Reciprocal teaching requires that the teacher think more about the types of questions asked, often framing them in advance. We found that in preparing our rehearsals, we spent dedicated time formulating *questions* and *predicting* answers. We spent directed time thinking about how to *clarify* and to *connect* concepts, and how to remedy issues we identified that might be problematic (*predicting*). We were deliberate about how we would *summarize* and where in the rehearsal summary would occur and found that more frequently it happened throughout the rehearsal rather than at the closure of the rehearsal, which is the traditional time.

2. Reciprocal teaching empowered students to express their opinions and insights freely. One of the patterns discussed above is that of the shifting roles of students and teachers. When students took responsibility for their own learning through questioning and clarifying, they began to build trust and respect for one another's opinions and insights. Students relied on the feedback of their peers, positive and negative, to meet the common goal of improving performance. As a result, students became more comfortable opening themselves to making decisions that they believed were in the best interest of the society of the ensemble.

## **Discussion**

According to the definitions provided earlier, musical imagination is the ability to envision possibilities. Reciprocal teaching, as applied to the preparation of the three Rachmaninoff folksongs by the choir, did little to foster musical imagination. This is not surprising, as the purpose of the rehearsals where reciprocal teaching was applied was to prepare a piece for performance. Thus, there were no real opportunities for students to add something original of their own.

Unlike the choir, reciprocal teaching as applied to the preparation of the *Russlan and*

*Ludmilla* by the orchestra did much to foster musical imagination. Students were constantly adding something original through the creation of their mythological stories and the addition of thematic music for characters within their composition. Students were able to transfer the knowledge gained from the exercise and apply it to their performance. Throughout the weeks, students made comments concerning the use of their imagination to make decisions related to their performance. These decisions affected phrasing, dynamics, timbre, decisions of melody vs. accompaniment, and emotion.

In the chorus, reciprocal teaching did much to engage musical intellect. Throughout the research period, students were called upon to identify issues, suggest remedies, and think as musicians do when they ready a composition for public performance. Students made suggestions for strategies to enhance musical understanding and increased their understanding through the process. Gardner (2006) identified the musical mind as both disciplined and synthesizing, so the ability of students to *predict* was clearly part of engaging their musical intellect. Similarly, the ability to *connect* concepts learned previously in the choral rehearsal and in the private voice studio to the issues and challenges of the Rachmaninoff was evident. Synthesizing is a defining quality of musical intellect (Gardner, 2006). As with the choir, reciprocal teaching did much to engage musical intellect within the orchestra. Many of the same concepts stated above for the choir applied to the orchestra. Like their counterparts in the choir, the orchestra students were able to *connect* concepts learned previously in the orchestral rehearsal and other school subject areas to the issues and challenges of the Glinka piece.

Within the context of the choral and orchestra rehearsals, there were many instances when the strategies of reciprocal teaching were the catalyst for thinking “in” music as suggested

by Best (1992). As mentioned above, Gardner (2006) claims creativity when children can pose new problems and ask new questions. There were many instances of that throughout the rehearsal period. They had opportunities pose and solve problems and to try and experiment in their journey to learn the Rachmaninoff folk songs and Glinka's *Ruslan and Ludmilla* overture.

### **Performance outcome**

Since the completion of the data collection, the chorus performed the Rachmaninoff folk songs with the community orchestra, and the school orchestra played in a national competitive festival program in Chicago where trophies were awarded for excellence. Separately, the orchestra received the highest rating and the chorus accumulated accolades from attendees, the orchestra conductor, and school officials. In both instances, the ensembles performed to high standards and critical acclaim. We can report with assurance that the repertoire took significantly less time to teach and prepare, and we attribute that to the influence of reciprocal teaching.

The strategies of reciprocal teaching, such as in the rehearsals described above, lift music learning beyond just learning notes for a performance to an experience that provides moments of transcendence for each individual student. Strategies of reciprocal teaching provided frequent and rich opportunities for students to solve problems, pose problems, question, and challenge. As one orchestra student said of the experience learning the overture to *Ruslan and Ludmilla*, "It makes us use our imaginations while we play."

Future research might include applying reciprocal teaching strategies to classroom music teaching or teaching in the applied studio. Reciprocal teaching might also be studied in the context of informal music learning where students must pose and solve problems without the

formal intervention and presence of their music teacher. Applications of reciprocal teaching to foster musical creativity or musical imagination would also prove valuable to explore.

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