

**Literature Review: Chamber Music in K-12 Music Education**

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Within the past two decades, research has begun to emerge on the topic of instrumental chamber music in K-12 education. There are several ideas that have become widespread in education at large that play major roles in the study of this field, and that may provide insight into the implications of chamber music in American public schools. Chamber music, usually characterized as a group of two to eight musicians with one player to a part, without the presence of a conductor, has been an integral part of musical expression for centuries (Carmody, 1988). However, chamber music is not always included in music education for a variety of reasons. Some educators may feel the curriculum is already too packed as they prepare for concerts, or they may feel the large ensemble experience is more valuable. One survey of string teachers indicated that the teachers expressed the least interest in adding chamber music classes when compared to other nontraditional ensemble options, with only 2.4% indicating that they would consider adding this to their curriculum (Savage & Harry, 2023). Notably, none of the teachers participating in the study indicated that they had existing chamber music programs.

The purpose of this literature review was to understand existing practices regarding chamber music education in schools and the benefits, downsides, and methodologies of incorporating chamber music into instrumental music education curriculae. With this review I sought to address what literature exists on the topic and identify supporting arguments for the inclusion of chamber music in music education. Personally, I became interested in this topic as I reflected on the chamber music unit I worked on with my orchestra director as part of my independent study in my final year of high school. The students seemed to really enjoy the unit, and I wondered what research existed on best practices for teaching chamber music. The goal of this review is to highlight what best teaching practices are based on research, with the secondary purpose of informing fellow researchers on areas that could use further study.

In this review, three key points about the nature of instrumental chamber music in the K-12 public school system will be discussed: how chamber music can affect student behavior development, how chamber music can affect the development of student musical ability and attitudes towards music, and how chamber music can be effectively incorporated into public schools.

### **Research Process**

My process for this literature review began with an initial search of Google Scholar, where I searched first for the most recent research on chamber music education. I noted sources used for these articles that I thought would be the most interesting and useful to the continuation of my study and slowly worked my way through that list, noting more sources from those as I went along. Additionally, searches of the Mizzou library website using advanced search as well as a visit to the physical shelves to see what books the library had relating to my topic were useful in my search. For sources I did not have immediate access to, I requested access through the Interlibrary Loan system. Additionally, I did searches in the *American String Teacher Journal* and *Journal of Research in Music Education* journals for more supplementary information. Generally, I chose to exclude information regarding older musicians unless I found the information directly transferable and relevant to the students in K-12 education. Additionally, I excluded most information relating to choral chamber music because very little information exists on this form of chamber music in K-12 music education, and vocal chamber music presents different issues and challenges from instrumental that was beyond the scope of this review.

### **Principles Applied from the Field of Education**

In considering best practices for chamber music learning and instruction, I drew on several of the prominent theories and practices identified in the field of education. The idea of *scaffolding* has become somewhat of an educational buzzword. Originally coined by Vygotsky (1978), this method of instruction offered a first look at a major shift from the traditional mode of instruction at the time, in which the teacher delivers knowledge to students who then are tasked with remembering this direct instruction and applying it. Instead, scaffolding involves students working alongside teachers who guide them through the process at first, but gradually that support is removed (much like scaffolding on a building under construction). Another important idea of Vygotsky's is the idea of the *Zone of Proximal Development* (often referred to as the ZPD). This zone is the gap between the student's current developmental level and the level of potential development. It is this area that teachers can capitalize on—by teaching using scaffolding, they can take what students do know and understand, teach them how to expand upon that, and watch them solve problems independently.

Understanding two types of memory, declarative and procedural, can help with further understanding the role of the ZPD in children's cognitive development. Declarative memory consists of the following: explicit facts/symbols, visualization and mapping, and pieces of learning lumped together over time; in this form of memory, learning may be easy but so is forgetting. Procedural memory, on the other hand, includes the following: developed motor and problem-solving skills, sequencing, and pieces of learning that remain autonomous over time (Walters, 1992, p. 537). In this form of memory, learning may be time consuming and more challenging but forgetting is equally difficult. For example, if a student is taught the mechanism of how to have proper posture across many lessons, they are unlikely to forget. Using the ZPD, teachers can understand where a student is and guide them to the next level of achievement in

procedural memory by demonstrating skills, offering lots of help and feedback at first, and slowly removing their involvement from the process as students learn to be autonomous.

Vygotsky noted that this uppermost portion of the ZPD is more indicative of student abilities than the lower end, which is easily recalled by students as they have already reached this developmental milestone, and commonly what is tested.

These ideas build a larger theme observable in much of education research today: the idea of *student-centered* and even *community-centered learning*. Vygotsky (1978) expanded on these theories, as well, highlighting that students are a product of the cultures in which they are raised. Vygotsky's theory is based on the idea that learning is a social process. For example, a student raised in a community surrounded by jazz music will likely have a much easier time grasping the concept of swing rhythm than a student who has never heard jazz. Students are a product of their environment and experiences in this model, and students learn best from others in their community, such as peers.

These models are also tied to the increasingly researched student-centered learning. Student-centered lessons are focused on what students want to learn and are very individualized. For example, Kieffer (1996) outlined a project with an emphasis on this model in a study related to integrated and collaborative learning in the arts. Students participating the study choose their own projects and work in groups to learn with teachers serving as facilitators of activities. Students were in charge of their own learning, but teachers were still able to help students by providing the necessary scaffolding for them to grasp new concepts and then allow them to work autonomously.

These learning models described stand in contrast to *content-centered* and *teacher-centered learning*. With content-centered learning, the focus is on students being taught a

specific set of facts. The downside to this model is its rigidity—there is no room for updated or conflicting knowledge. When educators are at the center of the instruction, the focus is placed primarily on the educator delivering subject material to students. A downside to this model is that educators may be so experienced they forget what a novice does not know, resulting in gaps in student knowledge (Bransford, et al., 2007).

There are two main instructional strategies related to the idea of students working in groups with peers: *collaborative learning* and *cooperative learning*. Cooperative learning occurs when a teacher gives directives regarding what tasks must be completed and how to students working in a small-group setting. Collaborative learning, on the other hand, occurs when students work together in a more unstructured way in which the educator is less involved with the group. Thus, students must work together to not only complete the assignment but to play to the strengths of their group and learn how to divide the work and shift leadership more fluidly. Collaborative learning is what most often occurs in chamber music groups, where students are assigned a task (learn the music by a specific date) but are not given a set path of individual tasks to complete to achieve this, making this option far more student-centered when compared to the more teacher-centered cooperative learning method (Sakshi, 2018). Additionally, this form of learning is more consistent with Vygotsky's theory of social learning, because students must rely on each other to learn new material. Thus, various group dynamics will come into play (a topic which will be discussed in a subsequent section of this article).

### **Chamber Music and Student Behavioral Development**

There are many behavioral and cognitive aspects of learning and development that have been documented as part of the larger study of instrumental chamber music. For example, the role of peer tutoring in chamber music is an important topic. In chamber groups, students will

have to learn how to facilitate rehearsals, most of the time without the direct oversight of an instructor, a hallmark of collaborative learning. This means that group dynamics and peer tutoring will become important parts of the learning process, and students must learn collaboratively to achieve goals in a group-centered instructional setting. In a study related to peer mentoring and student leadership, peer mentoring was found to improve self-esteem, increase student responsibility, strengthen bonds between students, increase student motivation, improve comprehension of music, and improve student performance (Goodrich, 2023). Groups in which each student was given a separate task (such as individual chamber music parts to learn) that must be completed to create a larger project can foster positive interdependence, individual accountability, and communication skills. However, the author also noted the potential for negative outcomes in peer tutoring, including peer pressure, use of sarcasm to tear down peers, and frustration due to differing levels of ability (Goodrich, 2023). Indeed, a series of experiments by Alexander (1980) with fourth grade instrumental band students expanded on the matter of what good peer tutoring looked like. Student mentees were paired with student mentors, and their progress was tracked. In experiment one, it was found that both disapproval and approval feedback groups of peer tutees improved more than their control group counterparts. In the second experiment, however, the control group and disapproval group both performed worse than the approval group. Thus, approval feedback had the highest relationship with improved results through more practice. Alexander (1980) stated that “Comparisons of performance scores with total number of approval/disapproval responses show that performances of approval tutors were much more related to the total number of responses than were performances of disapproval tutors” (p. 3).

Alexander's study highlighted the idea that peer tutoring, especially when mentors use approval techniques, was considered effective. Also of note, student tutors, who participated in the groups during class time, progressed at similar rates to their peers that remained in regular band classes.

### **Group Dynamics**

Group dynamics also play an important role in student social development as they learn to solve problems collaboratively in groups, and there is new research emerging in this field. It has been suggested that leaders will emerge amongst student musicians in these settings. Depending on the size of the group and the personalities of its members, leadership roles may be fluid or stagnant and may involve one or more people. All role types fall under three major umbrellas: someone who ensures task completion, someone who works towards the furtherance of group goals, and someone who works towards the furtherance of individual goals (King, 2006). The *leader*, for example, works to keep the group on track, perhaps suggesting rehearsal spots or giving summaries of what needs to be done, and would be a task-oriented role. The *contributor* may be more concerned with group morale and acting as a point person for the group and would be in a group goal-oriented role. The *distractor*, on the other hand, is often unfocused and puts the group off track. Notably, leadership was often less defined in groups that had what was perceived as "evenly matched" playing ability by group members. It was assumed by students that stronger players should be leaders. Although, this study may not be entirely relevant to the implications of group dynamics in K-12 education, given the students studied were at the collegiate level, the ideas seem important enough to consider possible application to secondary school contexts.

In a study investigating similar ideas related to high school students, there were several different emergent group roles observed (Harrington, 2016). In this study, students were placed into two chamber groups to observe their interactions and problem solving. It was found that there was often an *instrumental leader*, a *figurehead leader*, and a *challenger* of some variety. The figurehead leader was often based on a seated position (for example, the first violinist is usually the assumed leader of an orchestra, and this was the same for the figurehead leader in the sextet in the study). The instrumental leader position mostly consisted of the group member most often giving directions and attempting to elicit problem solving behaviors. The challenger would question the decisions of either leader, furthering the problem-solving process (Harrington, 2016). These are prime examples of two of the major role umbrellas—the instrumental leader is task oriented, the figurehead leader is group oriented. However, the challenger position still furthers the group goal and contributes to problem-solving, and thus would not be considered an individually oriented group member. Although Harrington’s work focused on high school students and their problem solving, King’s work focused on group dynamics, so there are some differences inherent in what the authors were seeking to observe.

Importantly, in a professional chamber music setting, the power seems to be spread more evenly. In a study of a professional string quartet, it was found that problem solving was something all members contributed to actively (Rosler, 2021). Leadership shifted fluidly, and the musicians asked each other questions in a way akin to a student being prompted by a teacher (Rosler, 2021). Thus, student groups seemed to differ from the highest-level groups in this respect. Whether this is due to the longevity of relationships between the members, the circumstances of the interactions, or the personalities of group members, there seems to be an inherent difference. This is something that could use further research to understand fully what

the difference is between an effective professional group and student groups. The nature of student leadership in chamber groups currently has several definitions for different roles that seem to exist, but the research seems to point to the requirement that students must be willing to engage in a group-centered goal rather than being focused on their needs alone, a hallmark of collaborative learning.

It is also important to note that Cartwright and Zander (1960) defined one potential reason for an imbalance of power:

The distribution among group members of needed resources or of the control over resources may be expected to influence the pattern of relations that develops among them. If, for example, one person has sole possession of expert knowledge needed by others, a centralized structure may tend to arise in which each member depends on the central person. (Cartwright & Zander, 1960, p. 488)

This may reflect differing amounts of knowledge among students within groups, where power is more imbalanced than among professionals who have all achieved a high level of skill. Additionally, the researchers found that smaller groups tended to be more cohesive and group members “find participation more satisfying;” this could have implications not only for the size of chamber groups but a comparison to the large ensembles students are usually placed in which include far more students (Cartwright & Zander, 1960).

### **Problem-Solving and Development of People Skills**

Another important aspect to consider is how problem solving is initiated. Rosler (2015) outlined a procedure that should be followed to solve any problem: establish goals, evaluate, consider options, apply principles, and decide/act. It is these frameworks that many researchers in subsequent chamber music studies used to identify moments when groups were using problem

solving skills and communicating ideas for solutions effectively. In many studies of chamber music and its cognitive impacts, this was a methodology for measuring how much problem solving takes place.

In a study on the different methods of student problem solving in chamber music, Rosler (2024) constructed an experiment to observe the problem-solving behaviors of students with and without coaching. In this study, problem-solving (PS) and problem-solving prompting (PSP) were observed across three colligate chamber groups. Each group had six coached rehearsals and six autonomous rehearsals. Rosler found that less specific feedback sometimes aided in the problem-solving process when coaches would make comments on performance. By not giving the student the exact method with which to fix their problem immediately, the coach was able to use PSP behaviors on students to encourage them to think for themselves. Although students were more engaged when they rehearsed autonomously, coached rehearsals picked up the pace of PS and overall progress. This aligns with the findings of Cartwright and Zander (1960), who reported that a central group leader will increase efficiency in problem solving. Coaches offered expertise and reasserted the balance of the ensembles at times by prompting quieter members to share their thoughts. There was a similar level of student engagement in PS behaviors to that seen in individual lessons (Rosler, 2024). In these chamber group rehearsals, it is important to note the level of expertise of the students. They were college students, and therefore the fact that they exhibited closer group dynamics to the professional string quartet (they shifted leadership fluidly through the group) is understandable. More research is required to see if these problem-solving behaviors are also present at the K-12 level where group dynamics seem to be more uneven than what was observed here, to see if the same behaviors emerge.

One study took a closer look at why chamber groups are places for successful learning and problem-solving development (Burt-Perkins & Mills, 2008). The authors studied a collegiate wind quintet and their experiences working as a chamber group and found that three major benefits of chamber work emerged: a space for challenge, a space for deep learning, and a space for developing transferable skills. Chamber music provided a safe and constructive place for students to challenge themselves; students felt a connection to their group members and a duty to perform well, and the nature of their common goal allowed for open and honest dialogue about any problems. As for deep learning (similar to the previous definition provided of procedural memory), students often brought up in interviews how they were able to do slow passage work and discuss their musical perspectives. Working on granular parts of the music and discussing such tiny and specific details allowed students to learn from each other's depth of knowledge. This again highlights Vygotsky's theory of social learning and the need for students to scaffold each other to achieve new learning through cooperative learning. The ability to develop transferable skills including communication skills, ability to perform with others, and confidence are all life skills that participants noted as things they were able to develop as part of their chamber experience (Burt-Perkins & Mills, 2008).

Not can problem-solving be improved by the participation of students in chamber groups, but students also are able to develop a wide array of useful skills through the process of working together in such a setting. Skills such as being able to justify musical interpretations are cornerstones of the National Association for Music Education's (2016) standards (for example, the standard *Interpret*; MU:Re8.1.E.IIIa) and student discourse and problem solving can help develop these foundational skills.

Harrington (2016) contributed the conversation about peer discourse in his study, stating:

Differing personalities serve as positives in that they challenge each other to justify each other's thoughts and actions within the group. In this study I found that positive and negative uses of peer pressure among the chamber ensemble members contributed to a sense of community among the participants and contributed to group work ethics. (p. 181)

Harrington called for educators to consider the implications of using collaboration-based learning, placing the student and community at the center of all that goes on in the classroom. Chamber music can provide a way for students to build problem solving skills through their interactions with peers. Indeed, Vygotsky's theory of social learning indicates that the students scaffold each other, and as noted previously, professional musicians do this to seemingly an even greater degree.

It was even found that student participation in chamber music may account for higher levels of empathy (Cho, 2019). Collegiate musicians were surveyed, and,

Analysis indicated that students' levels of participation in various small ensemble activities significantly predicted their empathy skills, even after controlling for the effect of personal factors. Personality also appeared to play a significant role in predicting music students' empathy skills. (p. 600)

This could have even stronger implications for student behavioral development if it is also found in other populations of students. Cho (2021) did conducted research with other groups, including collegiate students in South Korea, that included similar findings, and more findings seem to be rapidly emerging about this topic.

### **Chamber Music and the Development of Student Musical Ability and the Critical Emergence of a Lifelong Love of Music**

When considering the impacts of chamber music, the idea of musical development is top of mind for educators. Although there are several mixed findings on this topic, the topic of attitudes towards music in the context of chamber music seems to provide compelling positive evidence that chamber music might prove beneficial for improving the attitudes of instrumental music students.

### **Attitudes Towards Music**

It is important to consider the idea of lasting musical impact when educators make decisions about curriculum. Chamber music seems to have a rather dramatic positive effect on student attrition in music programs and overall student enjoyment of music. In a study, Zorn (1931) sought to discover if there was a relationship between student participation in chamber music and student attitudes towards music and playing ability. Students were placed into one of two groups: treatment (chamber music groups) or control (students working in sectionals). Zorn created the *Music Attitude Inventory* to determine student attitude changes regarding music and found a significant difference in positive attitudes towards music between the control sectional groups and the chamber groups. While both groups experienced gains in positive attitude, those who played in chamber groups achieved statistically significant higher attitude scores (Zorn, 1931).

In another study over fifty years later, Carmody (1989) similarly studied the effects of chamber music on middle school student attitudes and intonation. He found that attitudes toward music were improved significantly in comparison to the control group, the same finding as Zorn.

Importantly, this effect was also found among string playing students; in Stabely's (2000) study of sixth and seventh grade string playing students, it was found that attitudes towards music improved significantly in the seventh grade group but not as much in the sixth grade

group. However, the attitudes of all experimental groups were higher than those of the control groups. Another group of high school band students was studied most recently by Larson (2010). In her study, she found that there was a significant difference between the chamber music treatment group and the control group's attitudes toward music.

All of the studies used Zorn's Music Attitude Inventory assessment, and all similarly found a correlation between chamber music participation and more positive attitudes towards music. In addition, Larson found that chamber music participation particularly affected low achieving students, with a significant difference in their attitudes towards music after the completion of treatment; while high achieving students experienced a decrease in positive attitudes towards music, low achieving students experienced the opposite. This is likely because the low achieving students had the opportunity to contribute significantly to a group in a way they had not been able to in a large orchestral setting and may have found themselves more successful.

This shared finding regarding student attitudes across studies is intriguing and is cause for interest. More research on the topic of why participating in chamber music results in increased positive attitudes is certainly warranted, and may be worthwhile studying as a potential recruitment tool. It may be worth considering if this musical attitude improvement as a result of small-group music experiences may carry over into tangible attrition rate differences among programs. Positive attitudes towards music have been shown to be a major factor in student attrition; in one study, for example, a student was asked why he chose to continue with band. His response was: "It's fun to play my instrument [...] I get to hang out with my friends in band" (Strickland, 2010, p. 45). Thus, it is not unreasonable to consider that including chamber music in school music classes may have a similar result.

An important disparity between the studies of Zorn (1931), Carmody (1989), Stabley (2000), and Larson (2010) are their results regarding musical improvement. Notably, while in Zorn's study students were placed into sectionals if they were not part of the treatment group, in the studies by Carmody, Stabley, and Larson, students were placed in regular large ensembles as the control. Perhaps this accounts for the different musical improvement findings for his study in comparison to those that followed. While Zorn observed no difference in musical sensitivity and musical aptitude, Larson observed that while both groups ended with about the same performance achievement level, the chamber treatment groups had experienced the most improvement.

### **Intonation and Rhythmic Pulse**

In addition to the impacts of chamber music experiences on student attitudes towards music, authors have sought to define relationships between chamber music participation and student improvement in the areas of intonation and rhythmic pulse. Developing both of these skills are essential to the growth of student musicians.

In regards to the development of intonation through chamber music experiences, Stabley (2000) noted that: "There is a particular need for small ensemble music useful at early stages of development to promote listening and blending skills, which can subsequently lead to better intonation" (p. 79). The topic of intonation improvement through small ensemble music is still up for debate; Stabley (2000) notes that while there was improvement for the seventh grade group in this area but not a significant growth for the 6<sup>th</sup> grade group. Clearly, this is an area in which more research is required to fully understand the implications of intonation in chamber music. Carmody's (1989) study found that there was significant intonation improvement, but the short period of his study does limit its credibility in comparison to Stabley's (2000).

Another important outcome that has been studied in student chamber music experiences is the potential for students to internalize rhythmic pulse even more so than they previously might have needed in a large ensemble or solo work. In Celentano's (1974) column on the impacts and implementation of chamber music as a tool to learn rhythm, he stated that:

All participants will discover that the gesture [breathing before the downbeat] demands not only coordination of movements - inclinations of the head from the cellist, lifting and lowering of the instrument from the others - preceded by moments of personal inner 'rhythmic' organization, but also thoughtful consideration of the musical content of the material and 'eye-contact' with the rest of the group. (p. 6)

Indeed, each student in a chamber ensemble must become aware of how cueing works and how their interpretation of the rhythm affects the overall expression of the music. Chamber music is a place where there are not conductors to have full control of tempo, nor does any one individual player. This unique feature of chamber music can prove valuable to student rhythmic development (Celentano, 1974). More research on the musical development outcomes for students who participate in chamber music is certainly warranted.

### **How Chamber Music can Be Incorporated into K-12 Public Education Effectively**

Even with all of its potential benefits, teachers still find it somewhat challenging to integrate chamber music into the existing structure of public education. Many teachers and researchers have worked to come up with solutions to various problems that arise when working to effectively integrate chamber music into the curriculum at all levels.

#### ***Elementary Education and Chamber Music Outreach Experiences***

Chamber music was found to be potentially effective in an elementary school setting as a tool for generating student engagement and excitement about learning music (Smith, 2010).

Increasing in popularity in recent decades, outreach concerts can be useful tools that offer opportunities for student learning. Smith's (2010) article outlines the various ways in which chamber music can be beneficially integrated into the elementary school setting through outreach concerts. With proper coaching from general music teachers (such as instructing outreach performers to use high affect to gain student attention and helping performers to find ways to include engaging elements such as movement into their concerts), these concerts are a prime opportunity for students to engage with music in a way they would not normally experience through regular classroom teaching. Additionally, Smith (2010) recommended "Kidsemble" concerts in which children are exposed to an instrument petting zoo of the instruments that will be performed and then asked to create their own instruments to be used interactively in the concert. This allows students to immediately and directly engage in the music making process and encourages them to continue pursuing music in the future (Smith, 2010).

The usefulness of chamber music concert experiences is not to be understated; as Tempest (1995) wrote in his dissertation on the study of elementary school involvement in chamber music outreach concerts:

Educational chamber music concert series as observed in this case study provide a prime opportunity for children to acquire such skill. The variety of musical genres presented and the superb quality of musicianship demonstrated present educators with the perfect resource to teach students critical music listening skills. Given the resources, teachers could introduce critical listening skills to primary grade children and discuss them in relation to the concerts attended. Simple composition exercises based on the music presented in the concerts could be employed to augment the teaching of the recognition of these elements. Elements such as melody, harmony, rhythm and musical form could be

taught and included in these lessons. Intermediate children could continue applying their critical listening skills to the evaluation of the music they hear in the concerts with more sophistication and as a basis for the study of music of cultural traditions. As part of this study, they could learn the various aesthetic values associated with music of other cultures. (p. 104)

Tempest's work highlights the inherent issues with the integration of professional chamber groups into elementary music education at the time it was written in British Columbia. Although some of these issues are not always of concern in the present-day United States, he explained the importance of coordination between educators, administrators, and musicians to develop appropriate and positive chamber music encounters for students (Tempest, 1995).

### ***Chamber Music in Secondary Education: When does it Happen?***

There are many ways to integrate chamber music into existing secondary school educational structures due to the flexibility of chamber music and the small number of students it requires. It is imperative that school administration comes to understand the importance of the inclusion of chamber music to successfully include it in the curriculum to gain support for the matter. In Trapkus's (2018) article, he recommended pointing out to administrators the potential for chamber music groups to be part of community outreach at various events, the potential for students who would otherwise be unable to include music in their schedules to gain access to music education, and the potential for stronger groups for district and state festivals as justifications for the creation of a chamber music class. Recommendations included providing multiple performance opportunities in case students cannot achieve performance goals in time for one performance, to allow more flexibility in the curriculum. He argued that while it may be simpler to integrate chamber music into education as a singular unit rather than a class, he found

that this diminished the amount of attention a teacher can pay to the chamber music process because there is still pressure to prepare for upcoming concerts. There is little formal research about these claims, however, and perhaps this is something that could be studied further to see in what ways chamber music can be best integrated into the school day.

### **Student Groupings**

There are various arguments to be made about the way student group membership is determined. The two main ways students can be grouped are by ability and by existing social groups. Both have been studied for their potential benefits and drawbacks, and while there is still seemingly no consensus on which is truly best for groups in music, an educator can weigh their options using the research available. For example, Trapkus (2018) argued that it is important to balance the student's desires for grouping with the added element of their skill level. While there is an argument to be made for grouping by skill level, students that are at lower ability levels have been shown to improve more with more advanced role models in their groups (Trapkus, 2018). Additionally, ability grouping may make lower-ability students feel further inadequacy and cause them to experience more negative outcomes from the experience. However, students may not be able to group themselves effectively or may choose groupings that are incompatible with existing repertoire (Trapkus, 2018).

Using knowledge from Cartwright and Zander's (1960) work, we can conclude that smaller groupings of students are likely most effective and that groups with students of relatively similar ability levels (and therefore similar cognitive resources) will be most like a professional group, where group members prompt each other to problem solve and scaffold each other through social learning in a similar fashion to direct teaching. Careful selection of groups on the part of educators can ensure proper group dynamics that are optimal for the occurrence of

problem-solving prompting behaviors, and teachers should be wary of the “individually oriented” student that may become unfocused and distract group members (King, 2006). Proper communication strategies should be conveyed to students and they should be prompted to provide each other with positive feedback when possible (Alexander, 1980). Demonstration of the desired behaviors by the educator is important to the efficient functioning of such groups.

### **Choice of Repertoire**

The choice of repertoire is one challenge identified in chamber music research; the main question that arises is how much choice students should be given in what they are playing (Yackley, 2021). Although various studies offered different ways for repertoire choice, ranging from almost entirely the choice of the instructor to very little input from the instructor on repertoire choice (Harrington, 2016; King, 2006; Larson, 2010), no study explicitly examined the relationship between student choice in repertoire as the independent variable. For example, the rationale offered by Yackley (2021) is that students should be “scaffolded” in this area too. At first, the selection of repertoire students can choose from should be very small. Eventually, once students are more autonomous, this scaffolding is removed and they are allowed to choose any trio from the flexible trio books offered. Yackley also suggested that this be done in tandem with allowing students to select groups more freely over time as they gain knowledge in the world of chamber music and learn how to be successful with it. Yackley served as a guide and by the end of the process, students were making decisions much more autonomously (Yackley, 2021).

There is evidence to suggest that student engagement in music may increase when students have some say in repertoire the way Yackley provided for in his recommendations. Students were more likely to practice with more advanced strategies and be more engaged in practice overall when they participated in the selection process (Renwick & McPherson, 2002).

It is well known that it is important that students learn how to select repertoire, as this skill is included in the National Arts Standards (National Coalition for Core Arts Standards, n.d., Anchor Standard 4). Thus, selection of chamber music may provide a unique opportunity for students to participate in repertoire selection (Rotjan, 2021). Clearly, this is an area that could be the topic of future studies so that a clearer recommendation can be made to educators.

### **The Role of the Music Educator and Further Recommendations**

The instructor facilitating chamber music will become what student-centered learning research often refers to as a *facilitator* of learning. Zhukov and Sætre (2021) outlined the different ways in which an educator may be part of student learning. Traditionally, educators take up the role of “sage-on-the-stage” where the teacher has a depth of knowledge of content information and delivers it to students for them to retain (McWilliam, 2008). However, chamber music is different; it offers educators the opportunity to become more of a “guide-on-the-side”, or a coach that offers support and encouragement throughout the learning process but does not direct each student action. Alternatively, educators can become a “meddler-in-the-middle”, a role characterized by the educator and student becoming “co-directors” of learning as the educator offers feedback on student work (McWilliam, 2008). McWilliam found that this meddling role was best, as it allows educators to be able to deliver specific feedback while working with students while not falling to either extreme of too much or too little control in the classroom. Indeed, research has shown that students find teachers working and playing alongside them in chamber settings to be beneficial (Zhukov & Sætre, 2021). Again, this relates to Vygotsky’s idea of scaffolding and social learning, both of which are essential for the function of a collaborative chamber group. The occasional interruptions by an educator can provide boosts in group

efficiency, as is made clear by Cartwright and Zander (1960) as well as Rosler's (2024) studies of problem solving and group dynamics.

Additionally, Johnson (2015) offered a comprehensive curriculum example for short-term, medium-term, and long-term peer teaching experiences and how educators can best support these kinds of interactions, including examples of ways educators can best support collaborative projects based on current research. Latten (2001) also presented curricular guidelines and rationales for usage of chamber music in the classroom and provided advice regarding projects and studies students could be introduced to as part of this study. By allowing students to learn improvisational skills through chamber music (such as in a jazz combo), students can further be enriched by the experience. Another avenue for learning could be the assignment of students to create compositions with their chamber group. Composing requires intimate knowledge of the language of music, and the added layer of multiple voices only enhances this challenge. Latten (2001) also suggested that students perform chamber music for each other and learn to evaluate their peers' performances. He also suggested using supplementary music history assignments that coincide with chamber music to enrich student learning. Latten (2001) advocated for the use of chamber music as supplementary pieces on concert programs to add a new and fun element to the existing concert program. More research and curriculum ideas will continue to emerge as more educators explore the idea in their classrooms.

## **Conclusion**

Studies about instrumental chamber music in K-12 music education have found a variety of interesting potential benefits, as well as issues for educators to consider, when making decisions about if and how to incorporate small-group ensemble music into their curriculum. Chamber music has shown potential to improve student problem solving, empathy, and

collaboration skills, but there is also the potential for students to experience negative peer interactions through this mode of instruction, particularly if a student is an “individually oriented” member of a group. There are several studies on the potential for students to experience gains in positive musical attitudes and musical development, although some of the research regarding specifics such as intonation improvements was inconclusive, perhaps based on differing research methodologies.

There is the potential to use chamber music in elementary classrooms, and in middle and high school groups educators can assist students in their learning by providing the necessary amounts of meddling to promote student problem solving. There are differences inherent in the dynamics of chamber groups based on age and ability, and educators can work to find appropriate repertoire and student groupings based on the recommendations of other educators, although this is an area that could use more formal research. There are various ways in which chamber music can be readily introduced into existing school frameworks and used to further student and community centered learning. Chamber music has the potential to be used constructively in other avenues of music education, such as composition and improvisation.

This review of the literature about chamber music in K-12 music education has proven exciting to me as it highlighted that the joy experienced by the students I had observed was not an isolated incident, but supported by multiple sources covered in this review. There is still much that has not yet been learned about chamber music’s integration into K-12 music education; whether it has an impact on student attrition, for example, is of particular interest to me, because although students enjoyed the chamber music experience in my high school the orchestra program was much smaller in the following school year. This was surprising to me and my high school director. More studies on the most effective teaching strategies for chamber music are

imperative for the growth of strong chamber music programs, and knowing more about the potential benefits and drawbacks can better inform educators about their options for including chamber music in their students' education.

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