The Role of Reflection in Musical Improvisation: A Review of Literature

Haley Moore

E-mail: moorefiddle@gmail.com

Received April 2024
Accepted for publication September 2024
Published December 2024

Abstract

This literature review delves into the significance of reflection and emotional processing within the realm of musical improvisation. Emphasizing the potential advantages of incorporating reflective strategies, the review addresses the effective management of anxiety and uncertainty associated with improvisation, creating a conducive learning environment, and fostering emotional awareness. Musical improvisation is defined by its spontaneous nature, interactive elements, and creative expression, with a focus on establishing an engaging environment through teacher preparation, communication, and collaboration. Examining the impact of emotions on the learning process, including student attitudes, emotions, and reflections, the review traces the history of reflection in education, particularly drawing from Dewey's work and its application to music education. Additionally, it explores specific reflective practices such as mindfulness, social and emotional learning, and core reflection, elucidating their potential benefits for students learning to improvise. In essence, this review offers valuable insights for music educators and preservice music teacher educators, advocating for the integration of reflection and emotional awareness to support students on their improvisation journey.

Keywords: *creativity, music education, music improvisation, reflection, social-emotional learning*

The Role of Reflection in Musical Improvisation

How might reflection and related emotional processing play a role in musical improvisation? Music improvisation has been widely studied, including researchers' definitions of improvisation (e.g., Azzara, 2002, 2008; Briggs, 1986), fostering an environment conducive to creative music-making (Beegle, 2010; Burnard, 2002; Claire, 1993), and the role of emotion in music improvisation (e.g., Sol, 2021). Despite the depth of scholarship on these topics, more attention is needed about how music teachers can support students' present-moment reflection and emotional awareness throughout the process of learning how to improvise.

Improvisation allows students to integrate their musical knowledge in a unique way (Volz, 2005). Teachers may attempt to incorporate it into music education curricula to benefit students' creativity and application of musical skills (Kratus, 1995).

However, incorporating musical improvisation into the curriculum at any level (primary, secondary, or university) can also present an added complication for teachers in the form of low student confidence, uncertainty, and even anxiety (Alexander, 2012). While authors may point to preconceived beliefs about improvisation (e.g., Thies, 2015), the role of emotion must also be considered when designing and implementing improvisation curriculum in K-12 classrooms.

Reflection is one technique used for managing emotions such as anxiety associated with music improvisation (Smilde, 2016) and is prevalent in educational research (Beveren et al., 2018; Blair, 2012; Conkling, 2003). For example, researchers have touted the benefits of in-the-moment self-reflection including heightened problem-solving capabilities and emotional awareness (Browning & Korthagen, 2021; Zins et al., 2007). Musical improvisation requires certain technical and musical reflection on the musician's part (Burnard, 2002; Lysaker, 2020). When used in conjunction with musical improvisation, reflective strategies can also assist in managing uncertainty, anxiety, and lack of comfort, particularly when the application of said practices mirrors this on-the-spot mindset (Smilde, 2016). Some reflective practices have become increasingly prevalent in education generally; these include the three specific types of reflective practices that I discuss in this paper: social and emotional learning (e.g., Eddy et al., 2021; Edgar, 2017), mindfulness (e.g., Ergas, 2019; Meiklejohn et al., 2012), and core reflection (e.g., Browning & Korthagen, 2021; Kim & Greene, 2011).

The purpose of this review is to explore literature related to the role of reflection in musical improvisation. Here, I organize sub-categories of the literature into the following two sections: 1) Musical Improvisation Conceptions and Practices and 2) Reflection in Education. In researching literature for this topic, I encountered many studies that specifically dealt with performance anxiety in musicians (e.g., Kenny & Osborne, 2006; Su et al., 2010). This review focuses on reflection in learning musical improvisation; therefore, I exclude the aforementioned performance anxiety literature. The intended audience for this literature review includes public school music teachers and preservice music teacher educators. Although the intent of this literature review regards K-12 students' experiences, it was necessary to broaden my search criteria to include preservice teachers to compile sufficient relevant scholarship.

Musical Improvisation Conceptions and Practices

In this section, I draw upon music education literature related to the conception and practice of musical improvisation. I divide the literature into three sub-categories: 1) what is musical improvisation, 2) fostering a healthy learning environment, and 3) the role of emotion in musical improvisation. In the first section, I will introduce key improvisation scholarship and clarify the definition of improvisation used in this review. In the second section, I gather research on creating a healthy and engaging environment where musical improvisation can flourish.

Finally, in the last section, I present literature addressing how emotions interact with the improvisation learning process.

What is Musical Improvisation?

Researchers define musical improvisation in various ways (Azzara, 2002, 2008; Biasutti & Frezza, 2009; Briggs, 1986; Kratus, 1995). This includes that musical improvisation is the "spontaneous expression of musical ideas" (Azzara, 2002), or is the combination of three key elements: technique, expression, and interaction

(Biasutti & Frezza, 2009). According to Briggs (1986), improvisation is a musical interaction between performer and performer, performers and instrument, and performers and environment. There are several common themes of which researchers generally agree: musical improvisation occurs in the moment, it involves communication or interaction, and it is a creative demonstration of a musician's synthesized knowledge of musical notes and rhythms (Azzara, 2002; Biasutti & Frezza, 2009; Briggs, 1986; Kratus, 1995; Volz, 2005).

Regarding expression, the researchers state that students are constantly making musical choices for communicating emotions to the listener during a performance. These choices can involve collaboration with peers, teachers, or a fellow improviser (Biasutti & Frezza, 2009). Such collaboration can also provide a social aspect to improvisation, which other researchers identify as a form of communicative dialogue (e.g., Biasutti & Frezza, 2009; Briggs, 1986). Briggs (1986) shares this common idea of improvisation as dialogue. Briggs also refers to Csikszentmihalyi's (1997) concept of flow in musical improvisation, describing improvisation as creating music with heightened awareness and relaxed concentration that allows the performer to enter the flow of musical sounds. This conception of musical improvisation as a display of active dialogue aligns with other researchers in music education (Azzara, 2002; Biasutti & Frezza, 2009).
Azzara (2002) condenses various definitions of improvisation into one culminating sentence, stating, "improvisation involves the ability to make music spontaneously within specified musical parameters" (p. 171). Beyond this, Azzara described characteristics of improvisation as the "meaningful expression of musical ideas" (Azzara, 2008, p. 203). Kratus (1995), who defined improvisation as purposeful (non-random) efforts to create musical sound, stressed the importance of being in the moment when engaging in musical improvisation. Therefore, combining elements from the above researchers, the inclusive definition of musical improvisation I use in this literature review is: an in-the-moment process of engaging, expressing, and creating meaning through musical ideas (Azzara, 2008; Briggs, 1986; Biasutti & Frezza, 2009; Kratus, 1995).

Fostering a Healthy Learning Environment

For any teacher looking to engage students in creative activities, particular attention should be on fostering a healthy learning environment that supports and encourages creative music-making. This section focuses on literature pertaining to the learning environment for musical improvisation. The literature highlighted three common areas that contribute to a healthy learning environment: teacher preparation (e.g., Burnard, 2002; Lysaker, 2020), communication (e.g., Beegle, 2010; Claire, 1993), and collaboration (e.g., Beitler, 2012; Hamilton, 1999).

In scholarship on classroom environment and musical improvisation, authors generally agree that teachers play an important and influential role in students' creative musical experiences (e.g., Burnard, 2002; Lysaker, 2020). Several key factors that may contribute to an open and creative music classroom environment emerged in the literature. These include teacher preparation (e.g., Burnard, 2002; Lysaker, 2020), active communication (e.g. Beegle, 2010; Claire, 1993), and collaboration (e.g., Beitler, 2012; Hamilton, 1999).

In a study observing children's meaning-making and musical interaction, Burnard (2002) stated that teachers need to first focus on establishing an atmosphere of trust and empathy for authentic student creativity and improvisation to occur. Burnard qualitatively observed an elective music group and noted that students were more engaged

with each other when teachers refrained from over-commenting on students' creative work. Communication, such as deciding on a tempo, identifying musical roles, and choosing a "leader," helped students in Burnard's study to feel the freedom to explore and develop spontaneous musical reactions. The teacher who intends to create an open and holistic environment conducive to learning and exploring musical creativity must "step back, [and] intervene only through questioning, using a style of leadership that empowers the group with freedom and responsibility" (Burnard, 2002, p. 12).

Lysaker (2020), in a recent literature review, highlighted multiple ways that music teachers can start to build an open and safe classroom environment, including examining word usage, building respect and rapport between students and teacher, showing interest in student ideas, allowing students to self-assess their performance, and giving specific feedback to students. Lysaker stated:

> Arguably, our greatest responsibility as educators is to create a learning space that is welcoming and supportive of all students who enter—not only because that space will be less threatening but also because students' learning will ultimately be enhanced [...] I suggest that we focus as much, if not more, on the person—our complete, complicated self—that we as teachers bring to the classroom every day. Adjusting our teaching mindset along with the way we speak and interact with students can make all of our teaching spaces more positive, affirming, and judgment-free. (p. 41)

In summary, the aforementioned authors state that fostering an open, holistic, and safe classroom environment and encouraging student exploration is vital for any music classroom.

The vast majority of literature on fostering a creative music learning environment seemed to focus on the importance of communication and collaboration. Claire (1993) discovered the interplay of student communication and cooperation in exploration processes in a study examining the role of peer social processes in music classrooms. Claire found that music classes that were primarily teacher-led did not inspire students to engage in creative activities. In contrast, students who attended exploratory and student-led music classes showed higher levels of participation and collaboration. Hamilton (1999) addressed the importance of creating a classroom environment that allowed peer interaction and discouraged competition over whose creative product was best. In a qualitative study documenting three 6th grade classes' processes of creating, improvising, and composing music over 15 weeks, Hamilton observed how students interacted with one another; for example through communication, group reflection, and discussion of past improvisations, which led to planning and discussing future improvisation attempts. Throughout the study, Hamilton noted that students consistently negotiated various musical roles through conversation and made decisions about collaborative musical improvisations as a group. This study demonstrated the importance of encouraging peer communication and collaboration when introducing students to musical improvisation (Hamilton, 1999).

Beegle (2010) recreated Hamilton's (1999) collaborative environment in a fifth-grade classroom. Beegle noticed that students stepped into various roles within the small group configuration, including leaders, social loafers, musical followers, and dominators. Beegle suggested three crucial stages of planning that

teachers should give students time to navigate: 1) explore and develop musical ideas, 2) plan and prepare to improvise, and 3) repeated performances. Beegle concluded the study summary by advocating for the inclusion of small and large group improvisation in long-term curricular plans of music educators.

Burnard (2002) called for more collaborative group improvisation in schools. Burnard worked with students who voluntarily joined a weekly elective improvisation club and observed the participants' music-making patterns and verbal reflections. The researcher noted that the students shared much of their thought processes through conversations with one another (Burnard, 2002). Their dialogue led to the conclusion that group improvisation provided opportunities for students to interact in unique ways. According to Burnard, this interaction uncovered an opportunity for the participants to develop a "social and musical sense of self" (p. 14). Burnard concluded with a call to action: teachers owe students the opportunity for group improvisation. In doing so, teachers can provide students the opportunity to grow in their musical understanding and construction of musical meaning (Burnard, 2002).

Beitler (2012) conducted a study exploring the benefits of collaborative reflection among middle school music students. The study aimed to offer insight for preparing adolescent musicians to receive improvisation instruction. Beitler found that when students engaged in reflection about music performance episodes, specifically improvisation, the overall achievement of the group increased. Beitler's findings point to the power of communication and collaboration in music classrooms specific to learning improvisation. Beitler noted, "collaborative talk resulted in discussions about the fears and joys of improvising, the freedom to create, and spontaneity within an organized plan" (p. 82). Encouraging an atmosphere conducive to student interaction has been shown to increase engagement in musical improvisation lessons (e.g., Beitler, 2012, Burnard, 2002).

Emotions in Learning Musical Improvisation

While many researchers have studied performance anxiety related to music performance (e.g., Kenny & Osborne, 2006; Su et al., 2010), the scope of this review is explicitly concerned with emotions and reflection associated with the learning of musical improvisation. Although improvisation and performance anxiety can certainly overlap, my focus remains on learning improvisation and associated emotions outside of performance-specific events. In this section, I discuss student attitudes, emotions, and reflections about musical improvisation.

Azzara (2008) stated that all students can express thoughts and feelings through music. Much of the literature exploring emotion in musical improvisation tends to exist within scholarship on music therapy and psychology, using improvisation to identify and process feelings and access emotional awareness (e.g., MacDonald & Wilson, 2014; McPherson et al., 2014). However, in music education literature, anxiety is often referenced as a feeling that some students may experience when learning to improvise (e.g., Alexander, 2012; Sol, 2021; Wehr-Flowers, 2006). According to Werner (1989), an accomplished musician and improviser, the feelings that surface in students learning to improvise may require constant affirmation and consistent belief system reprogramming in order to experience the freedom of improvisation.

Self-conscious emotions and responses play a role in how students learn, form relationships, and experience classrooms (McCaslin et al., 2016). As

Sol (2021) noted, "an authentic risk of failure exists during improvisation; the musician can become frozen, lost, or socially humiliated" (p. 3). In a quantitative study examining the difference between male and female students' confidence, anxieties, and attitudes towards learning jazz improvisation, Wehr-Flowers (2006) found that male participation among participants was significantly higher than females'. Regarding confidence, the researcher noted that females were significantly less confident and more anxious towards learning improvisation compared with males. Wehr-Flowers also found that male improvisation students perceived a higher positive response from successful improvisation than females.

In a quantitative research study based on Wehr-Flower's design and research question, Alexander (2012) investigated the confidence and anxiety levels of middle and high school string students during improvisation instruction. Similar to Wehr-Flower's (2006) findings, Alexander reported that female students were significantly more anxious than males navigating the same improvisation curriculum. However, the confidence of females in Alexander's study showed no significant difference between the males in either study. One of the critical differences between these two research studies was that Alexander used an improvisation curriculum specifically designed to build student confidence and help alleviate anxiety and negative emotions regarding the vulnerability of musical improvisation. Alexander (2012) suggested that music educators develop a sequentially appropriate improvisation curriculum that promotes positive reinforcement, referred to as a "fail-safe environment" (p. 30).

Thies (2015) reviewed literature regarding the role of anxiety in beginning improvisers. In addition to uncovering methods for introducing improvisation with an understanding of various causes of student anxiety, Thies highlighted the benefits of teachers: 1) getting to know the students and developing an intuition for when to exert pressure on a students' learning, and 2) developing an atmosphere of realistic encouragement that focuses on promoting the positive attributes of each student while reinforcing that the idea that improvisation does not necessarily have to be perfect. Additionally, Thies found that increased knowledge of students' capabilities and comfort in improvising can help teachers know when to place students in the spotlight and when to encourage group improvisation, thus navigating away from the possibility of negative experiences. Students' various emotional responses impact their experiences with musical improvisation and can influence the success or downfall of an improvisation curriculum (Thies, 2015).

Several authors address possible solutions, treatments, and strategies for alleviating performance anxiety (e.g., Kenny & Osborne, 2006; Su et al., 2010). With my focus on learning musical improvisation, I have excluded literature that addresses performance anxiety management (e.g., Kenny & Osborne, 2006; Su et al., 2010). However, literature that explores solutions to anxiety and fear in learning improvisation is lacking, and no studies explicitly examine strategies for alleviating anxiety and boosting confidence during the improvisational learning process. Related literature reveals studies on music teacher comfort and attitudes about musical improvisation (e.g., Whitcomb, 2013), improvisation and musician identity development (Smilde, 2016), and improvisation as a way to encourage self-reflection (Sol, 2021).

Whitcomb (2013) surveyed music teachers, curious about potential fears surrounding teaching improvisation. Whitcomb's survey indicated that teachers who have personally experienced low

confidence or anxiety when learning to improvise have a higher capacity to identify the same emotions in their students and tend to approach improvisation instruction from a place of heightened emotional understanding. Whitcomb concluded that normalizing complicated feelings as a part of the learning process can help students accept and process their own emotions when engaging with the musical improvisation curriculum.

Smilde (2016) explored identity in musical improvisation through reflection. In addition to supporting reflection on feelings and thoughts as a strategy to help discover one's musical identity, Smilde referenced musicians' need to belong in a musical environment and be seen among other musicians, which relates to the benefit of fostering a creatively open classroom as discussed in the previous section of this literature review. Smilde identified the reflection strategy of thinking, feeling, and wanting during musical improvisation to help musicians discover and explore ways to express authentically through music and honor the emotions that come up when beginning to explore improvisation.

Related, in a recent study of musicians' mindsets during the moment of improvisation, Sol (2021) found that self-reflective techniques coupled with present moment awareness were commonly implemented strategies that the participants used while improvising. Sol concluded that "improvisation could be seen as an embodied somatic practice that includes both intense present moment awareness and natural body expression in the form of rhythmic movement in response to sound" as a result of musicians' self-reflection (p. 182). The two common themes emerging in the literature on the benefits of reflection during musical improvisation are that it allows the musician to identify and calm emotions (Smilde, 2016) and remain in the moment (Sol, 2021).

In all of this, the common themes which emerge include the importance of providing an open and trusting space where students can explore their creativity through improvisation (e.g., Burnard, 2002; Lysaker, 2020), encouraging students to engage in dialogue and collaboration with their fellow musicians in an improvising space (e.g., Beegle, 2010; Claire, 1993), and fostering in-the-moment awareness in students learning to improvise in order to help them interact, listen, and respond to their musical environment (e.g., Smilde, 2016; Sol, 2021). This final theme leads into the next section of this paper, which explores how reflection and reflective practices can enhance student experiences with learning improvisation.

Reflection in Education

In this section, I draw upon general education literature because music education literature involving reflection tends to focus on its use by music teachers rather than students' own reflections or use of reflection in improvisatory-specific activities. Here, I discuss the history of reflection in education and then discuss three specific reflective practices (mindfulness, social-emotional learning, and core reflection). I also connect this literature to music education scholarship when possible.

Brief History of Reflection in Education

Reflection—in an educational context—is defined and used in many ways, including reflection on prior knowledge to apply to future experiences (reflection as planning), reflecting in the moment, and reflecting post-action (Dewey, 1933). Dewey (1933), a proponent of academic reflection, believed that reflection should be a deliberate and active process of thinking to learn, rather than just a passive recall of events. Dewey's innovative writings on reflection in education laid the

foundation for reflective researchers who followed. For example, Burnard (2002), a music education researcher, has drawn on Dewey's concept of reflection, suggesting that teachers of musical improvisation allow psychological space for children to explore and apply prior knowledge to create unique personal music. In order for students to learn to be creatively spontaneous, the teacher must provide space for exploration, refrain from interfering, and empower students to be responsible for their own musical decision-making (Burnard, 2002). This is an example of a current application of Dewey's (1933) perspective on reflection. Kratus (1995) referenced this type of reflection when explaining the thought processes that musicians engage with when improvising. According to Kratus, musicians engaged in the in-the-moment act of improvisation can reflect on auditory and physical responses during the performance to help learn and grow for future performances. Schön (1987) identified this in-the-moment decision-making ability in teachers and connected that back to reflection, suggesting that the practitioner can bring to light hidden knowledge through the act of reflection.

Schön (1987) discussed reflection in regard to teaching and identified two different types of reflection: reflection on action and reflection in action. Reflection on action refers to a post-teaching thought process, which assesses and evaluates the positives and negatives of a teaching event. Reflection in action is the process of "thinking on your feet" during a teaching episode, interaction, or musical performance (Schön, 1987). Smilde (2016) referenced this view of reflection as the type that musicians engage with in the moment of an improvised performance. Smilde stated, "Schön relates to this first connotation of 'feel' when he describes the notion of reflection-in-action through an example of improvising jazz musicians, where they improvise 'through a feel' for the music" (p. 316). This constant awareness of and connection to thoughts and feelings during a performance event is what Schön sees in teachers who demonstrate a connection to the classroom environment and students within the classroom and is still utilized by musicians and teachers when engaging with musical improvisation. Schmidt (2021) explored the reflective practices of early and late-career music teachers in a qualitative study. Teachers in the study use reflection-in-action during teaching episodes to negotiate the difference between anticipated classroom responses and the actual responses of students. This helped teachers understand their choices and lesson adjustments and allowed for subsequent lessons to proceed more smoothly (Schmidt, 2021). Schön's (1987) ideas of reflection remain actively referenced in education scholarship and provide a foundation for understanding the use of reflective practices in education today.

In current educational settings, various ideas surrounding reflection exist. Reflection in teaching and learning can be: 1) a way to construct meaningful identity and personal beliefs (Conkling, 2003); 2) a retelling of stories related to teaching and learning to explore narratives and take advantage of teachable moments (Blair, 2012); or 3) a self-critique tool, methodically used to aid goal-setting, assessing, and learning from mistakes (Bartolome, 2013). The latter is perhaps the most prevalent in education and occurs in all school levels, from kindergarten to university. These differing ideas can confuse students when educators neglect to clarify their specific use of the word or practices (Beveren et al., 2018). In more recent literature, Palmer (2017), drew on Dewey's (1986) "thinking to learn" concept of reflection, and offered a new view of reflection. Palmer (2017) suggested that reflection be a way for teachers to relate to their students, shape the classroom environment and instructional materials around the needs and strengths of students, and

identify students' unique strengths and characteristics. This purpose of reflection seems to correspond with literature on creating a classroom environment conducive to learning improvisation (e.g., Beegle, 2010; Claire, 1993; Lysaker, 2020; McCaslin et al., 2016).

In this section, literature reveals not only contrasting viewpoints of the purpose of reflection but also the various applications of reflective practice in education. In the literature, the version of reflection most related to students and K-12 school environments appears to be either that of Palmer (2017) or as a way to self-critique a prior event or experience (Bartolome, 2013). Therefore, in order to narrow the focus of this review to include reflection with an in-the-moment application (Smilde, 2016), it is necessary to delve deeper into the literature on more specific reflective practices. To provide clarification moving forward, the definition of reflection that I reference is: purposeful, thoughtful efforts to open one's mindset and draw out positive qualities in the moment (Johnson et al., 2019).

Three Reflective Practices

In this section, I highlight three reflective practices that emerged in the literature regarding present-moment reflection in education. While there are many ways to engage in reflection, and as noted in the aforementioned section, reflection in music education scholarship tends to focus on teachers' reflective practices (e.g., Bartolome, 2013; Johnson et al., 2019). However, this section aims to highlight reflective practices that students can engage in when learning to improvise. The three practices that appeared most often in the literature are 1) mindfulness, 2) social and emotional learning, and 3) core reflection. In this section, I continue to draw on general education literature primarily, in order to situate these reflective practices accurately within present-day education. I also connect this literature to music education scholarship wherever possible.

Mindfulness

The most widely referenced definition of mindfulness is that of Kabat-Zinn: "mindfulness is the awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment" (Kabat-Zinn, 2003, as cited in Meiklejohn et al., 2012). Prevalent in the literature is evidence that the implementation of mindfulness in K-12 schools has the potential to lower stress levels, both in teachers and students (e.g., Ergas, 2019; Meiklejohn et al., 2012). The research regarding mindfulness benefits for K-12 students has shown that it "allows students to relate to their internal and external experiences in ways that are present-centered, objective, and response, rather than in ways that are past or future-focused, subjective, and reactive" (Meiklejohn et al., 2012, pg. 6). For students learning to improvise, remaining present-centered and responsive to one's environment is an integral component (Sol, 2021).

In a quantitative study conducted by Napoli et al. (2005), elementary-aged students were assigned to participate in mindfulness reflection training over a 24-week period. This training consisted of relaxation exercises, sitting meditations, movement activities, and body scans (Meiklejohn et al., 2012). Compared with students who did not participate in the training, these students showed significant reductions in test anxiety and improvement in attention span and overall social skills (Napoli et al., 2005). Another study with students ages 14-18 by Biegel et al. (2009) yielded similar results. Half of the participants were randomly assigned to receive training in "Mindfulness-Based Stress Reduction" over a period of eight weeks. The researchers found that

these students showed "significant reductions in self-reported anxiety, depression, somatization, perceived stress, obsessive symptoms, and intrapersonal problems" after the mindfulness training (Meiklejohn et al., 2012, p. 8). These two studies provide an example of the benefits of mindfulness on adolescent mental health, anxiety, stress, and social skills (Biegel et al., 2009; Meiklejohn et al., 2012; Napoli et al., 2005).

Mindfulness practices when implemented in schools have a seemingly wide variety of results, including reducing burnout and stress in teachers and students, enhancing social-emotional connections, improving student well-being, and transforming teaching and learning processes (Ergas, 2019). Literature on mindfulness in K-12 music education classrooms reveals that mindfulness can alleviate performance anxiety in children (e.g., Su et al., 2010), heighten sensitivity in music listening (e.g., Anderson, 2016), and increase creativity (e.g., Langer et al., 2009). Falter (2016) identified two types of mindfulness practice: meditative mindfulness and social-psychological mindfulness. When integrated into a music classroom, the latter has great potential, according to Falter. When engaging students in music learning with mindfulness, students can experience a deeper personal connection to the music, a somatic understanding of musical techniques like pitch and rhythm, and feel musical expression and articulation internally (Falter, 2016).

According to authors, mindfulness integration in the music classroom can benefit students' mental health, social behavior, emotional management, and well-being (e.g., Biegel et al., 2009; Napoli et al., 2005). It can also elevate their understanding of and connection to music (e.g., Anderson, 2016). The above benefits of mindfulness have the potential to greatly impact students who are learning to improvise by keeping their attention on the present, heightening their awareness of their surroundings, deepening their connection to the process of making music, and helping them appreciate the music itself (Sol, 2021).

Social and Emotional Learning

Edgar (2017), a music education researcher, defines social-emotional learning (SEL) as "a framework for the organization and planning of school-wide supports which focus on positivity in an educational environment" (Edgar, 2017). A frequently cited form of reflective practice, SEL provides students with strategies and tools to 1) set and reach positive personal goals, 2) demonstrate empathy for themselves and others, 3) foster positive relationships, and 4) make responsible decisions (Zins et al., 2007). Zins et al. (2007) identified two main focuses of SEL. First, there is the person-centered focus, which seeks to improve student motivation to overcome obstacles, achieve goals, and believe in themselves. Second, there is the environmental focus, which seeks to improve student responses to their surroundings, communication, and emotional management. These two focuses are similar to the two facets of mindfulness discussed in the previous section (Falter, 2016).

Eddy et al. (2021) identified various ways that SEL can be implemented in music education, highlighting that the arts are unique in that they are:

> [...] generated with bodies, often initiated by perception, followed by an interaction with material or spatial environment. Whether constructed or natural, the context in which learning occurs consists not just of tangible or material surroundings, but social and emotional layers that are inherently physical [...] [h]ence, the arts are naturally, profoundly contextualized in ways that suggest an alignment with both

> the best pedagogical practices derived from cognitive research and the intentions of SEL. (Eddy et al., 2021, p. 3)

The two main focuses of SEL intrinsically align with the goals of music education curricula, according to Varner (2021), in the following ways: 1) music helps students realize their skills and hone their abilities; 2) music is a group effort, and students may be given the opportunity to collaborate, which helps heighten their perceived self-worth; 3) learning music empowers students to work hard and achieve musical goals; and 4) music teachers can be role models for students by being open about personal experiences and challenges (Varner, 2021).

Applied in conjunction with musical improvisation curricula, SEL can assist students in understanding and processing their emotions, and it can increase students' self-awareness, self-management, social awareness, and decision-making (Eddy et al., 2021). During musical improvisation, musicians may experience feelings such as vulnerability, anxiety, over-stimulation, or even fear (Whitcomb, 2013), which can cause less-than-ideal outcomes in the moment of performance. If students have access to tools and strategies to identify strengths and process emotions in the moment, they are less likely to experience the aforementioned negative outcome (Sol, 2021).

Core Reflection

In emerging scholarship in the field of education, one reflective approach specifically addresses thoughts, feelings, and wants: core reflection (e.g., Browning, 2018; Browning & Korthagen, 2021; Kim & Greene, 2011). Browning (2018) explained that the core reflection (CR) approach uses ideas from both positive and Gestalt psychology frameworks to "empower teachers through a guided analysis of assets, obstacles, and ideals while also calling for a reflection of thoughts, feelings, and desires" (p. 88). The first mention of CR is from the year 2004, and it has since gained the interest of other holistic educators, though research specific to it remains limited in the United States (e.g., Browning, 2018; Browning & Korthagen, 2021; Kim & Greene, 2011).

CR provides a framework to conceptualize the various layers of a person's identity beliefs and behaviors which manifest when they are externally triggered (Browning, 2018) and is based on the connection of a person's internal strengths with external responses and reactions (Kim & Greene, 2011). When educators use this approach, it can shift actions and feelings into internal dialogue and emphasize ideal outcomes and core qualities within the person (Browning, 2018). I located no studies connecting this type of reflection with music, music students, music teachers, or music schools. CR is relatively young in reflection scholarship, so this was somewhat expected. Despite this gap in the literature, existing research informs perceptions of core reflection and its potential benefits in the music classroom. I, therefore, include this literature to help build connections to my overall topic involving reflection and improvisation in music learning. CR is a potential strategy that teachers and students can use to foster and encourage an anxiety-free environment (Browning & Korthagen, 2021) which can inspire the kind of creative ease essential for musical improvisation (Briggs, 1986).

Browning (2018) conducted an in-depth qualitative study of the effects of CR on preservice teachers' communication patterns during student teaching internships. Browning hypothesized that CR might affect how student teachers experience the process of recognizing, processing, and moving past negative feedback. Browning's aim was to bring awareness of participants' strengths and qualities to the forefront to balance feelings and

expectations. Browning states that "[T]he actualization of strengths as suggested by positive psychological theory has been shown to assist in developing resilience during times when [participants] may otherwise be inclined to resign themselves to the negative influences of external constraints" (2018, p. 88). Similar to how students of musical improvisation can feel overwhelmed and anxious when put in the spotlight (Thies, 2015), teacher interns can feel an intense pressure to succeed (triggering feelings of anxiety) during a teaching episode (Browning, 2018). Participants reported that after using CR multiple possible responses to external stimuli became apparent and that this reflective practice may provide teachers a way to explore multiple possibilities in a situation by reflecting on their strengths. Smilde (2016) stated that reflection focused on exploring and discovering ways to express feelings through music can allow students to honor and acknowledge the emotions that arise with learning to improvise.

Browning and Korthagen (2021) studied how CR affects feelings of uncertainty in teachers. Three participants underwent training in the elevator levels, one of the fundamental techniques of CR that helps the user navigate difficult situations by identifying their thoughts about what is happening in the moment, how the situation is affecting them emotionally and physically, and how they want the situation to resolve (Kim & Greene, 2011). By using the elevator levels, participants felt supported in finding and using their core qualities—unique characteristics that shape a person's identity (Browning, 2018)—and could more easily identify limiting obstacles and beliefs (Browning & Korthagen, 2021). The researchers concluded that CR can support the process of moving past internal obstacles and feelings such as uncertainty, anxiety, or fear. CR offers concrete guidelines to help eliminate uncertainty by enhancing awareness of core qualities, goals, and internal conflicts (Browning & Korthagen, 2021). The inner obstacles that students experience when learning improvisation can produce feelings such as anxiety and uncertainty (Smilde, 2016) and in restrictive environments students can feel reluctant to engage in collaboration and musical creativity with peers (Lysaker, 2020). Browning and Korthagen's (2021) study suggests that, in the case of student emotions about improvisation, applying CR techniques could allow students to see multiple possibilities and feel more empowered in their learning.

Studies on CR have indicated overwhelmingly positive results and implications. It was difficult to identify existing scholarship demonstrating negative responses or concerns. However, one study did emerge. Kim and Greene (2011) conducted a three-year-long self-study on the effects of CR on self-identity and relationships with others. One contradiction that appeared during this study was between varying applications of core qualities. Researchers discussed whether the core quality of sensitivity is a strength or a weakness and identified scenarios where it could be perceived as both. Finally, it was determined that core qualities that are paradoxical in nature can still "transform and energize us from within" (p. 112). The researchers ultimately agreed to move beyond the apparent contradiction to engage with CR for self-growth and learning. Kim and Greene discovered that the sense of connection established through the application of CR provided an opportunity to be less vulnerable, which weakened feelings of doubt and incompetence. Lysaker (2020) suggests this type of connection, urging that teachers adjust communication and mindset with students to encourage the teaching space to be "more positive, affirming, and judgment-free" (p. 40). Additionally, McCaslin et al. (2016) referenced the feelings of doubt and incompetence in students, identifying these feelings as byproducts of increased self-awareness

and self-criticism. Learning musical improvisation is a social endeavor, which requires interaction and communication, and teachers can benefit from taking time to reflect on the connections made in the classroom, as doing so can impact the development of a student-centered curriculum (Hamilton, 1999). Kim and Greene (2011) concluded by stating, "[CR] had a powerful impact on our ability to sustain the connection between our awareness and our sense of purpose, passion, and potential as human beings. This directly influenced the priorities we enacted in relationships with others" (p. 118).

Among the three reflective practices discussed in the above section, three themes seem prevalent: 1) present-moment reflection includes an awareness of both internal and external factors (e.g., Kim & Greene, 2011; Meiklejohn et al., 2012), 2) reflection of this type is largely focused on positive attributes and strengths rather than weaknesses or shortcomings (e.g., Browning, 2018; Zins et al., 2007), and 3) these reflective practices can help improve interactions with others and can result in responses rather than reactions (e.g., Browning, 2018; Eddy et al., 2021). In musical improvisation, as stated in the previous section, students must be fully present and in-the-moment (Kratus, 1995; Smilde, 2016), draw on their prior musical skills and strengths as musicians (Azzara, 2002), and engage in communication and collaboration with other improvising musicians in the moment of performance (Briggs, 1986). In all of this, there seems to be a significant overlap in themes between present-moment reflective practices and musical improvisation.

Summary

The literature included in this review was organized into two sections: 1) Musical Improvisation Conceptions and Practices, and 2) Reflection in Education. I examined music education literature relating to improvisation, specifically what music improvisation is, how teachers can foster a healthy learning environment for improvisation, and the role of emotions in learning improvisation. What I found was that researchers acknowledge: 1) the existence of anxiety-related emotions in students learning to improvise, 2) the benefits of teacher diligence in preparing a supportive environment and curriculum for student creativity to flourish, and 3) the need for students to exist in the present moment during improvisation.

I then reviewed literature from the field of general education regarding reflection in education, connecting this literature to the aforementioned music education literature. Here, it seems important to note that reflection can occur in a variety of forms in an educational setting, depending on its intended purpose or use. Reflection with the intention of building on positive attributes, setting personal goals, processing present-moment happenings, or engaging in a social setting built on key ideas put forth by Dewey (1933) and are the basis of Palmer's (2017) perspective of reflection.

Finally, I reviewed literature relating to three specific types of reflective practices: mindfulness, social-emotional learning, and core reflection. Many authors note that these reflective strategies involve a focus on the connection between a person's awareness, purpose, passion, and potential, which are essential elements to achieving the in-the-moment decision making, interactions, responses, and reactions that music education researchers cite as critical for musical improvisation. In all of this, the largest parallels that can be drawn from the existing scholarship are between these three reflective practices and the key elements of learning musical improvisation: 1) drawing on individual strengths and skills, 2) being

aware of and responding to external stimuli, and 3) existing entirely in-the-moment.

Limitations

Though the literature on musical improvisation is extensive, there are apparent gaps regarding the addressing and managing anxiety-related emotions in students learning to improvise. The problem is this: despite an understanding that these emotions (anxiety, fear, uncertainty, low confidence) exist in students learning improvisation, there are no research studies specifically designed to explore how to teach improvisation in such a way that addresses and alleviates these feelings in students. Literature on performance anxiety is extensive and widely researched, and authors have made suggestions regarding psychological and pharmaceutical solutions. No research study has examined techniques for managing students' limiting beliefs and emotions, however, when in the process of learning improvisation. Although researchers revealed these hesitations and emotions in students, such as Alexander (2012), no studies explicitly explore solutions.

One suggestion regarding alleviating hesitations came from Smilde (2016) and referenced the use of in-the-moment reflection with students learning to improvise. Despite this feasible suggestion, no literature examined the relationship of present-moment reflective practices with music students. Of the three reflective practices discussed in this review, core reflection most closely resembles the kind of reflection referenced by Smilde (2016). However, core reflection is a relatively young reflective approach, and there are limited studies on its use in K-12 education. A focus on positive attributes can benefit music students experiencing anxiety and stress, but further research is required to gauge the impact of core reflection in a music classroom, with music students, and specifically with music improvisation curriculum.

Finally, the majority of the studies investigated here were qualitative in nature. While qualitative research methods are appropriate for studies exploring participants' meaning-making and personal experiences, seeing variety in terms of research methods would possibly provide different perspectives and findings.

Recommendations

As stated above, the literature in this review points to the existence of anxiety and low confidence in regard to learning musical improvisation in a K-12 setting. Researchers have briefly referenced possible solutions for teachers delivering improvisation curriculum to use which can reduce these emotional responses in students, such as flexible curriculum focused on ensuring a positive outcome for students, allowing students time to engage in conversation and collaboration with fellow improvisers, and reflecting in-the-moment. I suggest that future music education researchers should conduct a study that explores and documents the long-term effects of these strategies on students learning improvisation. Additionally, researchers should investigate the effects of these strategies on a variety of grade levels (i.e., elementary, middle, and high school). This would contribute a variety of options for music teachers and teacher educators to use when introducing improvisation both in K-12 curriculum and to preservice teachers.

Despite that researchers cite possible benefits of linking present-moment reflective practices to musical improvisation instruction, further research is needed to substantiate this claim. I suggest that music education researchers conduct studies examining the uses of mindfulness,

social-emotional learning, and core reflection in music classrooms, specifically in conjunction with musical improvisation curricula. To take this a step further, future researchers should collaborate with music therapy experts and compare how reflective practices and improvisation may align. A study such as this would provide music educators, preservice teacher educators, and music therapists with tangible research on the implication of reflective practices in a musical context and the effects on student confidence, mindset, in-the-moment musical responses, and collaborative interactions during improvisation.

Implications

Scholars acknowledge that some students experience limiting emotions when asked to improvise, and researchers address the benefits of a safe and open classroom environment, peer communication and collaboration, and emotional awareness. Authors suggest that teachers engage in present-moment reflection with students in order to quell these emotions (e.g., Smilde, 2016; Sol, 2021), but scholarship on the connection between this type of reflection and musical improvisation curricula is lacking. Literature from the general education field highlights three reflective practices that are specifically designed to bring out positivity: mindfulness, social-emotional learning, and core reflection. Based on the literature reviewed in this paper, the following are implications for the field of music education.

It seems important that teachers continue to offer students the opportunity to create and improvise music, but particular attention should be paid to creating an atmosphere conducive to fostering creativity. Students need to feel safe, seen, and supported, particularly if they begin to feel anxious, doubtful, or vulnerable during the process of learning to improvise. Teachers should take care to foster a trusting relationship with students and encourage students to support one another in the learning process. Students need to be given choice and voice when it comes to creative expression, and teachers should encourage their students to explore, collaborate, and communicate throughout.

It also seems important that to establish such a learning atmosphere, reflection is an important component that might go overlooked in many classrooms. Reflection is used to help students search for their strengths, both in an abstract sense ("I am passionate; I am creative..."), but also in a musical sense ("I can keep a steady beat; I can harmonize in the key of A..."). In summary, my recommendations given this body of scholarship include that teachers should: 1) make time for reflection for students regarding their creative activities, 2) teach students how to reflect, 3) engage in specific kinds of reflective practices that can guide students toward positivity (for instance through core reflection, mindfulness, or social-emotional learning), and 4) model these reflective concepts out loud in the music classroom.

It also seems important that administrators should seriously consider the role of reflection in student learning, particularly regarding creative tasks. Teachers may not have the time to explore possible reflective practices outside of their contractual workday, but if administrators get involved in reflecting with teachers and provide relevant professional development focused on present-moment reflective practices, teachers will have more experiences and tools for use with students.

Reflection in general and positive in-the-moment reflective practices like mindfulness, core reflection, and social-emotional learning can be used beyond the music classroom, for instance in the private instrumental and vocal studio, in large elective ensembles, or in any creative arts class.

Teachers who engage in positive reflection on a regular basis can normalize the process for students and model this present-moment awareness. Although no negative scholarship seemed to emerge regarding these reflective practices, of course, there could be concerns that teachers need time and resources in order to integrate these reflective practices into their classrooms. However, these obstacles can be overcome and should be prioritized so that students learning musical improvisation might feel safe, seen, and supported in their creative environment.

References

Alexander, M. L. (2012). Fearless improvisation: A pilot study to analyze string students' confidence, anxiety, and attitude toward learning improvisation. Update: Applications of Research in Music Education, 31(1), 25–33. https://doi.org/10.1177/8755123312457884

Anderson, W. T. (2016). Mindful music listening instruction increases listening sensitivity and enjoyment. Update: Applications of Research in Music Education, 34(3), 48–55. https://doi.org/10.1177/8755123314567905

Azzara, C. D. (2002). Improvisation. In R. Colwell & C. Richardson (Eds.), The new handbook of research on music teaching and learning: A project of the Music Educators National Conference (pp. 171–187). Oxford University Press. https://www.esm.rochester.edu/theory/files/Azzara-Improvisation.pdf

Azzara, C. D. (2008). Improvisation and choral musicianship. In M. Holt & J. Jordan (Eds.), The school choral program: Philosophy, planning, organizing, and teaching (pp. 201–239). GIA Publications. https://www.esm.rochester.edu/theory/files/Improvisation-Musicianship-GIA-G-7180-C1 0-Azzara.pdf

Bartolome, S. J. (2013). Growing through service: Exploring the impact of a service-learning experience on preservice educators. Journal of Music Teacher Education, 23(1), 79–91. https://doi.org/10.1177/1057083712471951

Beegle, A. C. (2010). A classroom-based study of small-group planned improvisation with fifth-grade children. Journal of Research in Music Education, 58(3), 219–239. https://doi.org/10.1177/0022429410379916

Beitler, N. S. (2012). The effects of collaborative reflection on the improvisation achievement of seventh and eighth-grade instrumental music students (Publication No. 3534647) [Doctoral dissertation, Pennsylvania State University]. ProQuest Dissertations and Theses Global.

Beveren, L.V., Roets, G., Buysse, A., Rutten, K. (2018). We all reflect, but why? A systematic review of the purposes of reflection in higher education in social and behavioral sciences. Educational Research Review, 24, 1–9. https://doi.org/10.1016/j.edurev.2018.01.002

Biasutti, M., & Frezza, L. (2009). Dimensions of music improvisation. Creativity Research Journal, 21(2–3), 232–242. http://doi.org/10.1080/10400410902861240

Biegel, G. M., Brown, K. W., Shapiro, S. L., & Schubert, C. M. (2009). Mindfulness-based stress reduction for the treatment of adolescent psychiatric outpatients: A randomized clinical trial. Journal of Consulting and Clinical Psychology, 77(5), 855. http://doi.org/10.1037/a0016241

Blair, D. V. (2012). Collaborative journals: Scaffolding reflective practice in teacher education. In M. Barrett & S. L. Stauffer (Eds.), Narrative soundings: An anthology

of narrative inquiry in music education (pp. 201–217). Springer. http://doi.org/10.1007/978-94-007-0699-6_11

Briggs, N. L. (1986). Creative improvisation: A musical dialogue (Publication No. 8622890) [Doctoral dissertation, University of California, San Diego]. UCSD Libraries.

Browning, T. D. (2018). Countering deficit discourse: Preservice teacher experiences of core reflection. Teaching and Teacher Education, 72, 87–97. https://doi.org/10.1016/j.tate.2018.01.009

Browning, T. D., & Korthagen, F. A. (2021). The winding road of student teaching: Addressing uncertainty with core reflection. European Journal of Teacher Education, 44(4), 2–18. https://doi.org/10.1080/02619768.2021.1973421

Burnard, P. (2002). Investigating children's meaning-making and the emergence of musical interaction in group improvisation. British Journal of Music Education, 19(2), 157–172. https://doi.org/10.1017/s0265051702000244

Claire, L. (1993). The social psychology of creativity: The importance of peer social processes for students' academic and artistic creative activity in classroom contexts. Bulletin of the Council for Research in Music Education, 119, 21–28. https://www.jstor.org/stable/40318608

Conkling, S. W. (2003). Uncovering preservice music teachers' reflective thinking: Making sense of learning to teach. Bulletin of the Council for Research in Music Education, 155, 11–23. http://www.jstor.org/stable/40319420

Csikszentmihalyi, M. (1997). Flow and education. NAMTA journal, 22(2), 2–35.

Dewey, J. (1933). How we think: A restatement of the relation of reflective thinking to the educative process. D.C. Heath Company.

Dewey, J. (1986). Experience and education. The Educational Forum, 50(3), 241–252. https://doi.org/10.1080/00131728609335764

Eddy, M., Blatt-Gross, C., Edgar, S. N., Gohr, A., Halverson, E., Humphreys, K., & Smolin, L. (2021). Local-level implementation of social emotional learning in arts education: Moving the heart through the arts. Arts Education Policy Review, 122(3), 193–204. https://doi.org/10.1080/10632913.2020.1788681

Edgar, S. N. (2017). Music education and social-emotional learning: The heart of teaching music. GIA Publications.

Ergas, O. (2019). Mindfulness in, as, and of education: Three roles of mindfulness in education. Journal of Philosophy of Education, 53(2), 340–358. https://doi.org/10.1111/1467-9752.12349

Falter, H. E. (2016). Mindfulness: An underused tool for deepening music understanding. General Music Today, 30(1), 20–24. https://doi.org/10.1177/1048371316641461

Hamilton, H. J. (1999). Music learning through composition, improvisation, and peer interaction in the context of three sixth grade music classes (Publication No. 9937857) [Doctoral Dissertation, University of Minnesota]. ProQuest Dissertations and Theses Global.

Johnson, D. C., Stanley, A. M., Falter, E. H., Greene, J. L., Moore, H. L., Paparone, S. A., Snell II, A. H., & Smith, J. C. (2019). Reflections on music teacher professional development: Teacher-generated policies and practices. Arts Education Policy Review, 120(4), 208–220.

https://doi.org/10.1080/10632913.2018.1468839

Kabat-Zinn, J. (2003). Mindfulness-based stress reduction (MBSR). Constructivism in the Human Sciences, 8(2), 73–83. https://www.proquest.com/scholarly-journals/mindfulness-based-stress-reduction-mbsr/docview/204582884/se-2?accountid=13567

Kenny, D. T., & Osborne, M. S. (2006). Music performance anxiety: New insights from young musicians. Advances in Cognitive Psychology, 2(2–3), 103–112. https://doi.org/10.2478/v10053-008-0049-5

Kim, Y. M., & Greene, W. L. (2011). Aligning professional and personal identities: Applying core reflection in teacher education practice. Studying Teacher Education, 7(2), 109–119. https://doi.org/10.1080/17425964.2011.591132

Kratus, J. (1995). A developmental approach to teaching music improvisation. International Journal of Music Education, 26(1), 27–38. https://doi.org/10.1177/025576149502600103

Langer, E., Russel, T., & Eisenkraft, N. (2009). Orchestral performance and the footprint of mindfulness. Psychology of Music, 37(2), 125–136. https://doi.org/10.1177/0305735607086053

Lysaker, M. Y. (2020). Creating a judgment-free environment: Strategies for the classroom, ensemble, and applied studio. American String Teacher, 70(2), 39–41. https://doi.org/10.1177/0003131320909132

MacDonald, R. A., & Wilson, G. B. (2014). Musical improvisation and health: A review. Psychology of Well-being, 4(1), 1–18. https://doi.org/10.1186/s13612-014-0020-9

McCaslin, M., Vriesema, C., & Burggraf, S. (2016). Making mistakes: Emotional adaptation and classroom learning. Teachers College Record, 118(2), 1–46. https://doi.org/10.1177/016146811611800205

McPherson, M. J., Lopez-Gonzalez, M., Rankin, S. K., & Limb, C. J. (2014). The role of emotion in musical improvisation: an analysis of structural features. PloS one, 9(8), E105144. doi:10.1371/journal.pone.0105144

Meiklejohn, J., Phillips, C., Freedman, M. L., Griffin, M. L., Biegel, G., Roach, A., Frank, J., Burke, C., Pinger, L., Soloway, G., Isberg, R., Sibinga, E., Grossman, L., & Saltzman, A. (2012). Integrating mindfulness training into K-12 education: Fostering the resilience of teachers and students. Mindfulness, 3, 291-307. https://doi.org/10.1007/s12671-012-0094-5

Napoli, M., Krech, P. R., & Holley, L. C. (2005). Mindfulness training for elementary school students: The attention academy. Journal of Applied School Psychology, 21(1), 99–125. https://doi.org/10.1300/j370v21n01_05

Palmer, P. J. (2017). The courage to teach: A guide for reflection and renewal. John Wiley & Sons.

Schmidt, C. (2021). The reflective practices of early and late-career music educators. Research Studies in Music Education. https://doi.org/10.1177/1321103X211016891

Schön, D. A. (1983). The reflective practitioner: How professionals think in action. Basic Books.

Smilde, R. (2016). Biography, identity, improvisation, sound: Intersections of personal and social identity through improvisation. Arts and Humanities in

Higher Education, 15(3–4), 308–324. https://doi.org/10.1177/1474022216647374

Sol, W. A. (2021). Sonic mindfulness: A qualitative study of sense of agency and an improvisational state of mind in free form musical improvisation (Publication No. 28497891) [Doctoral dissertation, California Institute of Integral Studies]. ProQuest Dissertations and Theses Global.

Su, Y. H., Luh, J. J., Chen, H. I., Lin, C. C., Liao, M. J., & Chen, H. S. (2010). Effects of using relaxation breathing training to reduce music performance anxiety in 3rd to 6th graders. Medical problems of performing artists, 25(2), 82–86. https://doi.org/10.21091/mppa.2010.2016

Thies, T. T. (2015). Anxiety and early learning experiences with improvisation. Research Perspectives in Music Education, 17(1), 54–66. http://doi.org/10.1177/8755123312457884

Varner, E. (2020). General music learning is also social and emotional learning. General Music Today, 33(2), 74–78. https://doi.org/10.1177/1048371319891421

Volz, M. D. (2005). Improvisation begins with exploration. Music Educators Journal, 92(1), 50–53. https://doi.org/10.2307/3400227

Wehr-Flowers, E. (2006). Differences between male and female students' confidence, anxiety, and attitude toward learning jazz improvisation. Journal of Research in Music Education, 54(4), 337–349. https://doi.org/10.2307/4139755

Werner, K. (1989). Effortless mastery: Liberating the master musician within. Jamey Aebersold Jazz.

Whitcomb, R. (2013). Teaching improvisation in elementary general music: Facing fears and fostering creativity. Music Educators Journal, 99(3), 43–51. https://doi.org/10.1177/0027432112467648

Zins, J. E., Bloodworth, M. R., Weissberg, R. P., & Walberg, H. J. (2007). The scientific base linking social and emotional learning to school success. Journal of Educational and Psychological Consultation, 17(2–3), 191–210. https://doi.org/10.1080/10474410701413145

Author Bio

Haley Moore is a high school orchestra director at Canandaigua Academy in Western New York. She is the United States representative for the Asia-Pacific Network for Holistic Education and is completing her Ph.D. in Music Teaching and Learning from the Eastman School of Music. She was also recently certified in Mind-Body Healing and Wellness from the University of Rochester. Ms. Moore advocates for whole-child education and presents her research internationally at music education and holistic education conferences. In her free time, Haley enjoys hiking, swimming, and spending time with nature.