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Title:
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Date:
2022-07-01

Citation:
de Bruin, L. R. (2022). Collaborative learning experiences in the university jazz/creative music ensemble: Student perspectives on instructional communication. Psychology of Music, 50 (4), pp.1039-1058. https://doi.org/10.1177/03057356211027651.

Persistent Link:
https://hdl.handle.net/11343/311540

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Original Empirical Investigations

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Psychology of Music
2022, Vol. 50(4) 1039–1058

DOI: 10.1177/03057356211027651
journals.sagepub.com/home/pom
SAGE

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Abstract

While the ensemble is a ubiquitous learning environment within jazz education, opportunities to learn through engagement in ensemble performances and industry-level recording opportunities are rare classroom environments tertiary jazz music institutions offer. This qualitative study examines jazz performance contexts within an Australian tertiary music course, exploring students' learning experience spanning three diverse collaborative projects across nine months. Phenomenological analysis explores the instructional relationship outlining connection between the student and instruction, the subject matter that is taught, and the connection between the student and the teacher as master improviser. Findings outline substantive teacher crafting of learning, relationship building and learning experiences garnered from interpersonal learning relationships, and the application of content with pedagogy that aims to build a positive learning climate between improvising teachers and their students. The author contends that a phenomenological perspective can highlight this diversity and emphasize effective interpersonal strategies and ensemble pedagogies that enhance student learning and potentially enculturate richer and more sophisticated musicianship in students and their developing creative abilities.

Keywords

jazz ensemble, improvisation, instructional communication, creativity, phenomenology

Teachers and students working together in a musical environment is a recognized and powerful way of nurturing musical learning. Collaborative learning within ensembles can promote the development of knowledge, skills, and complex social systems. Working directly with teachers

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in an ensemble, students can develop specific and pertinent skills that prepare them for professional contexts and professional capacities (de Bruin, 2018a; Kramer & Usher, 2012; Sennett, 2012). Engaging participation in shared ensemble activity can emphasize teachers as facilitators that democratize knowledge making and meaning rather than functioning as door-keepers of knowledge (Gaunt & Westerlund, 2013).

Jazz performance is characterized by numerous tensions of "real-time" interactions that demand focus on self and group contribution (Kenny & Gellrich, 2002), and working with professional musicians can develop awareness of social practices (Bastien & Hostager, 1988), community building that is individually and socially distributed (de Bruin, 2018), musical identity (Hargreaves, MacDonald & Miell, 2002), and what Seddon (2005) considers the empathetic attunement and communication between more able and less able members of a jazz ensemble. Becker (1984) refers to learning operational guidelines between players as the "etiquette" of playing and operating within an ensemble. Monson (1994) suggests jazz musicians learn the language of jazz—that from an educative standpoint asserts specific vocabularies and stylistic preferences that brings like-minded performers together in a dynamic community of practice.

Jazz education has traversed through a social transformation in the way it is acquired, from informal to largely formal approaches (Prouty, 2012), and educational activities such as joint teacher–student ensembles attempt to bridge the gap between acquiring theoretical knowledge and practical application and understanding theory in practice—the limits of which have been asserted (Louth, 2012; Prévost, 2004). Numerous pedagogical approaches have been investigated in jazz learning scenarios prevalent in conservatoires. While some studies dwell on an emphasis on conformity and submission to teacher authority (Gaunt, 2008; Wirtanen & Littleton, 2004), others have revealed openness of communication, collaboration, informal teaching approaches (de Bruin, 2019) and relationality between teacher and students that reveal intense and intricate mentoring and apprenticeship experiences (de Bruin, 2018; Prouty, 2012). This can promote a confluence of student–teacher goals and aims that evolve over the life of the learning relationship (de Bruin et al., 2018).

Literature concerned with teacher dynamics within an ensemble has contended that teachers can impact learners' self-concept and musical identity development as performer, leader, follower, and creator (Hargreaves & North, 1997). This connectivity has been described as the cultivation of a "social facilitation" influencing group participation, motivation, and entrainment of engagement (Hager & Johnsson, 2012; Zajonc, 1965) that develops socially uniting bonds (Hove & Risen, 2009) and an intersubjective field of learning de Bruin et al., 2020).

This emphasis on social context and shared goal attainment is "a distinctive educational characteristic of the Didaktik tradition" (Hudson, 2007, p. 136). This support for learning or *Bildung* incorporates traits of "knowledge," "learning," "literacy," "philosophy," and "wisdom" that build qualities of self-determination, co-determination, and solidarity in learners (Klafki, 2000). The triadic pedagogical relationship between student, teacher, and content forefronts the set of relationships core to a teacher's approach to student, the material, and why and how this *matters* within specific learning contexts and experiences.

Teacher–student interaction and interrelations

Teacher–student relationships are a cornerstone of teaching and learning that are mediated according to contextual demand (Keller, 2012). While varying contexts can impact student achievement (Georgiou & Kyriakides, 2012), motivation, and volition (Maulana et al., 2011), the affirmative nature of relationality can extend to include qualities of trust, intimacy, positive

effect, and quality of communication (Laible & Thompson, 2007). The concept to relatedness, or "positive experience with others" and autonomy in music learning has been raised (Burland & Davidson, 2004, p. 241) emphasizing "music as a determinant of self-concept" (Burland & Davidson, 2004, p. 241). This interrelation and connection with teachers and learning activity is contingent on components of self-determination, in which human behavior and relations are based on different motivational styles, contexts, and interpersonal perceptions. Within these behaviors, basic psychological needs can be further detailed through motivation: the level of independence and autonomy; competence, the person's ability to perform a task; and relatedness, linked to the perception or sense of connection with others (Deci & Ryan, 2002).

Group cooperation significantly influences the learning relationship as joint goals, mutual rewards, and complementary roles define mutual actions (rather than competition) such as group sharing of resources and belonging through social capital (Brown & Evans, 2002; Qin et al., 1995). Students' feelings of acceptance by teachers can be enhanced through relatedness and association to their emotional, cognitive, and behavioral engagement and achievement in class (Connell & Wellborn, 1991; Goodenow, 1993). Students who believe that their teacher is caring and builds support and acceptance also believe they learn more (Teven & McCroskey, 1997). Teachers who support student autonomy tend to facilitate greater curiosity, desire for challenge and confidence (Deci et al., 1981). Additionally, negative relations have been attributed to conflict and teacher dependency (Sabol & Pianta, 2012), gendered issues (Wu, Hughes & Kwok, 2010) and racial proclivities to teacher conflict that have further added complexity to this dynamic (DeCastro-Ambrosetti & Cho, 2011). Teacher support and relatedness can be an organizing concept for improving engagement and learning for music students—and potentially their inter-social connectedness and educational outcomes (Edwards, 2009). Limited research is available pertaining to the interplay between autonomy, competence, relatedness, and self-determined motivation, particularly from an experiential group perspective that develops and emerges over time.

A dominant research theme in music psychology refers to the term "emergence"—a complex system built from individual performers' contributions whereby the "whole is greater than the sum of the parts" but is dependent on the structural arrangement of those parts (Sawyer, 2006, p. 48). An important evolutionary process to individuals and ensembles, emergence is "a system of intrinsic relatedness" (Morgan, 1922/1923, p. 19) that promotes an underlying progressive tendency that can lead to new levels of reality. Group creativity operates as a *complex dynamical system*, with a high degree of sensitivity to initial conditions and rapidly expanding combinatoric possibilities in each moment (Deutsch, 1996; Hodges & Sebald, 2011; Huron, 2006). Sawyer (2006) describes this as the at times thrilling, ecstatic *groupmind* in which emergent group flow evolves through interaction between performers.

Understanding collective intelligence in non-linear ways takes into account the interpersonal connections, responses, and relationality that occur between musicians. This dynamic often remains unnoticed because inter- and intra-actions are a social process of *collaborative emergence* (Sawyer, 2000). Within an ensemble, many "actors" bring personal attributes and dispositions that ebb and flow within group activity, asserting their peripheral participation to a more central role (Lave & Wenger, 1991). Emergent system dynamics is one in which knowledge and activity are distributed, and a broad and diverse range of potential musical solutions are possible (Landemore, 2017). These dynamics evolve and transform over time in response to continuously changing information, autonomy, and confidence in the immediate learning environment, rendering the significant need for teachers to craft inclusive, engaging, and differentiated roles within an ensemble for students.

How teachers engage students and facilitate group synergies is at the forefront of student learning. Fredricks et al. (2004) suggest that student engagement consists of three distinct,

yet interrelated, components of students' commitment and involvement with learning, these being behavioral, emotional, and cognitive engagement. Allen et al.'s (2013) Teaching Through Interaction framework further conceptualizes teacher–student interactions through three components: emotional support, classroom organization, and instructional support. These supports focus on ways in which teacher practices foster and facilitate students' behavioral, social, and emotional functioning. Behavioral engagement refers to students' positive actions, conduct, and involvement toward learning. Cognitive engagement spans students' strategic and self-regulated approaches to their learning and efforts in comprehending complex ideas and mastering difficult skills (Archambault et al., 2009). Third, emotional or affective engagement pertains to students' sentiments toward teachers and the learning environment; senses of happiness, interest, anxiety, and belonging with other students and the teacher.

A number of teacher strategies that support students behaviorally, cognitively, and emotionally have been investigated, such as scaffolding (Wood et al., 1976), coaching (Schön, 1983), mentoring (Gaunt et al., 2012), cognitive apprenticeship (de Bruin, 2018) and "master" and "apprentice" cultures (Koopman et al., 2007). Teacher scaffolding of learning applies sensitive pedagogical recalibration within "zones of proximal development" (Vygotsky, 1978) across a monitor–analyze–assist cycle of interaction. Talk between teacher and student guides the development of learners' understandings, creating a contextual experience in which learning and pedagogy are applied (Mercer & Howe, 2012). Dialogic pedagogy (Bakhtin, 1981) and interaction can enhance a student's individuality of thought and learning processes through the dialogic positioning *to* and relationships *with* teachers (Matusov & Marjanovic-Shane, 2014). Pertinent to the situated improvisatory environment investigated in this study is Barrett's (2014) assertion that collaborative communication strategies within a group can foster integrative collaboration—the emergence of novel creative outcomes (John-Steiner, 2000) promoting shared visioning, risk-taking, and transformation of existing knowledge important to students' musical and creative development.

In this study, student and teacher perspectives garnered from three visiting artist projects were used to evaluate student learning individually, between each other, and from tutors/visiting artists, highlighting synergies and/or disconnects between aims, processes, and products in organized collaborative learning environments. This study observed the personal and interactive learning of improvisational skill, knowledge, and expertise among a cohort of tertiary education jazz and improvisation students at a School of Music in a University based in Melbourne, Australia. The research tracked student growth over a 9-month period. A diverse performance schedule of the School's Art Ensemble and School of Music Artist-in-Residence Ensembles was used to examine the learning relationships between peer, teacher, and ensemble influences on students' learning. The study utilized learning immersions of undergraduate music performance students, improvisation performance major teachers, and visiting collaborative artists that include American jazz artists, local Australian contemporary and free improvising musicians from Melbourne as well as Indigenous musicians whose work with the Australian Art Orchestra can be described as a synthesis and adaptation of Indigenous culture, storylines (Manikay), within freely improvised structures. This diverse range of guest artists allowed this study to gather information on student engagement spanning conventional jazz/big band ensembles and experimental explorations of improvisational expression. This investigation of student actions to teacher pedagogy, teacher interactions, and ensemble protocols that promoted student learning was driven by these research questions:

Research Question 1. How do students understand the teachers' musical, social, and cultural influences that teachers bring into an ensemble?

Research Question 2. How do these understandings influence students' perspectives toward their cognitive, behavioral, and emotional learning decisions in practice?

Research Question 3. How does this reflective experience play on their perceptions of self-concept as musician, creator, and "becoming" leader?

Method

This investigation of perspectives and reflections toward learning in a creative ensemble environment comprised three projects that occurred over a 9-month time-period in March, July, and October 2017. These included immersive workshops, performances, and recordings with visiting guest artists. Collaborative, interactive, and creative development of skills was approached through progressive, holistic, and culturally diverse improvisation settings. Guest artists were contacted and secured up to 12 months in advance, and planning and goal-setting discussions occurred between teachers and the ensemble members 1 month before the scheduled week of rehearsals. This step involved practicing the music and developing understandings of the works including previous works by the artists/composers (if available). The students maintained a personal workshop journal outlining learning goals that acted as "aide-memoires." The ensemble came together for a 1-week intensive of three rehearsals of 3 to 4 hr's length, culminating in a public performance and recording. A joint/evaluation discussion and workshop feedback was provided in relation to the agreed goals.

Participants

All third year and master's level, music improvisation and classical stream performance students in the ensemble were asked if they wished to participate in the study. Nine male and three female students responded positively. The participant cohort, while not ideal in terms of similar academic maturity, were available for an emerging calendar event accommodated by the school of music. Students played instruments associated with jazz music and popular music and had been introduced to many different approaches to music improvisation during their program of study. Five staff members took part in the collaborative event with students and guest artists. All staff members were male, and two of the five guests were female.

Data collection and analysis

This phenomenological study sought to describe and evaluate the inter-interrelations and developing social systems as a "framework of sociocultural learning" (Yin, 2009, p. 3). The data-collection period included two individual semi-structured interviews per participant, artifacts, and fieldnotes. All interviews were conducted by two researchers to ensure dependability and consistency of the collected data (Lincoln & Guba, 1985). At the beginning of workshop work (Phase 1), students ($n = 12$) and teachers/director ($n = 5$) begun practicing their part and conceptualizing their role within the ensemble. The semi-structured interview protocol (Phase 1) focused on the participants' hopes and expectations of experiences and perceptions about what they might gain from teachers. Phase 2 focused on students' beliefs, perceptions, and experiences of the learning relationship and how this promoted learning, autonomy, and confidence as developing improvisers. An interview scheme and protocol of questioning was

How learning took place

- What aspects of the teacher-student relationship did you respond positively to?
- What similarities/differences of approach did you apply across the nine-month module?
- Describe some aspects of learning that you adapted/adopted.
- What do you take away from being involved in this subject?
- Give suggestions on how these collaborative projects could be improved.
- Describe how reflection plays in your learning process

What learning took place.

- What aspects of learning enhanced/promoted your sense of ability/esteem as a creator?
- What new things did you learn through the collaboration?
- What do you think was your most important contribution to the group?
- Describe your sense of self-concept and confidence as an improvisor

Who the learning connection was made with.

- What was the impact of teacher discussion/dialogue on your learning process?
- How did peers contribute to your knowledge and sense of shared ideas
- What was the impact of the guest artists on your learning?
- What were the most useful aspects of this collaboration?

Figure 1. Questions Asked to Students.

pre-designed to provide direction for the interviews, though in order to encourage the free expression of participants, the questioning was adjusted to facilitate a conversatory style. A general interview protocol outlined in Figure 1 addressed three major themes derived from the three research questions. Participants reflected on teacher capacities and facets of teacher practice they felt helped explore and improve sense of self, and their creative development and function as a confident improvising musician. Interviews were audio taped and transcribed verbatim to "convey the meaning of the oral presentation in an interview" (Moustakas, 1994, p. 57). This qualitative approach emphasized the subjective world of the participant, articulating a "cognitive, meaning-disclosing contribution to what we experience" (Gallagher & Zahavi, 2008, p. 24).

Stage 1: describing the phenomenon

In the first stage of data analysis, the researchers conducted a whole-parts-whole phenomenological analysis of the interview transcripts (Dahlberg et al., 2008). In this initial phase of data analysis, researchers read the transcripts several times without taking any notes to familiarize themselves with the data (Dahlberg et al., 2008; van Manen, 1990). Line-by-line reading was then conducted, where groupings of experiences were placed into a "tentative pool of categories" (Charmaz, 2003, p. 217).

The researchers used a phenomenological data analysis method (Moustakas, 1994) to extract the central themes of students' experiences. This analysis included seven consecutive steps: horizontalization (choosing the transcripts); reduction and elimination (of irrelevant data); clustering and thematizing; validating the themes; writing textual thematic description; developing textual-structural description of the phenomenon; and describing the essence of the experience. Following this process, the researchers were able to illuminate the phenomenon of learning, interaction, and affiliation as lived by the student participants. The coding of the text involved recovering the "themes that are embodied and dramatized in the evolving meanings and imagery of the work" (van Manen, 1990, p. 95) and is outlined in Table 1.

Table 1. Core Themes/Structures of the Experience.

Collaboration	Teacher instruction	Teacher connectivity to student learning
Friendship		Teachers' specific attention
Peer expectations	Teacher expectations	Social and emotional support
Peer acceptance and support	Sense of being judged, evaluated	Sense of community
Sense of competition	Suggestion or direction	Teachers' recognition of students' emotional and social issues
Interaction between students	Choice	Mentoring approaches
Interaction between teachers and students	Self-efficacy	Ability/restriction of "teaching"
Guest artist expectations/ attitude	Freedom to express ideas	Modeling exemplar performance
Group work	Teachers' understanding of student needs	
Opportunity for connectivity		
Teamwork		

Key words and phrases were extracted and drawn up in a table containing exploratory notes as preliminary interpretations. Emerging themes were then grouped together into general dimensions and placed into hierarchical trees that were reduced further to representative themes that maintained "the essence of the phenomenon for individual participants" (Broadbent, 2013, p. 3). These were reduced further, revealing distinctive categories of thematically separated experiences linking experiences together across three dominant themes.

Stage 2: illuminating the phenomenon

Categories were not predetermined and did not try to fit the responses into pre-existing frameworks, but instead arose from the phenomenological analysis interpreted using theoretical assumptions of developmental collaborative learning (Kenny & Gellrich, 2002; MacDonald et al., 2002) and sociocultural learning theory (Rogoff, 2008). The central meanings of the phenomenon were illuminated by using the theories that the researchers bridled during the data analysis stage. Central themes and essences of experiences were analyzed to determine what could be learned from these findings (Vagle et al., 2009) outlined in Table 2. This two-step process reflected traditional phenomenological analysis (Moustakas, 1994) and allowed the researchers to interpret and categorize the data in relation to overarching comments articulated by students, teachers, and guest artists.

Validity and investigator triangulation were built in the research process while the data were collected and analyzed by two researchers. This involved multiple rating of initial themes, groupings, and the representative themes. Major threats to validity and reliability of the study included participants providing stilted accounts of their learning experiences and researchers' misinterpretations of what was communicated by the participants. However, to mediate the impact of these threats, the researchers maintained trustworthiness of the data (Lincoln & Guba, 1985) by triangulating the interview data with fieldnotes, student journals, and providing detailed descriptions that emerged across the data sources.

Table 2. Stage 2: Mapping of Minor and Major Sub-Themes.

Personal development	Styles of collaboration	Outcomes perceived
Modeling from others	Overt exemplars/discreet assimilation	Wider palette of skills/ knowledge
Refinement of ideas	Juxtaposition of varying ideas	Cultivation of personal voice
Increased awareness	Homogeneous—each participant performing roughly the same	We treated each other equally
Transparency and dialogue	Heterogeneous—acknowledged moments of leadership	Intuitive leadership
Openness of failure	Say and play	Suppressing student leadership instinct
Process not product	Student-led initiative	Connectivity to ensemble
Asserting confidence/ leadership	Reflection of aesthetic, uniqueness	Authentic learning experiences
Leading others	Demonstration/modeling	Perception by others as master

Throughout the analysis process, the researchers were cognizant of "insider" knowledge as experienced improvisation teachers, requiring the researchers to bridle personal assumptions about participant reflections during data collection and analysis (Dahlberg & Dahlberg, 2003). The researchers maintained epoché throughout; the setting aside of assumptions about the phenomenon in question, and the interpretation of data conducted "with an open, enquiring attitude" that maintained impartiality and quality (de Bruin, 2021). "Bridling" refers to bracketing within the epoché process, acknowledging the restraining of insider pre-understandings of phenomena. This reflective stance helps "slacken" firm intentional threads that tie researchers to explored experiences (Merleau-Ponty, 1945/1962) and assist in "bracketing" their pre-understandings of the investigated phenomena.

Findings

Three major themes used to articulate findings in the data were the content relationship (the connection between the student and the subject matter; *connecting to the what*), the instructional relationship (the connection between the student and the instructive or pedagogic practice; *connecting to the how*), and the interpersonal relationship (the connection between the student and the teacher; *connecting to the who*).

The Didaktik approach was an apposite lens of investigation emphasizing arrangement between lesson content of *what* is taught and the distinctive connection to *how* content is taught, emphasizing the learning methods that reflect pedagogical engagement between *who*-teacher and specific students. In placing "the teacher in the heart of the teaching/studying/learning process"(Hudson, 2007, p. 140), this emphasized the interactive relationship between theory and practice in which students found their own path while navigating the social and cultural subjectivities embedded in this situated learning environment.

Of interest to the researchers was how the students developed over the course of the 9-month course—an experience that started with quasi-conventional Big Band writing/conception with the first guest, tonally and rhythmically challenging contemporary small group interplay driven by the next guest group, and the free improvised creation with the Indigenous Australian musicians.

Learning for the music students occurred predominantly through a homogeneous style (Abra & Abra, 1999), within a complementary or co-equal (Bresler, 2002) approach where "no one was leader or took over, we treated each other equally" (S3). For a significant population of the participant cohort ($n = 8$; S9), "to fit in and act like professionals" and (S1) "contribute and act like a soloist" offered considerable challenge.

A heterogeneous and diverse range of experiences were articulated, ranging from assertive "stand-alone" thinkers and actors who engaged actively and soloistically with the teachers and guest artist. Others were more reticent and utilized a personal protocol of observation and assimilation. Some remained quiet and introspective, waiting for others to lead, while some adopted a questioning and querying role if there was group inertia. Students ($n = 2$) wrote in journals of "taking the bull by the horns," "making firm decisions" (S6 and S8) thereby "allowing new ideas to flow . . . provide a central focus to performance when other students seemed unsure" (S8). Other students ($n = 3$) raised the personal need to "show initiative" (S12) and display "leadership vital to the ensemble's success" (S1) and one commented on "being positive in making assertive moves" (S7). While student perceptions centered on the interrelational behaviors and interplay implemented by teachers, students presented reflections of learning that for some affirmed and for others challenged abilities.

Content relationship: connecting to the "what"

Connective instruction was used to lead students to engaging with the specific content required to express accurately within the theoretical musical parameters. This included referencing of scales, arpeggios, and stylistic conventions. Learning relationships drew students toward the materials that needed to be used or acquired in the learning activity. Teachers discussed harmonic approaches and explained specific and appropriate scale usage for particular harmonic passages, providing exemplar models (S2) and "tonal and contextual examples that provided a template of how a chord progression could be approached" (S7). Demonstrating core concepts of subject matter provided an authentic and situated response to the musical moments. Identifying and demonstrating with students the *what* of performing elicited student action and their responding to the practical application of technical mastery. One student responded,

> S2: The teacher demonstrated how I could approach the scale—fragmenting it, dividing it up into tetrachords.

This student reflected,

> S4: Professional demonstration helped me realize and identify my own technical shortcomings and helped identify an agility I needed to explore more deeply.

A student recounted the mastery teachers and guest artists demonstrated. While essential technical proficiency was reinforced upon students, a second and deeper level of mastery was also conveyed in the teaching process. As this student details,

> S9: The teachers showed and demonstrated beyond the understanding of how scales fitted, they promoted how we craft story-telling skills.

The development of a workable vocabulary is essential in being able to communicate effectively and appropriately within an ensemble. One student remarked,

> S7: The teachers demonstrated melodic phrases that they had crafted, and encouraged us to find phrases we liked, and incorporate this into our language.

The teachers also demonstrated and promoted musical devices such as fragmentation, diminution, chromaticism, and materials as technical building blocks that can be used to develop mastery. A student explains,

> S9: I responded to how upper notes of the chord could be used—and the relevance to theory we learned in class was brought to life.

The "what" of teaching within didaktik theory emphasizes the content that improvisers master and manipulate to then create with. While the teachers promoted student thinking to appropriate technical, harmonic, and vocabularic approaches, they also emphasized this within a wider goal orientation in developing ones' personal voice. In a musical world full of imitation and reiteration, the concept of pursuing a unique sound or conception was explained as the further extrapolation of technical and harmonic mastery.

Instructional connectiveness: connecting to the "how"

Instructional connectiveness emphasizes methods and strategies in which teachers provided effective instruction. The students described these through the learning opportunities they felt became open to them. Students described being able to "develop confidence," "take risks," and "put personal concepts to practice." Teachers injected a variety of teaching methods to make the learning a transparent and accomplishable process. The teachers provided modeling of exemplar musical "solutions" they scaffolded, connecting theory and its relation to practice. They engaged students enthusiastically and "coached" students through, allowing time for reflection on aspects done well, and areas for further investigation.

Teachers offered suggestion via dialogue, but also provided performative exemplars that "played" with the naïve student versions as a formative form of critical feedback:

> S9: He told me specific things to focus on, like time and chords . . .

> S4: I was quite reticent in my beginnings, but the teachers pushed me to be confident.

> S8: The teacher quoted my line that I did 15 minutes earlier, but totally changed and made it sound right-when mine sounded totally wrong.

This exhibits a further accounting for the didakt concept of teacher–student–content relationality in which teachers build bridges highlighting their understanding to the student's learning within a process that offered inherent learning design, interaction, evaluation, and re-design (Shulman, 2005).

Students reflected on the synthesizing of learned skills and the importance of developing personal strategies and meta-cognitive capacity. This student recollected such learning incidents:

> S7: I changed comparing myself *against* other students to rather *with* them through difference. That gave me motivation to open up and work on communication with others—and not just think about myself in a vacuum.

This student recounted how the teachers and guest artists went about the work of being teachers and creative musicians, the ways they operated with each other, and how this reinforced a situational context and refinement of goals and aims:

> S9: . . . I became aware of listening to things that we were missing that I now see as important . . . teachers made us rise and match that level of musicianship and engagement.

Students gave examples of the ways this experiential learning situation promoted musical relationship building and affinities:

> S2: It pushed me out of my comfort zone and forced me to collaborate. I was treated the same as the professional performers/teachers by the director of the group—that was good for my confidence, but also terrifying.

A teacher described the learning they tried to develop in these rehearsals and how they connected students to professional practice and thinking they brought to the ensemble:

> T1: I was trying to cultivate skills and knowledge that they won't get anywhere else, and these projects are quite intense and authentic ways of developing higher level performance and thinking in students. Providing immediate feedback is a valuable a aspect of live rehearsals.

Teaching reached beyond simply transmitting knowledge to transforming and extending it (Boyer, 1990). The teachers discussed aspects of their crafting of solos, providing a richer and accessible context in which students could understand and benefit from (Segalowitz et al., 2001). A student commented,

> S8: I took abstract information—chords and scales, and applied ideas practically. The teachers provided examples that helped clarify my conceptualisations and personal approaches.

The teachers supported learning by modeling active listening, providing feedback and support. This in turn encouraged students to function with teachers they believed were caring and through which they could learn more through the shared experience. A student captured this collaborative spirit:

> S5: The teachers were pointing out things I would have otherwise not been aware of. They were enthusiastic of our efforts and our risk-taking. The teachers supported me—there were moments of community I haven't experienced before.

Instructional practice, demonstration, and dialogue facilitated students' engagement with the "how" of ensemble improvisational creativity developing the processes required to develop skills. The "hothousing" of student and teacher together provided the student with opportunities to relate to the teacher, and better understand how the teacher crafted their learning. As one teacher discussed,

> T1: Aspects of free group improvisation can be deceptive to the student, in that they initially perceive this as a cacophony of sound, whereas the professionals are listening in and through the conversations and coordinating their dialogue quite selectively—it's a deeper level of listening and responding.

Developing relationality within a safe performing context fostered trust and honesty (Laible & Thompson, 2007). Students developed close relationships with guest artists who brought authenticity and gravitas to the reflection and assessment of the performance. A teacher explained,

> T3: We've had a range of reflective experiences—where it worked well, and the artist has said "hey you all did a great job, thank-you," as well as times when the music has fallen short and the guest artist has

> really laid down a blunt truth and said, "You all blew it!." We mediate our post reflection thoughts with the student's level of playing we feel they are capable of. It's not all about success but striving to be better, making more informed and thoughtful choices.

A student reflected on this same moment:

> The rehearsals seemed to shift up a gear throughout the week, if we felt we dropped the ball, and the teachers made us reflect on some of the decisions we made in performance . . . they shared some of their more inglorious moments as well—it really highlighted the precarious nature of this music, and that we all continue to learn.

Klafki (2000) emphasizes that openness on the part of teachers to new situations, impulses, and the difficulties that arise in the moment are a key aspect of the teacher's pedagogical approach.

Connective instruction also recognizes that teaching is not a unidirectional process, signifying student capacities in the learning process. Connective instruction facilitates students' identification with the teacher and ensemble and provides connection with instruction (Brown & Evans, 2002). Discourse can bridge inequalities in student capacities and despite a democratic environment and promotion of equal social facilitation (Zajonc, 1965), inequities from this social facilitation offered challenges. This also emphasizes that in high-stakes improvisational contexts, relatedness is an instructional need and that students may more likely be more engaged and motivated when this need is met (Deci & Ryan, 2017).

Interpersonal connectiveness: connecting to the "who"

Interpersonal connection between teacher and student was identified through the quality of interpersonal relationship in the teaching and learning context. This included dialogic communication, involving actively listening to students' views when possible, and allowing students to have input into decisions that affected them, accepting students' individuality, and having positive, attainable expectations for students. These elements were a means by which the student engaged with the "who" in the teaching and learning context. Responses spanned descriptions of teacher behavior where students were "being led," "guided," "introduced," and operating within what students described as a "high-stakes," "combative," and "creatively demanding environment." Students' varying expectation of teacher involvement ranged from "needing as much interaction as possible" (S1), "wanted more feedback" (S12), while others felt "intimidated, I just wanted to watch—and see how things went" (S10). One student described being isolated—"I felt helpless for many sessions—I had a sense good stuff was occurring around me, but I wasn't really a part of most things" (S1). Another felt at times overwhelmed—"the sessions were intense—and I didn't feel as if I was contributing anything worthwhile" (S11).

Students compared and evaluated the difference between themselves and their teachers who made learning visible, audible, and attainable, disrupting naïve assumptions about what it may take to reach professional level performance (de Bruin, 2018). This student reflected,

> S5: I found solace in the short talks the teacher gave—I was a jumble of ideas, quite confused at times.

Another participant made comment on the strength of character in performance the artists conveyed:

> S7: The difference between the teachers and the students was so distinct, it gave us something to aspire to.

Teachers developed pedagogical relationships involving connecting with students utilizing instructional strategies and positive expectation. Some students found the experiences confronting and that authentic ensemble learning provided an experience that had less to do with the transmission of skills and more to do with the process of discovery (Allsup, 2003). As one teacher said,

> T2: These are opportunities for students to fall flat on their face, to fail, but also to learn from those experiences and each other—they have to be discoverers.

Teachers where possible created responsive social interactions with students through maintaining fluid teacher–student relationships, demonstrating a connectedness with students by developing a community of learners and encouraging collaboration. Students found themselves immersed in an environment where they were challenged to rise to professional level expectations and be cognizant of the intuitiveness and interrelationship that can develop between musicians. One student remarked,

> S3: The big band works were designed to capture the personality of specific members—an Ellington concept. I was initially puzzled as who to sound like; the recording or myself—it made me think deeply about how I go about interpreting the histories of this music, honouring it and adding something of my own.

Two students mentioned how they were drawn to guest leaders, and the way they spoke and carried themselves with not only assuredness. One remarked,

> S12: I felt inspired—I've never met a female band leader. They didn't discuss the notion of a male dominated industry but the idea that we can't wait—we have to create our own communities, get on with composing, writing, creating, and make things happen for us was incredibly inspiring.

Hearing and observing female leadership in performance and education was a motivating experience for some students, who felt a connection and sense of community with these artists. Finding association with collaborators is an important aspect of shared learning, yet as Tucker (2004) suggests, "communities don't naturally pop out of their front doors each morning singing and waving; they are forged through affinity, practice, and labour" (p. 248). Support from teachers, peers, and guest artists within the ensemble contributed to students' optimizing capacities and senses of who they wanted to be and emulate, promoting capacity for achievement, expertise, and community belonging. A teacher reflected on this:

> T3: The students get a sense of the teachers' and guest artists' voice and experience. Being able to create a personal melodic landscape, architecture and creative concepts. Actively taking part in it with some masters of improvisation can be a powerful learning tool, and we try to give students opportunity to immerse in this experience and develop their voice.

Students attempted to grasp insights into expert abilities such as adjusting focus and intent, and understanding the possibilities available within a particular sonic landscape. Students responded to teacher direction, and personal learning incidents made impact; illuminating for

some, yet confusing and out of reach for others. Students responded to teacher direction in various ways, and learning incidents and epiphanies occurred to students differently: illuminating for some, yet confusing and out of reach for others. This also emphasized teachers' learning journeys and "who" they had become as performer-educators, and how this can help students understand their own learning journeys and who they are becoming.

Discussion and conclusion

Understanding the role and impact student–teacher relationality plays in learning processes, achievement, and motivation can inform of more calibrated strategies and micro-management teachers can implement. Pedagogies that are built upon relational foundations can make learning personally meaningful and maximize student development and function (Corbett, 2001). Teachers can provide positive opportunities, connection, and motivation toward goals that resounds with Deci and Ryan's (2002) notion of self-determination as a crucial element in shared learning activity.

This study highlights some of the ways teachers can create a cooperative climate and develop a sense of community and belonging, self-efficacy, and engagement (Creech & Hallam, 2017). Music learning tasks that positively enhance relational perspectives have the propensity to support learning, community, and belonging. However, there was a tendency for some participants to equate self-worth with quality of performance and this provided a barrier to feelings of success as some students articulated negative self-assessments that interrupted heightened experiences and confidence.

The study reveals how even in what may be considered well-intentioned and thoughtful pedagogic practice and organization, there may be students who remain peripheral, or at worst outside of learning opportunities presented. The data revealed that engagement in inventive and productive learning opportunities can promote ability, autonomy, and collaborative understandings that coalesce in configurations unique to each student. What cannot be discounted is the degree and depth of collective intelligence and entrainment of ideas, energies, and creativity.

One approach to gauging collective intelligence within an ensemble is to acknowledge the additive elements of each participant, and that the group's collective behavior is built up from the individual performers' contributions (Steyvers & Miller, 2015). As they state,

> understanding the cognitive processes within individuals can help us understand under what conditions collective intelligence might form for a group and how we might optimize that group's collective performance. These components, alone or in concert, can be understood to form the basic building blocks of group collective intelligence. (Steyvers & Miller, 2015, p. 119)

Here, the sharing of deep learning strategies such as making overt and personally relevant problem-solving or self-concepts can serve as an advantage in an ensemble learning environment in which students work through complex problems together (Liem et al., 2008). This emphasizes the need for pedagogy and approaches that impact student self-esteem and value of self-concept that can mitigate the effects of social comparison (Mugny et al. (2001), anxiety (Dijkstra et al., 2008), and general feelings of intimidation (Micardi & Drane, 2011).

While highlighting the significance of differentiated and personalized approaches by teachers, the study is limited in its capacity to articulate how such teacher strategies are crafted, both in teacher training and as becoming expert teachers. Another limitation is the potential reticence of students to divulge negative comments or attitudes toward their teachers, despite the probing and exploratory nature of questioning. This study provides impetus for further research

in student–teacher ensembles, as well as awareness required for teachers to differentiate for diverse learners. The study raises the point perceived by students that jazz/improvisation education is a male-oriented bastion. It is hoped that tertiary institutions consider the benefits of an education reflective of society, and the growing number of women performing and teaching in jazz.

While there has been substantial focus on the characteristics of effective teachers, it might now be timely to revisit the issue of class dynamic from a relational perspective. More specifically, in the context of achievement motivation, research might investigate the characteristics of effective "creative learning" ensembles; the bases on which students are assigned together, and how they interact with teachers and with each other. How educators group instrumental music students with professionals, the activities organized, and the pedagogies enacted all contribute to preparing an ensemble as an environment that positively affects the relatedness among and between students and teachers. Rather than just extending repertoires, educators may consider diversifying and reviewing the pedagogies—and the repertoire they utilize. Actions such as these may allow teachers to reflect on their practice as ensemble directors, re-evaluating the ways they engage with students, and the ways students themselves engage and learn from each other.

Of importance to jazz/improvisation educators is the need to carefully scaffold learning activities so that students' skills are suitably matched to improvisatory tasks. Jazz educators might also consider introducing explicit discussion of self-concept and connectivity with colleagues rather than relegating this important topic to the domain of jazz mythology (Biasutti, 2015). Students can learn and cultivate their approaches and desires from the discourses and debates concerning jazz and improvised music, such as the inference of Black American Music and its relevance within glocalized and nationally infused variants (de Bruin, 2018). These findings indicate that, when musicians talk about improvising, they construct a version of their musical practice shaped by musical relatedness and identity work (Berliner, 1994; Monson, 1996). These constructions have significant implications for music research and improvisation in particular (Clarke, 2012). For example, the importance of personal voice and conceptualization may be contested when exploring issues around aesthetics and quality. Experiencing musical events as ambiguous and open to multiple interpretations by both students and teachers challenges the importance of a prescribed canon of skills as a prerequisite for successful improvisation. The different ways in which a disparate group of free improvisers construct their musical practice indicates the importance of recognizing some of jazz musicians' talk about improvising as an expression of their professional milieu rather than a universal or authoritative account of improvising in its broadest sense. Capturing this rich interconnectedness and relationality from reflections of real-time actions highlights a specific line of scientific inquiry that aims to understand, through theory, analysis, and experimentation, how patterns of coordinated behavior emerge, persist, adapt, and change in musicians' minds. These patterns exist as what Davidson and Faulkner (2013) refer to as "syzygies"—the concept of accounting for permutations of personal, social, cultural, and environmental factors that lead to the emergence of achievements in learning events.

This more dynamic perspective highlights the catering for emergent properties of ensemble behaviors. It makes explicit the relationality of students across three system levels: individual members, the group as a system, and various layers of embedding contexts—both for the group as an entity and for its members. It also brings to the surface interchanges that connect at different levels, the group's interchanges with various embedding contexts, and the group's interchanges with each other. The educational didakt tradition of connectivity across the "what," "who," and "how" within collaborative improvisation practice seems valuable in taking account of the complex interactions in improvising as it unfolds. It highlights how connectivity

continues to play a fundamental role in conceptions of progressive democratic education and the teacher strategies and pedagogies that enhance this. This has implications for ensemble research, which suggests that the motivational "climate" may also be a function of the particular collection of students in that class, as well as the inter-action and inter-relations with teachers participating in the ensemble.

Positive relationships with teachers are cornerstones of young people's capacity to function effectively in social, affective, and academic domains. With a focus on the latter, we conclude that high-quality interpersonal relationships in students' lives contribute to their academic motivation, engagement, and achievement. Furthermore, the study emphasizes how educational theory that enhances interpersonal relationships in music education can provide guidance for educational practice to enhancing cognition, motivation, and achievement, and how educators seeking to enhance educational outcomes can critically self-reflect on their interpersonal capacities with students.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was financially supported by a Sir Zelman Cowen School of Music Research Development Grant, Monash University.

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