Chapter 6
Learning to Traverse the Surface and Deep Structure in Music Analysis, via Inquiry and Reflexing on Theory

Jeremy W. K. Wong

Abstract This chapter examines student learning and understanding in applying a method of music analysis called Schenkerian analysis, which requires students to create graphic analyses starting from foreground levels that show surface musical materials, towards a middle ground and finally background level that reveals the *Klang*, the tones that govern the entire work. Students learn not just the means to derive each level but to traverse reflectively back and forth between surface and deep structures of the music, grasp their relationships, and achieve a coherent understanding of the music piece. This chapter examines reflexing, theorising and inquiry as metacognitive approaches to music theory pedagogy, in particular, Schenkerian analysis. Student-directed learning improves students' ability to develop metacognitive strategies where they posit themselves as learners, thinkers, and practitioners of music theoretical concepts. As students become aware of the organic coherence of their learning through understanding why and how they are thinking, the notion of *theorising* emerges. Theorising is an activity that Rogers (Teaching approaches in music theory: An overview of pedagogical philosophies. Southern Illinois University Press, 1984) has called on all learners to do—to "think about what they hear", "hear about what they think" and "think about what they think". How do we get students to "reflect on their learning" and how does this constitute student-directed learning that exemplifies reflexive skills as a characteristic habit of mind within the deep structure of music theory learning? This chapter reflects on the outcomes of a pilot study involving the use of a technological enhanced learning and teaching (TELT) approach in an online music analysis course.

J. W. K. Wong (✉)
School of Music, Faculty of Performing Arts, Nanyang Academy of Fine Arts, University of the Arts Singapore, Singapore, Singapore
e-mail: wikwong@nafa.edu.sg; jeremy.wong@uniarts.fi

Sibelius Academy, University of the Arts Helsinki, Helsinki, Finland

© The Author(s) 2025

R. Y. P. Kan and C. S. G. Khoo (eds.), *Signature Pedagogies for Professions in Arts and Design*, https://doi.org/10.1007/978-981-96-2616-8_6

Introduction

This chapter examines the notion of *reflexing on theory*, and the difference between student and teacher-oriented perspectives exemplified through learning and teaching of a music analysis course. There are two parts to this chapter. I begin by discussing the notion of reflexivity on music theory learning and the pivotal role reflexivity takes in supporting Community of Inquiry (CoI). Subsequently, I use reflexivity as a lens to exemplify three types of double-loop learning in the learning and teaching of Schenkerian music analysis. Through reflexing on theory, I re-look at the notions of theorising and propose reflexing and inquiry as signature pedagogies in music theory teaching in a digital learning environment.

The chapter proposes the following questions: (i) What kind of reflexive role(s) should the educator undertake to prepare students for reflexing on theory? (ii) What implications do reflexing on theory have on teaching and learning of music theory and music analysis?

The Pedagogical Problem of Music Theory Learning

Music theory teachers are well aware that music theory and analytical concepts should function to explain *how music works.* Yet, due to how information is received and processed, the teacher's efforts to explain these music matters often stop at the theoretical level. Moreover, a teaching approach following an apprenticeship teaching model (Schrag, 1992) often emphasises the theory more than the practice, and the learning experience can become static and teacher dominated (Jørgensen, 2000). Over time, the theories and analytical concepts become "objects to be attained, rather than processes in which students participated and through which they might be transformed" (Gutierrez, 2019, p. 2; see also Rogers, 1984; Ross, 1995; Welch, 2001). Moreover, the few students who do try to "connect theory to practice" in my classes often feedback to me how challenging it is to translate what they understand on paper to their own professional practice. For musicians, music analysis, like music theory, is one of the fundamental tools to explain, exemplify and extend their musical understanding. The difficulty of realising this in practice has prompted this examination of the way music theory and analysis is taught and learnt, and how it can be improved.

Rogers (1984) characterised music theory learning as "theorising" and advocated that music theory inquiry should be part of a "musical experience so that concepts can be as readily perceived as the sonorous nature of musical art" (p. 110). He went further to assert that theory learners are required to "think about what they hear", "hear about what they think" and "think about what they think" (p. 7). My discussion of reflexivity begins from this standpoint—that students' thoughts on theory and the ways they think about it are shaped by interventions that motivate them to relate new

and old concepts, while reflecting continuously on how the connective elements can be of practical function in professional contexts.

Ferenc (2016, 2017) referred to the notion of thinking about one's thinking as *metacognitive reflec*tion, and a skill that is needed but largely overlooked in the study and teaching of music theory. In her research, she used reflective practices as "vehicles for students to draw on their own learning authority and to deepen learning experiences" (Ferenc, 2017, pp. 48–49). Ferenc (2017) concluded that metacognitive thinking in the process of learning music theory could reveal cognitive and learning processes that "promote motivation, deepen learning of subject matter, and provide opportunities for its transfer beyond the environment in which it was learned" (p. 50). The results from her studies supported earlier results on how self-reflecting on the learning situation could sustain continuing inquiry from "what is this", "how do I conceptualise it" to questions like "what does it mean to me", "how does this apply to what I already know", "how do I use it elsewhere" and "how do I make this easier to apply?" (Cremin et al., 2006; see also Jordan et al., 2008; Moon, 1999; Silver, 2013; Widmaier, 2004). Moreover, there is a consensus in these papers on the positive effect of metacognition and reflection on learners' ability to self-regulate their own learning. Therefore, the continuation of inquiry (asking questions) and the ability to self-regulate learning (by reflexing) are important indicators as well as goals for students' long term professional development.

What Is Reflexivity in Learning?

For a start, even though *reflexivity* is related to the notion of *reflection*, they are different. In the context of education, reflection is closely related to the seminal work of Schön (1987) who introduced the concepts of *reflection-in-action* and *reflection-on-action.* According to Bolton and Delderfield (2018), reflection involves "reliving and re-rendering" experiences, leading to "insights that might have been missed out" during an initial encounter. Conversely, reflexivity is "potentially more complex than being reflective" (Fook, 2002, p. 43). Reflexivity involves reflecting in the moment, or in-action (Schön, 1983, p. 56) as well as an aftermath "rational critique" (Beck et al., 1994, p. 113) of the theoretical and practical processes that facilitate subsequent action (Mackey, 2016). Mackey likened it to a "polyphonic conversation", a process where ideas formed through practice and theory are assessed and followed immediately by an action. According to the literature, reflexivity is often associated with examining oneself from the inside out, such as being able to "locate oneself in the picture and to appreciate how one's own self influences one's actions" (Fook, 2002, p. 43) and finding strategies to question one's own attitudes, thought processes, values, assumptions, prejudices, and habitual actions (Bolton & Delderfield, 2018, p. 13). Hamati-Ataya (2013, p. 672) considered reflexivity as "self-referential" in nature, where "self" is embedded within the notion itself, and reflexivity as both "a starting point for the development and production of empirical knowledge" (p. 681). In terms of theoretical knowledge, Neufeld (1993) suggested a "meta-theoretical

reflexive stance" that recognises both "interrelationship of the conception of facts and values and an openness to engage in reasoned dialogue to assess contending paradigms" (pp. 60–61) within teaching and learning situations.

When reflexivity is "self-centred", it opens up a portal for "self-awareness" (Lawson, 1985) of the limits of one's knowledge, and of how one is actively shaping one's environment and shaping the ways one is experienced and perceived by others, in order to understand one's complex roles in relation to others (Bolton & Delderfield, 2018, pp. 13–14). Reflexivity at an individual level in learning is "based on questioning, reviewing, evaluating, and the willingness to examine assumptions and alternatives" (Swift & West, 1998, as cited in Sankowska & Söderlund, 2015, p. 981).

In this chapter, I situate reflexivity within an epistemological perspective and Hamati-Ataya's (2013) concept of "cognitive solution" in the teaching and learning of music theory and analysis. As a teacher and researcher, I will be moving between "in-moment" and "after-moment" reflexivity (Hammoor & Littman, 2022) to discuss pedagogical issues related to reflexing on theory from a teacher's perspective, and how reflexivity can be also become an effective "cognitive solution" (Hamati-Ataya, 2013, p. 675) to address issues pertaining to learning and applying music theory and analysis from a student perspective.

Reflexivity in Teaching

Reflexivity is also an essential trait in professional work (Moon, 1999, 2004; Sankowska & Söderlund, 2015; Schön, 1987). If reflection is responsible for turning information into knowledge (Dewey, 1933, as cited in Ferenc, 2016), then reflexivity is the automated response and awareness of the need to apply this knowledge to an applicable area across one's professional work and discipline. Therefore, reflexing encompasses an awareness of reflecting in context, thinking within experience, adopting a stance in which learners are able to locate their inquiry in a professional context and recognising themselves as constantly active in shaping their surroundings (Cunliffe, 2009). Reflexivity in teaching encompasses several key aspects. It begins with self-awareness, where teachers consciously examine their beliefs, values, and biases that may impact their teaching. They begin to critically reflect on their practices, seeking feedback and professional growth opportunities. Reflexivity also enables teachers to understand the contextual influences on education, considering the social, cultural, and institutional factors that shape their teaching and student learning. Additionally, teachers are responsive to the diverse needs of their students by adjusting their approaches and adapting continuously to new instructional strategies, assessments and classroom environments to create an inclusive and supportive learning environment for students.

Reflexivity and Constructivism

Both reflection and reflexivity can be subsumed under the constructivist teaching approach. Constructivism as a theory for learning posits that knowledge is constructed within a sociocultural context (Dewey, 1938; Vygotsky, 1978), and that learning is an active process that continuously challenges and agrees with prior knowledge in the learner's mind (Arends, 1998; Bruner, 1966; Phillips, 1995). This active process encompasses a notion of inquiry and reflexivity, which is also "determined by the experience of the learner" (Elliott et al., 2000, p. 256). Thus, the perspective of constructivism taken here incorporates both inquiry and reflexivity elements so that learners' understanding of their knowledge is constantly being modified and challenged through interaction within oneself and within a sociocultural context.

Reflexivity plays an important role in extending the constructivist approach of teaching and learning to its application in a wider professional context. It functions as an "inner reflection" and "deeper metacognitive process that can lead to changes" (Reid, 2016, p. 244) in the way the learner or teacher communicates with knowledge and subsequently the way this knowledge relates to the surrounding context. For the learner, reflexivity enhances the construction of knowledge with an awareness of how it can be related to the learner's professional practice. For the teacher, reflexivity works retrospectively. It breaks down the complexity of professional knowledge into pedagogical content knowledge that can be useful as building blocks for knowledge construction.

The building of educational blocks for learning involves teaching approaches that are often seen as teacher-directed. As such, the discussion of reflexivity will start from a teacher-oriented perspective. Reflexivity as a teacher-oriented intervention can be used as a meta-pedagogical lens for the teacher to re-consider and re-design pedagogical methods and intentions. Doing so can uncover useful implications of *reflexing on theory* on teaching and learning music analysis. The second part of this chapter examines how reflexivity in music analytical learning is practised and exemplified through three types of double-loop learning, with examples from an undergraduate Schenkerian music analysis course that I taught at the School of Music, Nanyang Academy of Fine Arts (NAFA), University of the Arts Singapore.

Reflexivity and Community of Inquiry (CoI)

The process of inquiry guides students to learn "in a way that is exploratory and responsive yet focussed on something of importance" to them (O'Neill, 2011, p. 186). In this section, I would like to examine how the teacher's reflexivity affects the process of inquiry in an online learning environment. One way to approach the implications of teacher-oriented reflexivity on students' learning in an online environment is through the lens of Community of Inquiry (CoI) (Garrison, 2017). According to Garrison (2017), CoI creates a constructive educational experience that supports students

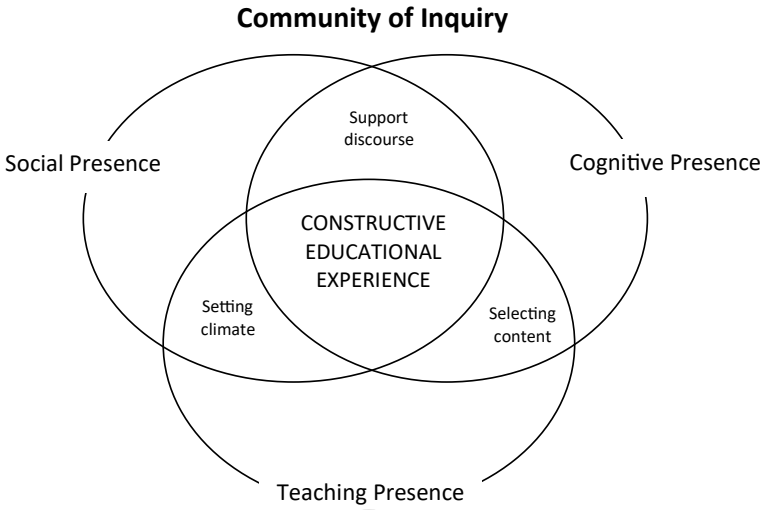

Fig. 6.1 CoI framework. Adapted from Garrison et al. (2000)

to "take responsibility and control of their learning through negotiating meaning, diagnosing misconceptions and challenging accepted beliefs" (p. 24). Three types of multidimensional and interdependent "presences" are used to establish and reinforce constructive learning and inquiry in online environments: Social, Cognitive and Teaching presences (Swan et al., 2009, p. 5). At the core of its overlapping structure is the building of a constructive educational experience, as depicted in Fig. 6.1.

Cognitive presence is defined as the "extent to which learners are able to construct and confirm meaning through sustained reflection and discourse" (Swan et al., 2009, p. 8; see also Garrison et al., 2001). The process of inquiry is carried out to "reflect both the individual's private and reflective world" and the "community's shared world of discourse" (Swan et al., 2009, p. 6). The underlying process that operationally supports cognitive presence is *inquiry*. In the ensuing sections, we shall discuss with several examples a case study of how reflexing on theory enabled students to improve the quality of their inquiry. Moreover, this process allows them to examine their understanding of what the inquiry process meant to them, and subsequently become more "aware metacognitively" to "mediate between reflection and action" (Akyol & Garrison, 2011, p. 186) in learning and applying analytical and theoretical concepts.

Social presence consists of the capacity for transferring vocal and non-vocal cues when communicating affective and emotional aspects of learning interactions (Short et al., 1976; as cited in Swan et al., 2009, p. 9). It represents the learner's personal perception of the ease of communicating and consciousness of interacting with other persons in an online learning platform (Tu, 2000). Within the context of online learning, defining the sociocultural context in which the learners situate their learning can be challenging. Unlike traditional classroom settings where a formal learning

environment is distinctive, online learning environments are more ambiguous in terms of what constitutes an effective and proper "virtual learning environment" (McAllister & Alexander, 2009, p. 287). Moreover, the absence of physical presence of peers may give students a sense of isolation (Gautam, 2020) and social disconnect from a physical learning community (Kuong, 2015). On the other hand, Gillen-O'Neel (2019) asserted that a sense of belonging to a learning community motivates learners to achieve, and social presence becomes a key element for establishing the quality for social context, online communication, and interactivity of online learning (Tu, 2000).

Teaching presence functions mainly to bring the elements of CoI together for the purpose of "realizing personally meaningful and educationally worthwhile learning outcomes" (Anderson et al., 2001; as cited in Swan et al., 2009, p. 12). In an online self-paced learning situation, teaching presence plays a key role in "encouraging active engagement" in learners (Garrison, 2017, p. 27) and is very much determined by how the teacher is presenting his or herself, the way learning content is arranged and presented, and the variety of learning modes.

Case Study—An Online Self-paced Analytical Course

In this case study, I use CoI as a framework for designing an online self-paced course. The preparatory course on Schenkerian analysis consisted of four short, pre-recorded video lectures, quizzes and survey questionnaires to be completed within a one-week period.

The expected learning outcomes of this course were for students to:

- Show basic understanding of one analytical concept of Schenkerian analysis.
- Understand how Schenkerian analysis can be applied to performance.
- Raise at least one question on Schenkerian analysis or musical analysis in general.

The course was conducted fully online with self-facilitated learning using Canvas as the main learning management system. As the instructor and course designer, I was able to select materials for the different modules or topics for self-paced learning. One useful feature of the e-learning system is that each module can be assigned specific pre-requisites so that students can access the next module only after completing all the required assignments and tasks for the previous module. This intervention by the instructor affords better scaffolding of the topic content and ensures continuity in the learning process and completion of the assignments for the following course topics:

- Brief introduction of Schenkerian analysis and musical analysis.
- The concepts and man behind Schenkerian analysis.
- Applying Schenkerian analysis to performance.
- Summary and what to expect in the full course.

Prior to the beginning of the online course, an email announcement was circulated to students and a total of 23 students responded with their interest to take the course.

A pre-course survey was conducted to understand participants' music theory background as well as elicit their agreement to take part as a research participant. Out of the 23 course participants, 14 were willing to take part as research participants. An ethical clearance process was applied, and informed consent forms were signed before the data was collected. The data collection methods included a pre- and post-course survey, asynchronously administered quizzes, an online video assignment using Flipgrid, as well as a recorded online discussion session using Zoom.

Teacher's Reflexivity in Planning, Designing, Recording, Editing and Creating Lecture Videos

The planning stage was important as the course and the coursework had to be designed to support the students' cognitive development, and interactions among the students as well as between the instructor and students (Akyol & Garrison, 2011). As the instructor, reflexivity actively guided my decisions in planning the course. Using CoI as an approach for designing the whole course structure was useful in ensuring that particular attention was paid to facilitating teaching, cognitive and social presences in the online course. During the process of planning, designing, recording and editing the course videos, I relied on the notion of reflexing—from how theory should be taught to how it would be understood by the students and subsequently applied in a social cultural context. Throughout the planning stage, I reflexed on issues that I had experienced in the previous course that I facilitated online using flipped-based learning, to try to address and improve while making this shorter online course. For example, as the actual Schenkerian Analysis course was content heavy, these lecture videos needed to be lighter in content for students to understand and relate to immediately. Moreover, it had to be very clear, focussed and interesting so that viewers would not only be motivated to complete the entire course but also remember something useful. By continuously reflexing on my previous teaching experience of Schenkerian Analysis, I found ways to simplify the course content and articulate it in ways that were more accessible to beginners. Subsequently, ideas for designing, recording and editing the videos were mediated through reflexing on students' *expectation*. I wanted to ensure that this online course would not just meet the expectations of young tech savvy students who were already familiar with online learning situations such as Massive Open Online Courses (MOOC) or YouTube tutorials, but also make space for surprises so that even experienced learners can be constantly engaged. For example, open captions, background music, video animated effects and in-video quizzes were some interventions used to surprise and engage students.

In all, the following strategies were adopted to improve the CoI "presences":

- Incorporating Vlogging techniques with CapCut software [Teaching Presence].
- Embedding interactive quiz in videos with Vizia [Cognitive Presence].
- Using Kahoot to implement a summative quiz [Cognitive Presence].
- Self-directed assignment with Flipgrid [Cognitive and Social Presences].

The notion of reflexivity for me started as soon as I began critically examining my preconceived expectations of students' learning. This led me to test various hypothetical assumptions which I ultimately validated through real-world feedback, observation and online learning analytics. Some useful interventions resulted from reflexing on students' expectations. For example, I managed to improve the teaching presence by engaging in different modes of interaction with the viewers through varying the way I was presented or appeared in the lecture video. Using a video blogging editor called CapCut, I had the option of either going into full screen mode, appearing occasionally in a small frame at the corner of the screen, or not showing at all (with only voice presence). I found it appropriate to keep running subtitles in the background as the video plays so that it would engage viewers for a longer time. Furthermore, the two quizzes served to establish knowledge check points for students to remember certain important concepts while engaging them with the videos. Subsequently, a short video clip reflection as the final assignment gave students the opportunity to critically reflect on their learning and their takeaways, and engage in meaningful and deeper conversations to explore the content. The videos included short introduction of themselves, commenting on other's videos as well as posing a question that could be discussed during the final online discussion.

Reflexing on issues that may reinforce social presence was more challenging. As much as I wanted to facilitate social connection to establish the learner's sense of belonging within a learning community, I was aware that the construction of a context for community of inquiry could not be forced (Enbuska et al., 2018; Pardales & Girod, 2006). As such, I saw the opportunity to use Flipgrid as an online tool to organise an asynchronised sharing that required students to open up on their own problems as well as to resonate with and offer advice for their peers' problems. In this case, a basic collaborative and constructive learning community could be briefly established to reinforce social presence in an online learning environment (Garrison et al., 2000).

This whole process of reflexing on theory learning has brought me into a spatial awareness that represents a shift into an objective realm of perceptual acuity where I temporary step out of the shoes of being a teacher and take on a third-party perspective of being a student again to reassess and evaluate the teacher (me) and the whole learning process. The awareness of what teaching an analytical subject requires resonates with the students' video reflection feedback—that is, what and why theory really *matters* for my students is paramount and directly related to where and how they will integrate theoretical concepts in their everyday practice.

Double-Loop Learning in Schenkerian Analysis

Double-loop learning involves reflexing and thinking more deeply on resulting action and outcomes occurring when learners "question and test one's personal values and assumptions" (Argyris & Schön, 1978, as cited in Hase, 2009, pp. 45–46).

Whereas single-loop learning involves changing methods and improving efficiency to obtain established objectives to "do things right", double-loop learning

concerns "doing the right things" (Cartwright, 2002, p. 68) through "alternating governing variables" (Smith, 2001) and active questioning of "the assumptions about that objective, the ways of discovering and inventing new alternatives, objectives, and perceptions, as well as ways of approaching problems" (Cartwright, 2002, p. 68).

According to Chris Argyris who introduced the concept of double-loop learning in the mid-1980s, double-loop learning is essential for "practitioners to make informed decision in rapidly changing and often uncertain contexts" (Smith, 2001, p. 5). Through the process of double-loop learning, students are more aware of their preferred learning style and better equipped in adapting new situations to their learning styles making them more capable learners (Blaschke, 2012, pp. 59–60).

The next part of this chapter dives into the implications that reflexivity has on teaching and learning music theory and analysis, through the exemplification of three types of double-loop learning within Schenkerian Analysis (SA).

Double-Loop One: Technical Process of Drawing, Reading and Analysing SA Graphs

The first double-loop encompasses a technical perspective of juxtaposing the top-down and bottom-up rigorous processes of drawing, reading and analysing Schenkerian graphs.

One of the main learning outcomes for Schenkerian Analysis is to demonstrate proficiency in creating graphic analyses. The student is expected to create these graphs from the surface (top) level with obvious musical material towards a more abstract level (down) that finally reveals only as the skeleton design of the piece which Schenker refers to as the fundamental structure (*Ursatz*). Although performing a top-down analytical process requires students to apply reductive operations, it is equally pertinent that students adapt a bottom-up strategy when deciding which notes stay or go in each level. (This will be illustrated with a real example later.) Through traversing different graphic levels, students become more attuned to prominent voice leading structures that underlie the large trajectory of the piece. These structures represent important meeting points between harmony and tones (or *Klang*) which have the propensity to govern the entire composition.

I shall use an analytical example taken from the melody of a well-known Malay folk song—*Chan Mali Chan* (Fig. 6.2), to illustrate this first concept of double-looping. The full-notation of score with melody and accompaniment is an unpublished arrangement which I made for illustrating the concepts of Schenkerian analysis in this text chapter.

At this earliest stage of the analysis, the analyst begins by re-drawing all the notes as coloured (black) noteheads (Fig. 6.3). Moreover, to prepare a "stem and slur" graphic analysis for voice leading graphs at deeper levels, it is required that all bar lines (besides the penultimate bar line), repeated notes, and time signature be
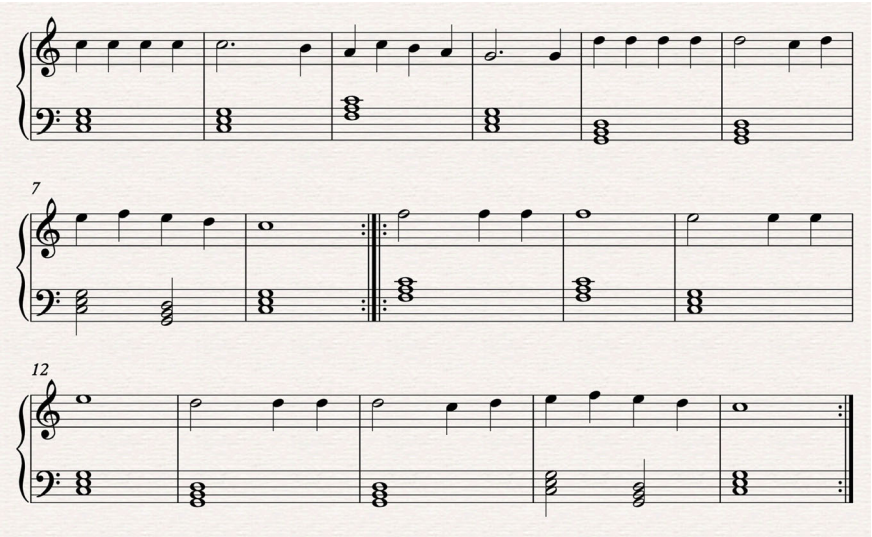
Fig. 6.2 Chan Mali Chan (full notation)
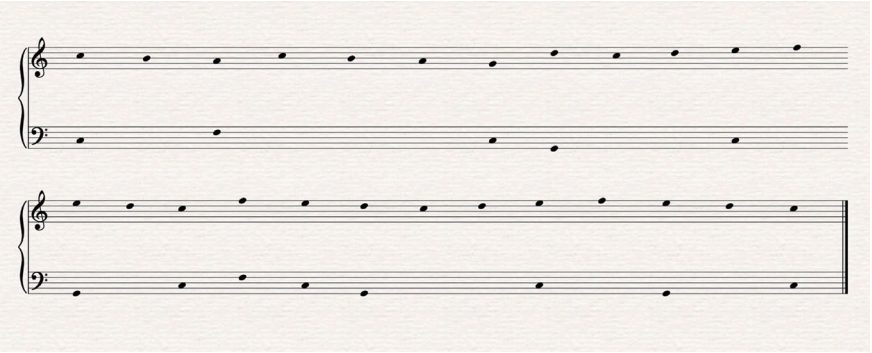
Fig. 6.3 Preparation for foreground level

removed. With the rhythmic values abolished, noteheads are drawn as unstemmed coloured noteheads representing the lowest hierarchy.

In Fig. 6.4, the so-called stem slur analysis consists of drawing stems on notes that are deemed more important and consonant to the bass. The slurs either highlight a specific type of melodic diminution, which is essentially a type of melodic decoration[1] or describes the reliance of the unstemmed (less significant) note to the stemmed note. Stem and slurs occur in both the treble and bass voices; the treble describes melodic motion while the bass provides its respective harmonic support.

[1] Passing note (P), complete or incomplete neighbour note (N), consonant skip (CS), arpeggiation (Arp).

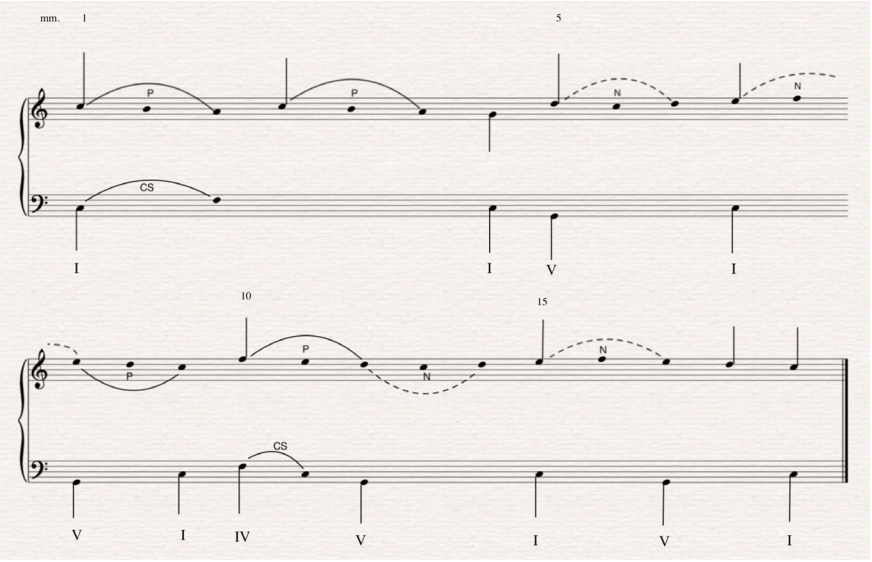

Fig. 6.4 Foreground level

Since stemming of notes seldom occur consecutively, the unstemmed notes can be described as "prolonging" the stemmed ones. The "distance" between stemmed notes encompasses a period of prolongation where the stemmed note governs the whole passage until the next stemmed note occurs. The effect of such prolongation occurs beyond the sound level, as the notes need not be physically sounding in order to justify its significance and existence.

At the middleground level (Fig. 6.5), uncoloured notes appear alongside with more analytical details. In order to move from foreground to middleground level, the analyst is interested to focus on notes that has potential to prolong over larger distances on the score resulting in keeping notes that are more significant and removing those that are less. The discretion in making the choice of notes is well justified; since the foreground level provides the hierarchical picture and the middleground can fortify around a similar interpretation. The uncoloured note heads, being on a higher hierarchy in the graph, also have a longer stem than others. They belong to the fundamental line or *Urlinie*, which describes the structure of a tonal work at its most remote level. At this point, it is likely that as a reader, you would have already looked back (perhaps even more than once) at the full notation in Fig. 6.1 to see how things have developed from there. Questioning and re-questioning one's assumption and decision becomes a common practice as the analyst refers conscientiously back to the foreground and full score (bottom-up) in order to make corrections to their earlier decisions in the foreground or just simply discern their next decisions in choosing which notes to stem as part of a significant voice leading or *Urlinie* in the respective level. Moreover, double-looping occurs when the aim of the analyst goes beyond merely correcting an "analytical error" and the action of traversing between

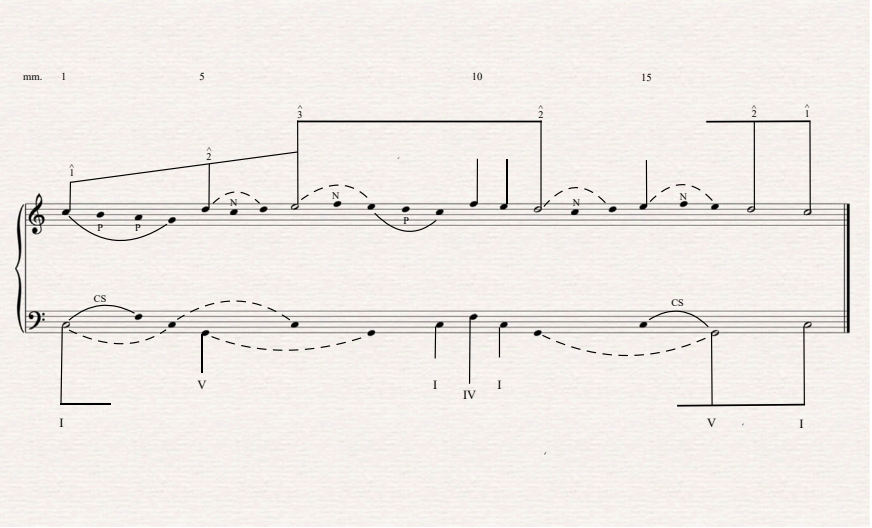

Fig. 6.5 Middleground level

levels is driven by self-questioning whether the correction attempt was "right or wrong". This may subsequently lead to an awareness of how discovering new ways and approaches to identifying the right things is equally crucial as devising a solution for the task.

Figure 6.6 shows the background level, also the most abstract and deepest level where the graphic analysis represents the fundamental structure of the piece. The numbers governing the top treble voice represent the fundamental line (*Urlinie*) that articulates a descend from $\hat{3}$ (E5) towards $\hat{1}$ (C5). This stepwise descent from the 3rd, supported by the bass line (I–IV–V–I) is by far one of the most common types of fundamental line descend (the other being from $\hat{5}$). What is interesting perhaps is the interior voice leading details such as the initial ascent ($\hat{1}$ $\hat{2}$ $\hat{3}$), flagged neighbour[2] note at b. 10 and the coincidental fact that the whole fundamental line echoes itself as an underlying recurring melodic motif (C–D–E–F–E–D–C) in bars 14–16 of the folk melody.

By simultaneously looking at the background level while recalling the original melody, the analyst attempts to *hear* the voice leading both as serving a melodic idea as well as an organic coherence that unfolds with the original notation. At this point, the analyst needs to check how the analyses support or not support the original notation. Double-looping occurs when the analyst uses the information derived from the graphs to initiate reflexive questioning on the "governing variables" of his present and past understanding of the piece: how does going through the whole analytical

[2] Initial Ascent is the first rising step-wise motion in a melody, often setting the stage for further development of the musical structure in the middleground and background levels.

Flagged Neighbor are ornamental notes that embellish and prolong an important structural harmonic note, usually within a progression with a cadential function.

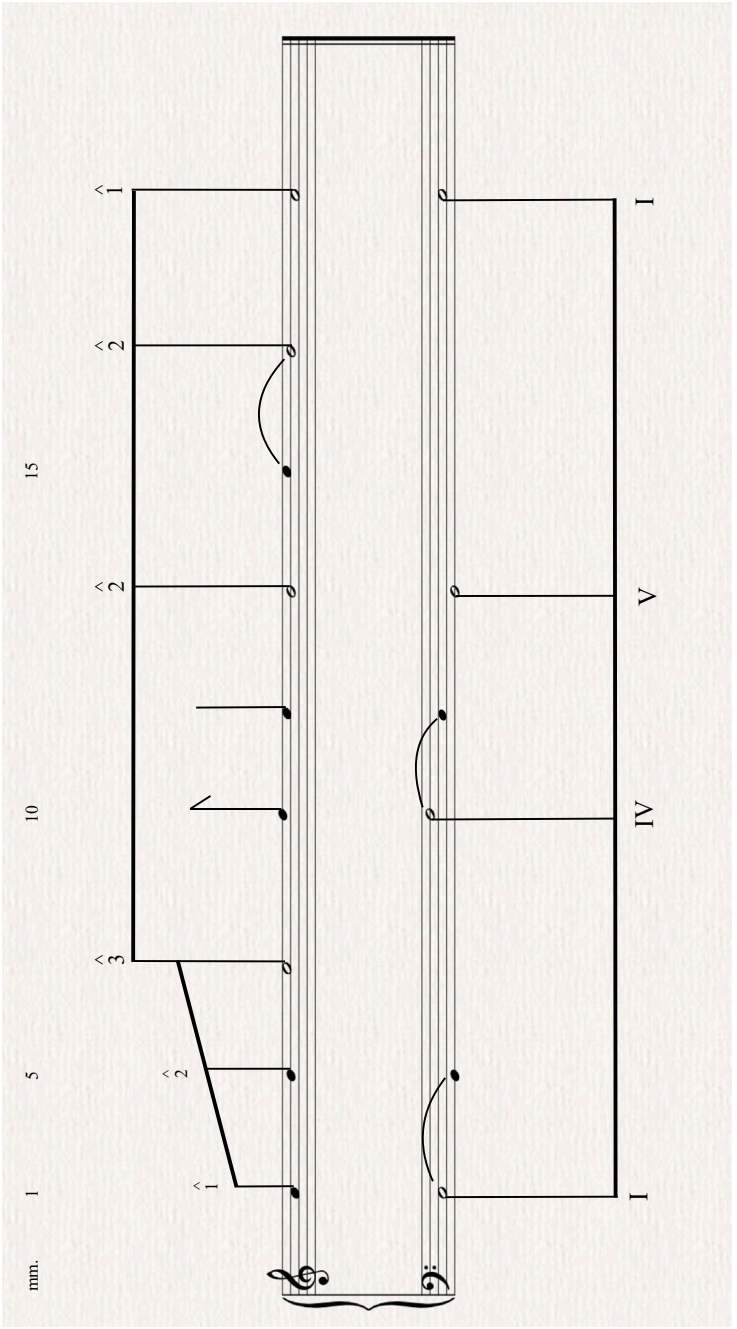

Fig. 6.6 Background level

process (from foreground to background) changed or affected the way I perform or hear the piece? To what extent does having knowledge of the fundamental line in the final background graph affect my listening and performing experience? How does the new analytical information complement or challenge my previous understanding? Are there limitations of the analysis I should be aware of? What is pertinent to my original interpretation that is not highlighted or highlighted differently in the analysis? What skills have I acquired from the analytical process? How and to what extent will I be comfortable to apply these skills to my roles as a musician, performer, and educator?

In summary, double-loop learning at the technical aspect of drawing, reading, and analysing Schenkerian graphs actively requires the learner to analyse the relationships between each level; to traverse between original and multi-level graphs, and to rigorously observe, listen and reflex in order to make justified arguments and account for every written notehead on the graph.

Double-Loop Two: Exploring Pedagogical Intentions from Theory to Practice and Practice to Theory

Double-loop learning also occurs when students apply conscientious effort to use theory to change practice and practice to change theory. What are the challenges faced, and what is the role of the teacher in supporting this double-loop learning process? I argue that such challenges "disturb" assumptions and is effective in opening gaps for reflexivity to take place for both student and the teacher.

I will begin this section by reflexing on a few common challenges that students have faced in learning Schenkerian Analysis.[3] Subsequently, I will raise a few examples of how student apply theory into practice, and practice to theory.

Firstly, reflexing on students' problems in the process of evaluating their lesson performance, assignments and answers to the questions have helped to facilitate adjustments to my teaching approach. My written comments on students' assignments consist of corrective feedback through giving right answers or prompting with questions of why, how, what, so what, etc. as well as preventive ones that explain alternate answers and why their answer is accepted. Whether they are preventive or

[3] As part of my research for this chapter, the data and examples are taken from a case study of mid-semester interviews of 14 students who took the full-year Schenkerian Analysis course offered after the online self-paced preparatory course. The mid-semester interview was carried out as a semi-structured interview in the form of independent 90 s vlogging using Flipgrid. The purpose of the interview was to (1) understand the main challenges students were facing with Schenkerian Analysis and (2) find out if students were applying Schenkerian Analysis to their practice after taking the course for 6 weeks. The following three questions were asked: (i) What is the most challenging concept or issue for you in Schenkerian Analysis? (ii) Have you tried applying Schenkerian Analysis to the repertoire you are practicing now? (If yes, describe how; if no, why?) (iii) What is one suggestion or advice you would like to offer to your fellow classmates when doing Schenkerian Analysis?

corrective intentions, the feedback is based on my assumptions about their theoretical understanding based on the quality and consistency of their answers in their assignments, their participation in class activities, the questions they raised during and after class, and to a certain extent, their musical background and training. Nevertheless, there are instances when my perception of students' understanding was inadequate:

> The most challenging issue for me is ironically the most basic element; I sometimes violate the stem and slur rules. So I guess a more thorough understanding and internalisation is required more than checking. [Liam]

Liam knew that his mistakes belonged to the "basic elements", and just "checking" would not suffice to improve the situation. This prompts me to question my initial assumption, realise the limitation of my earlier feedback and think of necessary amendments to my teaching approach for this student thereafter.

Next, identifying challenges have also helped some students to reflect and reflex deeper on their learning progress:

> The middleground level is definitely the most challenging for me because I feel it starts to invite more questions than answers. But these are good questions because it helps me think of why and how I want my graph to look like. [Ava]

Then, there are some students who consider prior lack of knowledge and understanding of harmony to be a major stumbling block in doing Schenkerian Analysis:

> My greatest struggle with SA is that from the beginning, I think I wasn't very strong in my harmony. So it takes me a while to identify chords, you know, to understand the harmonic progression of the piece. [Alex]

To some extent, Schenkerian Analysis requires prior knowledge and understanding of harmony and counterpoint concepts. However, these are not decisive factors for excelling in Schenkerian Analysis. A student who is "stronger" in harmony might identify chords in a given music passage more quickly than others, but since a good Schenkerian Analysis graph is dependent on important harmonic moments and changes, being quick only at labelling harmonies is not an advantage to a better Schenkerian graph.

> I think for Schenkerian, it's another step above analysing the piece. I feel it helps me better understand the piece, but it takes a much longer time and a lot of careful decisions for me to finalise and have a successful and useful Schenkerian graph. [Ava]

A useful Schenkerian graph does not just affect the "reading" and "hearing" of the music but also the "performance" of it. However, some students feel that their understanding of the concepts is not good enough to apply to actual practice. According to the cognitive domain model in Bloom's taxonomy, application of concepts to practice occurs in a mid-cognitive range *after* knowledge and comprehension. Therefore, where teaching of theoretical concepts is concerned, there is a common curriculum practice for teachers to reinforce the content in a theory course as a "solution" to help students apply it better to practice. This may result in a tacit assumption in students that application can take place only after they think they have *mastered* the concepts:

> I've been trying to apply it to my pieces, but I feel like it's not very successful so far because it feels very complicated to me at this moment. [Ava]
>
> I haven't applied SA to my repertoire because I'm still struggling with it. [Sophia]
>
> No, I have not consciously applied SA to my repertoire because I don't feel that I know the concepts well enough. [Jacob]

One way to counter this thinking is for students to be aware of what they are already familiar with as a starting point when grappling with a new theoretical concept. To this end, I chose to use the students' own instrumental or vocal specialisation to make personal connection with theoretical concepts. The obvious advantage to this approach is that when students attempt to exemplify the theoretical concepts with their instrument, they are also applying theory into practice:

> I'm a violin player so I find it super easy to follow the melody line. And because I play a lot of melody, I think the melodic diminution exercise makes it fun to have new ways to see and hear the same melody. [Lucas]
>
> It (melodic diminution) has helped me to realise important direction of the notes in phrases and immediately it sounded much more alive when I played it. I tried applying Schenkerian ideas in the rehearsal with my string quartet … to the complex melody with a lot of dissonances, I applied melodic diminution to find the main notes of certain sections which is very useful when we are able to understand the phrase better. It is also easier for us as we are working on the tuning with each other. [Emily]
>
> SA is very intuitive to apply even in two-part playing, there are little compound melodies which you can pick up … even in my vocal works, you can actually see very clearly the diminutions especially in slower pieces … Very interesting considering that we are a single-lined instrument, but you can even pick up these little things. [Ben]

Finally, it is necessary to reassure students that they do have an active role in the learning of new theoretical concepts—that the conceptual knowledge they acquire is only complete if they are able to bring in personal ideas and practices into the learning process. This represents a call for students to bring practice back into theory themselves. The elements of students' personal practices are often found in group or pair tutorials where the notion of reflexivity can be practised and observed. After establishing a safe learning environment, the students are encouraged to openly pose the questions they have, share the answers they have prepared or offer advice to common problems their peers might be facing. While doing so, students become increasingly aware of their role and relationship with the new concepts they are facing, testing out the "workability" of their new connections in actual practice and opportunities to share that experience with others.

> Always ask relevant questions about your graph, and make smart decisions, hear what you have written and try to look at the bigger picture. If it still doesn't work, just repeat the steps again and again. [Noah]
>
> Look at any model answers or graphs drawn by trained SA people and try to understand the thought process behind the way they decided to take the graphs, then try to emulate that a little bit and try to understand the rules when you apply to your own graphs. [Ben]
>
> … the most important is to acknowledge that you will at some point need to redraw graphs, not just because something has gone wrong but more of seeing the final picture when you have completed analysing a piece. By looking at the picture with your 10 to 20 pieces of

> paper, you will be able to decide for yourself how best to present your final work of art. [Liam]

In this section, I have focussed on the students' own double-loop learning process, their previous or ongoing struggles with Schenkerian Analysis, and whether or not they have tried applying Schenkerian Analysis to their own practice. As their teacher, reflexing on their feedback (against the actual teaching experience) afforded me insights into the students' learning journey. Reflexivity on these issues from a pedagogical perspective engenders greater awareness and sensitivity to different students' learning trajectory—where they come from and where they want to be.

Double-Loop Three: Analyse to Perform, Perform to Analyse

At this stage of learning and applying Schenkerian analysis, the student's identity as a performer and analyst comes into question: their intention of learning the analytical concepts is now in contest with their existing skill and training as performers. Can their performance be reinforced with analysis and their analysis be refined by their identity as performers?

The final double-loop learning oscillates between the student's understanding of Schenkerian concepts as an analyst and the exemplification of that understanding through performance. The following examples reflect students' attempt to relate analytical concepts or music analysis to performance:

> When drawing Schenkerian graph, I try to think of what the music is trying to say, and this is quite similar to performance. As [a] performer, the goal is very similar. [Emily]

The student instinctively recognises a similarity between drawing a Schenkerian graph and performing. From this we can infer that the students' attempt to apply what they have understood from analysis has prompted them to critically reflect on their identity and role as musician and performer. In so doing, they are approaching both activities with deeper understanding and intention while acknowledging the reciprocal influences between themselves as individuals and the social cultural context in which they are performing or practising in.

> Learning SA has improved my understanding of the music structure and confidence as a performer. I'm happy that I can describe music better and to see things in more interesting ways than before. [Ava]

When students become more confident as a result of gaining new ability to understand music with a wider perspective, they are essentially strengthening their connection with the social context they are engaged in. They are able to see their progress and development as an interconnected process between analysis and performance. This equips them to understand how and when to apply what they have learnt to their professional practice.

> I find that analysing a piece which I am familiar with is still more useful because of the new perspectives that SA can bring to what I already know or hear in the piece. [Harper]

Finally, the process of applying analysis to performance also extends the students' sense of curiosity and deepen their understanding of previously acquired knowledge. They are more ready to recognise the limitation of their understanding and to re-examine their existing perspectives through the iterative process of learning and inquiry.

Reflexing on Theory and Analysis as a Signature Pedagogy in Professional Music Education

In this chapter, I have examined the concept of reflexing on theory and its role in supporting inquiry, thinking, and the teaching and learning of music theory. Based on the case studies, I have learnt that reflexing on theory does not come naturally for students since the learning curve is usually quite steep for theoretical and analytical subjects. Consequently, after students have successfully overcome the challenge of grasping new concepts, they can seamlessly transition into metacognition, reflecting on their thoughts and offering constructive criticism on their initial ideas.

It is important to observe closely and try to understand what happens when students begin to reflex on theory and how this ongoing process remains relevant to the music profession as a whole, particularly in the context of music analysis and music theory learning. At the heart of reflexing on theory lies the exploration of the "signature pedagogy" (Shulman, 2005) of music theory learning. Let us examine how these elements align with the principles of signature pedagogy. When we think about music as a profession, the activities of studying music notation, engaging in music rehearsals, and performing music immediately come to mind. Throughout this text, we have observed how these three distinct activities can form a cohesive trajectory within the framework of inquiry, reflexivity, and double-loop learning.

However, in reality, most music theory and music analysis classes have been conducted without the "sense of tension between knowing and doing" (Shulman, 2005, p. 54) and as separate activities from performance and other music practices. This approach assumes that one must acquire knowledge before applying or engaging in practice. As a result, the knowledge gained through such isolated learning may not be effectively understood or applied to professional practice. The mindset that one must wait until one "knows" something before applying it creates a mental barrier that persists even after the knowledge has been acquired. Encouraging students to reflex on their learning can help them understand and anticipate such tendencies in their learning journey. In practice, reflexivity and double-loop learning is essential in building continuously relevant connections between theory and practice.

Reflexivity connects learning, teaching and music analysis in interesting ways. The technical aspects of learning music theory pertain to activities on the *surface structure*, which according to Shulman, consists of the "concrete, operational acts of teaching and learning" (Shulman, 2005, p. 55). Each of the elements of double-loop learning I have discussed operates first from this level, and the practice of

reflexivity helps students delve deeper into the deep structure. Similarly, reflexivity helps teachers to assist students (and themselves) in building a body of "knowledge and know-how" based on the students' existing implicit structures of "individual beliefs, values, and dispositions" (p. 55) within their profession.

Within the learning loop, reflexivity brings the learner (and teacher) back to the original position to critically assess what has been experienced, to accept and internalise the knowledge by strengthening or renewing one's understanding, and to relate all these notions within the purpose of interacting within a larger community and social cultural context.

Advice for Aspiring Music Theory Teachers

If you are an aspiring music theory teacher who periodically practices self-awareness and critical evaluation of your personal beliefs, values, assumptions and other factors that influence your pedagogical approach, you are already practising some level of reflexivity in your teaching. Continuously develop contextual understanding in music theory teaching by considering the social, cultural, and institutional contexts in which you teach. Recognise that educational practices in music theory are influenced by broader societal factors and power dynamics within the musical community and the wider cultural context. By understanding these contextual factors, you can better guide students in their exploration of music theory concepts and help them connect theory to its real-world applications.

Always be responsive to the needs and diversity of music theory students. Adapt your instructional strategies, assessments, and classroom environment to create an inclusive and supportive learning environment. It is important to recognise that students come from diverse musical backgrounds and learning styles, and tailor your teaching to accommodate different learning preferences and provide opportunities for students to engage with music theory concepts in ways that resonate with their individual interests and goals.

When "troubleshooting" students' mistakes, facilitate your students to ask effective questions, and based on those questions re-configure your assumption and understanding of their understanding. You can also troubleshoot preliminary questions with further questions to dig deeper into what your students are going through and where they are heading with what they have understood at that point. Finally, at the end of the day, reveal to them your pedagogical intentions behind picking their brains, and make them repeat that experience on each other.

Ideas for Future Exploration

By integrating the principles outlined in the previous section into my music theory teaching, I have experienced the "deep thinking and meaning-making which comes from having a reflexive practice" and have sought to help students develop a deeper understanding and appreciation of music theory while creating a learning space that encourages exploration, critical thinking, and meaningful connections between theory and practice in music. In my exploration of reflexivity, I have not further categorised reflexivity into social and technical reflexivity, which may be helpful to scaffold learning objectives with teaching interventions. According to Sankowska and Söderlund (2015), social reflexivity encompasses reflection upon social processes, values, assumptions, norms, identities and roles that "invite students to re-consider assumptions that frame and reframe practical problems" (p. 982). Technical reflexivity relates to reflexing on the technical aspects of the task and solving the problem as an outcome. Further examination of these issues will be useful, as hard technical knowledge and soft artistic skills are, according to Schön (1983), both important in professional practice.

As we undertake the transformative journey of music theory and music analysis teaching, we have opportunities to inspire students towards delving into the profound depths of musical knowledge. The goal is to not only cultivate their habit of thinking with music theory concepts but also foster the development of their musical perception and cognition through the active reciprocal relationship between thinking, hearing and reflexing.

References

Akyol, Z., & Garrison, D. R. (2011). Understanding cognitive presence in an online and blended community of inquiry: Assessing outcomes and processes for deep approaches to learning. *British Journal of Educational Technology, 42*(2), 233–250.

Anderson, T., Rourke, L., Garrison, D. R., & Archer, W. (2001). Assessing teaching presence in a computer conferencing context. *Journal of Asynchronous Learning Networks, 5*(2), 1–17.

Arends, R. I. (1998). *Learning to teach* (4th ed.). McGraw Hill.

Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Addison-Wesley.

Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive modernization: Politics, tradition and aesthetics in the modern social order*. Polity.

Blaschke, L. M. (2012). Heutagogy and lifelong learning: A review of heutagogical practice and self-determined learning. *The International Review of Research in Open and Distributed Learning, 13*(1), 56–71.

Bolton, G., & Delderfield, R. (2018). *Reflective practice: Writing and professional development* (5th ed.). Sage.

Bruner, J. S. (1966). *Toward a theory of instruction.* Harvard University Press.

Cartwright, S. (2002). Double-loop learning. *Journal of Leadership Education, 1*, 68–71.

Cremin, T., Burnard, P., & Craft, A. (2006). Pedagogy and possibility thinking in the early years. *Thinking Skills and Creativity, 1*(2), 108–119.

Cunliffe, A. L. (2009). Reflexivity, learning and reflexive practice (Chap. 21). In S. J. Armstrong & C. V. Fukami (Eds.), *The SAGE handbook of management learning, education and development* (pp. 405–418). Sage.

Dewey, J. (1933). *How we think* (Revised ed.). Heath.

Dewey, J. (1938/1991). Logic: The theory of inquiry. In J. A. Boydston (Ed.), *John Dewey: The later works, 1925–1953* (Vol. 12, pp. 1–527). SIU Press.

Elliott, S. N., Kratochqill, T. R. L., & Travers, J. F. (2000). *Educational psychology: Effective teaching, effective learning*. McGraw-Hill.

Enbuska, J., Rimppi, A., Hietanen, L., Tuisku, V., Ruokonen, I., & Ruismäki, H. (2018). E-learning environments, opportunities, and challenges in teaching and learning to play the piano in student teacher education. *The European Journal of Social and Behavioural Sciences, 21*, 2562–2569.

Ferenc, A. (2016). Promoting metacognitive reflection in music theory instruction. *Journal of Music Theory Pedagogy, 30*, 23–85. https://digitalcollections.lipscomb.edu/jmtp/vol30/iss1/2

Ferenc, A. (2017). Metacognition: An overlooked skill in Music theory instruction. *Engaging Students: Essays in Music Pedagogy, 5*. http://flipcamp.org/engagingstudents5/essays/ferenc.html

Fook, J. (2002). *Social work: Critical theory and practice*. Sage.

Garrison, D. R. (2017). *E-learning in the 21st century. A community of inquiry framework for research and practice* (3rd ed.). Routledge.

Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education, 2*(2–3), 87–105.

Garrison, D. R., Anderson, T., & Archer, W. (2001). Critical thinking, cognitive presence and computer conferencing in distance education. *American Journal of Distance Education, 15*(1), 7–23.

Gautam, P. (2020). *Advantages and disadvantages of online learning*. eLearning Industry. https://elearningindustry.com/advantages-and-disadvantages-online-learning

Gillen-O'Neel, C. (2019). Sense of belonging and student engagement: A daily study of first- and continuing-generation college students. *Research in Higher Education, 62*(1), 45–71.

Gutierrez, J. (2019). *Student as theorist: Embodiment as a paradigm for music theory pedagogy*. eScholarship, University of California.

Hamati-Ataya, I. (2013). Reflectivity, reflexivity, reflexivism: IR's 'reflexive turn'—And beyond. *European Journal of International Relations, 19*(4), 669–694.

Hammoor, C., & Littman, D. (2022). Unrehearsed moments: Interstices of policy, preparation, and reflexivity. *Arts Education Policy Review, 124*, 1–8.

Hase, S. (2009). Heutagogy and e-learning in the workplace: Some challenges and opportunities. *Impact: Journal of Applied Research in Workplace E-Learning, 1*(1), 43–52.

Jordan, A., Carlile, O., & Stack, A. (2008). *Approaches to learning: A guide for teachers*. McGraw Hill Open University Press.

Jørgensen, H. (2000). Student learning in higher instrumental education: Who is responsible? *British Journal of Music Education, 17*(1), 67–77.

Kuong, H. (2015). Enhancing online learning experience: From learners' perspective. *Procedia—Social and Behavioral Sciences, 191*, 1002–1005.

Lawson, H. (1985). *Reflexivity: The post-modern predicament*. In Problems of Modern European Thought. Hutchinson.

Mackey, S. (2016). Applied theatre and practice as research: Polyphonic conversations. *Research in Drama Education: The Journal of Applied Theatre and Performance, 21*(4), 478–491.

McAllister, G., & Alexander, S. (2009). Key aspects of teaching and learning in computing science. In S. Marshall, H. Fry, & S. Ketteridge (Eds.), *A handbook for teaching and learning in higher education: Enhancing academic practice* (3rd ed., pp. 282–299). Routledge.

Moon, J. (1999). *Learning journals: A handbook for reflective practice and professional development*. Kogan Page.

Moon, J. (2004). *A handbook of reflective and experiential learning*. Routledge Palmer.

Neufeld, M. (1993). Reflexivity and international relations theory. *Millennium: Journal of International Studies, 22*(1), 53–76.

O'Neill, S. A. (2011). Learning in and through music performance: Understanding cultural diversity via inquiry and dialogue. In M. S. Barrett (Ed.), *A cultural psychology of music education* (pp. 179–200). Oxford University Press.
Pardales, M. J., & Girod, M. (2006). Community of inquiry: Its past and present future. *Educational Philosophy and Theory, 38*(3), 299–309.
Phillips, D. C. (1995). The good, the bad, and the ugly: The many faces of constructivism. *Educational Researcher, 24*(7), 5–12.
Reid, H. (2016). *Introduction to career counselling and coaching*. Sage.
Rogers, M. R. (1984). *Teaching approaches in music theory: An overview of pedagogical philosophies*. Southern Illinois University Press.
Ross, M. (1995). What is wrong with school music? *British Journal of Music Education, 12*(3), 185–202.
Sankowska, A., & Söderlund, J. (2015). Trust, reflexivity, and knowledge integration: Toward a conceptual framework concerning mobile engineers. *Human Relations, 68*(6), 973–1000.
Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Temple Smith.
Schön, D. A. (1987). *Educating the reflective practitioner: How professionals think in action*. Basic Books.
Schrag, F. (1992). Conceptions of knowledge. In P. W. Jackson (Ed.), *Handbook of research on curriculum* (pp. 268–301). MacMillan Publishing.
Short, J., Williams, E., & Christie, B. (1976). *The social psychology of telecommunications*. Wiley.
Shulman, L. S. (2005). Signature pedagogies in the professions. *Daedalus, 134*(3), 52–59.
Silver, N. (2013). Reflective pedagogies and the metacognitive turn in college teaching. In M. Kaplan, N. Silver, D. LaVaque-Manty, & D. Meizlish (Eds.), *Using reflection and metacognition to improve student learning* (pp. 1–17). Stylus.
Smith, M. K. (2001). *Chris Argyris: Theories of action, double-loop learning and organizational learning*. The Encyclopedia of Informal Education. https://infed.org/mobi/chris-argyris-theories-of-action-double-loop-learning-and-organizational-learning/
Swan, K., Garrison, D. R., & Richardson, J. C. (2009). A constructivist approach to online learning: The community of inquiry framework. In C. R. Payne (Ed.), *Information technology and constructivism in higher education: Progressive learning frameworks* (pp. 43–57). IGI Global.
Swift, T. A., & West, M. A. (1998). *Reflexivity and group processes: Research and practice*. ERSC.
Tu, C. H. (2000). On-line learning migration: From social learning theory to social presence theory in CMC environment. *Journal of Network and Computer Applications, 23*(1), 27–37.
Vygotsky, L. S. (1978). Interaction between learning and development. In M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman (Eds.), *Mind in society: Development of higher psychological processes* (pp. 79–91). Harvard University Press.
Welch, G. (2001). *The misunderstanding of music*. Institute of Education, University of London.
Widmaier, W. W. (2004). Theory as a factor and the theorist as an actor: The 'pragmatist constructivist' lessons of John Dewey and John Kenneth Galbraith. *International Studies Review, 6*, 427–445.

Jeremy W. K. Wong is an established Singaporean concert pianist, music theorist, and educator, celebrated for his improvisational skill and frequent performances at festivals, competitions, and masterclasses across Asia and Europe. A best graduate of Nanyang Academy of Fine Arts, he continued his Bachelor studies on a National Arts Council scholarship, graduating with first-class honours in the Royal College of Music-NAFA degree programme. He later completed his Master's at the Sibelius Academy where he is currently a full-time doctoral candidate. Jeremy is also an adjunct lecturer at NAFA and in addition to his academic roles, he serves as President of the World Piano Teachers Association in Finland, artistic director of the Singapore International Music Competition and co-founder of Bravori, a Finnish EdTech startup dedicated to transforming music education through technology.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits any noncommercial use, sharing, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if you modified the licensed material. You do not have permission under this license to share adapted material derived from this chapter or parts of it.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.