

Student-Driven Music Theory: How the Question Formulation Technique Can Promote Agency, Engagement, and Curiosity

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How can we move our students from answering questions that we pose to them, towards developing their own avenues of inquiry? In this paper we make the case for teaching students how to ask meaningful questions about music. We argue that asking questions can be a crucial activity that motivates students' development as thoughtful and effective musicians.

The Question Formulation Technique (QFT) is a pedagogical tool that teaches students how to develop their own questions, centers those questions in learning activities, and lastly encourages reflection on the entire process. This method foregrounds students' ideas and agency, motivates them to engage creatively with the topic, and thereby increases their confidence with and interest in the course material. We will share strategies for using the QFT, highlighting how this approach can create deeper learning and ultimately challenge students in ways that are meaningful for their own musical pursuits.



Introduction

How can we move our students beyond answering the questions we pose to them in our music theory classes, towards developing *their own* pathways of exploration and inquiry? Learning to ask questions is a crucial skill that can cultivate students' development as thoughtful and effective musicians. The music theory classroom has potential to be an ideal site for exploring and answering questions about music, but to realize this potential these classes would need to teach our students how to ask good questions. The process of students asking and pursuing their own questions can increase engagement with course content; this also increases the likelihood that students will apply these more personalized skills to their other musical contexts.

In this paper we show how the Question Formulation Technique (QFT) can help students learn to ask meaningful questions about music by teaching them to develop their own questions in relation to a prompt (Rothstein and Santana 2011).¹ The QFT

¹ Source: The Question Formulation Technique (QFT) was created by the Right Question Institute (rightquestion.org); for more examples of how to use the QFT, see the Right Question Institute website: <https://rightquestion.org/resources/level/higher-education/> (accessed August 2, 2021).

foregrounds students' ideas and agency, motivates them to engage creatively with the topic, and thereby increases their confidence with and interest in the course material. Using this technique, students generate, manipulate, and prioritize their own questions as a springboard for further learning. We will share specific examples of how the QFT process can work in music theory courses through a series of case studies. Our use of the QFT has helped students learn about specific music theory concepts as well as more global ideas such as the philosophical underpinnings or assumptions of a course or how analytical skills could be applied outside of the theory classroom. When incorporated regularly across the theory curriculum, the QFT leads to a learning cycle where students develop their own questions, learn analytical skills and explore theoretical lenses in pursuit of those questions, and then reflect upon the process. More broadly, getting students to consistently practice formulating their own questions over multiple semesters can encourage a habit of curiosity—a trait that can drive life-long learning.

Overview of Question Formulation Technique

The QFT is a structured process for generating, manipulating, and answering questions that culminates with students reflecting on their learning. Students explore course concepts while using the creative problem-solving techniques of divergent and convergent thinking.² After they have gone through this progression (Example 1), the last step asks them to think metacognitively about both the content and the process they used to learn that content.

After the instructor provides a prompt (the Question Focus or QFocus), students produce questions about the prompt according to a set of rules intended to help them think in terms of interrogative rather than declarative statements. Then, through the dual process of categorizing their questions as open or closed and manipulating queries from one form to the other, students learn that how they ask questions can dramatically alter the responses. Students then choose their top questions according to some criteria for prioritization; by switching to an evaluative mode, students compare the many inquiries they came up with and make judgment calls about which ones should be selected. The instructor can then use these questions in a number of

2 Divergent thinking is characterized as an approach that creates multiple and varied solutions to a problem, in contrast with convergent thinking which often tries to settle upon the best solution among a set of options. For more on these problem-solving techniques or ways of thinking, see Runco and Acar (2018).



Step 1: Teacher presents prompt (QFocus).

Step 2: Students produce questions according to four rules.

Step 3: Students categorize and manipulate their questions.

Step 4: Students prioritize their questions.

Step 5: Questions are used to drive learning.

Step 6: Students reflect on the process.

Example 1

Six steps of the question formulation technique: an overview.

ways to drive learning. Finally, students reflect on both the QFT process and what they learned in response to the QFocus.

With this overview in place, we will now present three case studies in which we have used the QFT in our theory classes, elaborating on each of the above steps. In all of these reports, we will quote heavily from our students, as it is ultimately their responses that demonstrate the strength of this approach. The first case study shows how the QFT can be used at the end of an analysis unit so that students dig deeper into a piece they have already explored. The second case study, from the beginning of a post-tonal music course, encouraged students to examine their listening habits and expectations in preparation for an unfamiliar sound world. The third case study, which took place on the last class of a semester, features students exploring the relationship between performance and analysis, particularly how performances can reflect analytical interpretations.

Case study #1: QFT for deeper analysis (Burt)

In a first-year diatonic harmony class, students used the QFT to consider large-scale connections in a rondo (Example 2). Prior to the QFT activity, they had already performed an in-depth melodic and cadential analysis of each of the individual sections of the rondo movement from Joseph Bologna's Violin Sonata No. 3 in G minor, op. 1a (Bologna 2020). However, they had not yet been explicitly asked to consider the piece as a whole. This QFT session was designed so that students could begin making connections across the entire piece and recognize that this activity is fundamentally different from an activity like deciphering cadence types in a short excerpt of a composition.

Context:	1st-year diatonic harmony class, fully online, 3rd week of classes
Class and group characteristics:	56 students total (3 sections), groups of 4–5.
Total questions produced:	136
Logistics:	Steps 1–4 in class, students chose 2–3 questions to answer for homework, post-activity reflection also completed for homework
QFocus:	Write down your questions about the Bologne violin sonata movement we've studied in light of the following statement: <i>It is musical analysis, not musical description, that can help us understand the significance or uniqueness of a musical work.</i>

Example 2

Case study #1—quick facts.

Step 1—Instructor presents the Question Focus (QFocus)

The first step of the QFT process is to present students with a prompt or Question Focus (QFocus). For this QFT activity, the QFocus asked students to formulate questions about a movement from a sonata for violin and piano. At the same time, the prompt challenged them to differentiate analysis from description as a key to revealing the uniqueness of this musical work; we had neither defined nor discussed this distinction in class. I specifically chose the language in the QFocus so students would consider this difference for themselves by reflecting on what they already “knew” about the piece and what more there might be to understand as they considered the piece in its entirety. When designing a prompt, instructors should think carefully about what will capture their students’ imaginations and encourage them to explore the material or topics deeply. After the initial presentation of the QFocus by the instructor, students then lead the next three steps of the QFT process which are carefully scaffolded to ensure that students have clear direction.

Step 2—Students produce questions according to four rules

For step two, the students were sent into Zoom breakout rooms of 4–5 students each where they began the foundational stage of the QFT process: question generation according to four rules (Example 3). The goal for this phase is for the groups to come up with as many questions as possible, prioritizing quantity while maintaining relevance to the prompt. As Rothstein and Santana stress, the four rules are designed

to help ensure that the process is a positive experience for all students (Rothstein and Santana 2011).

1. Ask as many questions as you can.
2. Do not stop to answer, judge, or discuss.
3. Write down every question exactly as stated.
4. Change any statement into a question.

Example 3

The four rules for generating questions.

The second rule is often one of the hardest for students to follow: “Do not stop to answer, judge, or discuss.” Refraining from discussing and answering the questions they come up with can be challenging for many students, especially those who enjoy small discussions and want to start talking about answers immediately. This rule ensures that students are focused on question generation and are not pulled into exploring the answers to questions at this early stage.

The prohibition on judgment is also important as it frees students from the worry that they will come up with a “stupid question.” In combination with rule 3, this rule creates a judgment-free space for students to state whatever questions enter their minds without worrying about the quality of their questions. This freedom of exploration encourages students to relate the prompt to their own lives and experiences, and they can come up with personally meaningful questions. Although open exploration can lead to some silly questions or even to questions that seem irrelevant to the prompt, these seemingly unrelated questions can give instructors insights into how students understand and relate to the material and to each other.

This phase of the QFT encourages divergent thinking by promoting the unfiltered creation of questions and allowing many possible perspectives on a topic. In this particular QFT exercise, students asked questions about the following topics: the overall form, specific analytical details of the piece, the instrumentation, and the historical context. They also asked more general questions about music description versus music analysis, two activities that the prompt suggested are quite different. Example 4 provides a sampling of student questions from each of the topics.³

³ This study has been approved by the Institutional Review Board of the University of Delaware.

About the form:

- Why did he choose this particular form structure out of all the options that are out there?
- Why are the B and C sections different keys?
- Why does the piece use the key centers that it does?
- What is the significance of the key changes and repetitions?
- How does the repetition of the A section three times affect the overall suspense of the piece?
- How are the melodies of each section related/different and does this have to do with what key they are in?
- What is done in order to connect these three sections in order to make it sound like one cohesive piece?
- Why are there so many transitional bars between cadences and sections?
- What would the overall bubble diagram look like?

About specific details of the piece:

- What musically makes the A section so catchy?
- Why does he use uneven phrase lengths?
- Why use metric dissonance in the piece?
- How does the composer pull off delaying strong cadences in the B section?

About instrumentation:

- How did he choose which sections to give keyboard melody vs violin?
- Why did he choose the instrumentation of violin and keys?
- Did the instrumentation of this piece affect how the composer constructed it?
- Why use a harpsichord instead of piano?
- Why choose this specific instrumentation?

About the context of the piece:

- What is the historical context of when this piece was written?
- What makes this work stand out from the other works of his time?
- Was this piece written purely to get money or was there deeper motivation for it?
- Does the context and time period help contribute to the analysis or description?
- How does this sonata movement fit in with the whole piece?

About description vs. analysis:

- How can we distinguish between musical analysis and description?

Example 4

Student questions organized by theme.

Many of these questions could serve as wonderful entry points to further analysis of the piece, and many are similar to what an instructor might use to guide an activity. We have found that this is typical of QFT activities: students will often come up with questions that overlap with what we instructors would ask our students. However, using student questions can result in a marked difference in student engagement and ownership of the material because the class is exploring *their* questions. Also noteworthy is that many of the questions move beyond analytical statements (note the many “why” and “how” beginnings); these questions take salient analytical observations and probe deeper by asking for explanations of the compositional decisions. While many instructors might not often indulge in these kinds of questions, encouraging students to wrestle with causation, explication, and justification can be great ways to explore a composition.

Step 3—Students categorize and manipulate their questions

Once students have come up with a wide range of questions in relation to the QFocus, the third step begins by asking them to categorize their questions as being either open or closed. Closed questions are those that can be answered with a one- or two-word response such as yes or no, a number, a date, or a chord name. Open questions on the other hand require more elaboration and explanation. Once students have categorized each of their questions, they transform a question of each type into the other type: students choose an open question to become closed, and then turn a closed question into an open one. This process of classification and transformation allows students to see how the wording of a question matters and can alter the form of the answer. Students also see how manipulating a question can frame the responses; such manipulation leads to the kind of answers that you want. Changing questions in this way is a great exercise for future educators who will need to think carefully about how to word the questions they will pose to their students.

Step 4—Students prioritize their questions

The fourth step in the QFT process is for students to prioritize their questions. Teachers can specify a standard for prioritization or let students decide which questions they think are most important. After coming up with many questions (divergent thinking), students must then come together to decide which of the questions from their list are most important (convergent thinking). Asking students to explain or justify their choices can reveal fascinating insights into what students find meaningful and important. Also interesting is seeing what students *do not* choose

to value as this can reveal areas that are outside of students' horizons of concern and relevance. Ultimately, either prioritization scheme gets students to do the hard work of evaluating the different questions and discussing the ways that they could rank each of the questions. (These kinds of evaluative judgment are considered more advanced activities on Bloom's Taxonomy of Learning Objectives; see Anderson and Krathwohl 2001, and also Rifkin and Stoecker 2011.)

In this QFT activity, each group of students picked three questions from their group's list to share with the class. While the complete question list for every group contained at least some questions that were related to specific details of the piece, students usually prioritized questions dealing with large-scale aspects of the piece. This tendency to prioritize questions about connections across the piece resulted from where the QFT was placed in this unit and the ways in which the students had already engaged with this piece prior to the activity. I was happy to see that the prompt itself inspired some metacognitive thinking as many groups prioritized questions about the difference between description and analysis. The students in these groups discussed which previous activities were more descriptive in nature and which were more analytic.

Working through the first four steps of the QFT process took the full 50-minute class period. We have found that this pacing is typical; even with a few minutes of announcements or housekeeping, these steps of the QFT can usually be completed in one class. The second time a class goes through a QFT activity, they are usually more efficient and mostly need reminders rather than full instruction for each stage in the process. This timing division works out well as the first four steps are best done in groups with students actively discussing their ideas, while the latter two steps (using the questions to drive learning and reflecting on the process) can be approached in a variety of ways that do not necessarily involve groups.

Step 5—Students use questions to drive learning

The next step in the QFT is to use the questions that students came up with to engage with the course content. Questions could be used as in-class activities where groups explore the same question leading to a class discussion, or different groups could each explore one question and then use the jigsaw technique to share responses with the whole class.

In this QFT exercise, each student chose two to three questions to explore for homework. This kind of assignment allows for differentiated learning as students can choose questions that are of personal interest to them and engage with the material at

an appropriate level of complexity.⁴ Because this activity took place during a semester that was entirely online, all questions were recorded on a Google Doc and placed in shared folders, giving students access to each group's full list of questions. For the homework assignment, students could choose a handful of questions they wanted to explore from any group's initial list of questions. This allowed students to see how similar or different each group's line of questioning was while allowing them to concentrate on what aspects of the QFocus most interested them.

Step 6—Students reflect on the process

The final phase of the QFT is for students to reflect on what they learned and the process they used. As other researchers have found, student reflection at the end of an exercise is an invaluable step in consolidating learning and organizing information to make it more memorable (see, for example, Dunlosky and Metcalfe 2009). Reviewing the learning goals of the unit and some of the exemplary questions and answers that the students came up with in relation to those learning goals can help clarify for students the most important ideas. When using the QFT, it is also advisable for students to reflect on the process they used to come up with questions as a strategy that they can use in other contexts.

For this case study, students reflected on the activity by answering the following two questions:

- How does asking questions about a piece of music deepen your understanding or appreciation of the piece?
- How would asking questions about music you are performing change your learning process?

In their answers to the reflection questions, students seemed to tease out the difference between description and analysis and also thought about how each activity can be useful:

Doing simple things, such as chord analysis and structure, can help when memorizing sections and parts that would have to be played, but asking questions about the reasoning and ideas behind certain musical decisions can help bring emotion and experience into the piece that you would not have brought in before.

⁴ Differentiated learning refers broadly to offering multiple options for how deeply students explore material, the process of how they engage with content, and, lastly, how they demonstrate their learning. It embraces the idea that students will benefit from exploring content at a level that challenges them appropriately and that this level will likely vary widely within a classroom. There are many similar ideas found in Universal Design for Learning; see, for example, Quaglia (2015). For more on differentiated activities and classrooms, see Tomlinson (2017), and Palfy (2020) for specific examples in music theory.

Many students appreciated how the QFT encourages divergent thinking:

Well, asking questions with a group of people allows you to think about things you may not have thought about before. It also helps you to realize just how complex music can be.

Asking questions, especially with the method that we used, opens up a wide variety of ideas about the piece that may be often overlooked, but actually serve as a vital aspect of the piece.

It makes you think about what you don't know about a piece of music, and helps you to discover what you might be curious to learn more about. Typically, good questions will prompt other good questions, which can be an interesting path to delve down.

Students also reflected on how asking questions helped them gain a deeper understanding of the piece:

Asking questions helped me break that initial barrier to a deeper understanding of the piece because it encouraged me to actually take a look inside my brain and vocalize the things that I was genuinely curious about. . . . It really forced me to think about things like the composer's motivation, and more large-scale questions that in the end help me get that deeper understanding.

Many students, like the one above, appreciated the opportunity to explore what they were genuinely curious about. One student summarized in the following response why developing curiosity is so important:

If there is no curiosity, there is no intrinsic motivation to learn, and as a result, there is no learning. So, if I'm curious about the music I perform and take a genuine interest in asking questions and discovering new things about it, I would be more likely to get invested in the deeper meaning behind the music, and that would benefit my overall experience in performing it.

Through this QFT activity, students practiced asking questions that would lead them to a deeper and more comprehensive understanding of a composition we had been studying. More importantly, however, this activity allowed students to think consciously about the analytic process. I have had many conversations with theory instructors who bemoan the students for whom theory is only labeling items on the score without thinking more deeply about what those labels mean. This activity allowed students to discover for themselves that the understanding they can gain from music theory is significantly more powerful than the mere act of labeling. It is another tool they can use to make sense of and create meaning in the music they encounter.

Case study #2: Exploring listening expectations (Duker)

Context:	20th-century theory and analysis (3rd year), fully online, 1st week of classes
Class and group characteristics:	48 students total (2 sections), groups of 3–5.
Total questions produced:	248
Logistics:	Steps 1–4 in class, asynchronous discussion on LMS with prioritized questions, post-activity reflection as a quiz.
QFocus:	Music should always be pleasant and entertaining to listen to.

Example 5

Case study #2—quick facts.

In addition to being used to dig deeper into a piece of music, the QFT can be used to examine broad concepts and ideas, even preconceptions that students may not realize they have. The second case study, summarized in Example 5, comes from a post-tonal analysis course in which the QFT activity occurred during the first week of classes. In this case, the QFT exercise encouraged students to consider the listening expectations that they bring to pieces of music, knowing that the level of dissonance that they would encounter in a 20th-century course would likely be challenging. The QFocus was the simple sentence: “Music should always be pleasant and entertaining to listen to.”

Careful crafting of the QFocus is important as subtle tweaks to the prompt can significantly change how students respond. If the QFocus is a text, the wording is crucial; having an absolute (such as “never”) will spur strong reactions from the students. In the case of this prompt, the word “always” encourages students to consider unfamiliar and atypical listening contexts which could challenge this absolute.

The first four steps of the QFT (presentation of QFocus, question generation, classifying and transforming questions, prioritizing questions) took place during class in small groups of three to five students. Moving around and observing the small group interactions, I was pleasantly surprised to see how many groups would seemingly finish coming up with questions, but then dig further and find more perspectives or questions after a short pause. Give students ample time in the second step to allow for groups to catch this “second wind” and come up with even more questions than they had previously thought possible. Many times, a group will remark that, after moving past an initial stopping point, a new question sparked more questions along a different avenue of inquiry.

The first time that students classify questions as open or closed, it can be helpful to discuss some of the pros and cons of each question type. Many students will assume that open questions are better than closed ones since they require more of a response. Pointing out some of the advantages of both types allow students to see the value and potential uses of each kind of question (e.g., the efficiency and speed of closed questions and contexts where that might be a priority). On the post-activity reflection, one student particularly appreciated this part of the process, writing:

I especially liked the section of the QFT process where we classified the questions into open/closed and then altered these questions to fit into the opposite category. As a future educator, I think that this process is both important and applicable to my future career.

When working through step three, classifying and manipulating questions, some groups mentioned that some of their questions were not really open or closed. There are questions that can seem ambiguous. One way to prevent students from becoming too focused on any one question is to tell them that if a question does not fit neatly into either category, it could be considered both open and closed. This is often a better use of time than a digression on logical strategies for parsing.

For step four, students were asked to choose the top three questions that “most interest you and your group.” A sample of what one of the groups produced from these first four steps is given in Example 6.

Prioritized questions:

1. (6) Since music is an art form and art reflects life, why should music not also reflect the unpleasant parts of life? O
2. (15) What if it's not “entertaining” or “pleasant”? O
3. (20) What was the reasoning behind the composer wanting to create a piece to get a specific emotion? O

Full question list:

1. How are you defining pleasant? O
2. How are you defining entertainment? O
3. Does it have to be pleasant throughout? C
4. How does entertainment vary from person to person? O
5. Whose perspective are we prioritizing as the standard for what pleasant and entertaining is? o/c

Example 6

Case study #2—sample group submission.

6. Since music is an art form and art reflects life, why should music not also reflect the unpleasant parts of life? O
7. Visual art is a medium often used to provoke response, whether the response be discomfort, joy, repulsion, etc. This is often to provoke or plant seeds of thought about a given topic. Why shouldn't music also be used/exhibited in this way? O
8. What is good music? O
9. Was music always used for entertainment? C
 - a. How has music been used as entertainment? O
 - b. How has the usage of music developed over time? O
10. How do other cultures define music? o
11. Is music a cross-cultural constant/phenomenon? c/o
12. Since music was originally classified as a math (see quadrivium), why shouldn't it embrace its more mathematical and (and often strange) tendencies? O
13. How do we define music? o
14. How do you know as a composer if your piece is entertaining? O
 - a. Is the piece entertaining? C
15. What if it's not "entertaining" or "pleasant"? O
16. Can someone's circumstances or perspective affect the enjoyment of the piece? C
17. How pleasant or entertaining? 100% or some? O
18. Why does it matter? O
19. How do you plan on pulling out emotions with your music? o
20. What was the reasoning behind the composer wanting to create a piece to get a specific emotion? O
21. In what circumstance is it appropriate to listen to music (if it's only ever supposed to be pleasant or entertaining)? O
22. How do you plan on enforcing that it should only be pleasant or entertaining? O

Example 6 (cont'd)

Case study #2—sample group submission.

After each group had submitted their top three questions, I organized all of the prioritized queries into groups for the students (Example 7). Each student was then asked to reply to a question or reply to one of their peer's responses or both (the due dates were staggered to encourage responses and dialogue).

Role of art/music:

What is music? Can we define music?

Since music is an art form and art reflects life, why should music not also reflect the unpleasant parts of life?

What makes music compare to other art?

Composers:

Is the composer or the performer responsible for making the music pleasant and entertaining?

What was the reasoning behind the composer wanting to create a piece to get a specific emotion?

Why should there be any intention at all?

Can we express pleasant emotions with unpleasant sounds and vice versa?

Does instrumentation make something more or less pleasant?

Listening frameworks:

What makes things pleasant?

Does context change the way we perceive music?

Is there any way to objectively measure how pleasant or entertaining a piece is?

Is the listening experience of music biased?

What qualifies a song to be entertaining?

Is music only something that you listen to or is it something you experience?

How do you qualify entertainment/pleasant? Or how do you define entertainment/pleasant?

Audiences and pleasure:

Do people seek out “unpleasant” music?

What if it’s not “entertaining” or “pleasant”?

Should music always be pleasant and entertaining to listen to? (Why?)

Should music always be pleasant?

Where is the line drawn between audiating and listening? Can audiation be pleasant?

Can you grow to think something is pleasant and entertaining that you originally disliked?

Do you have the right to say if music is unpleasant or entertaining?

Example 7

Case study #2—questions and themes.

As Example 7 shows, the students came up with many good questions about a wide variety of topics. The ensuing discussion on the LMS was thought provoking for the students, and I was glad to see that they could have respectful disagreements. Many of the questions were more challenging than what I would normally ask students to respond to in class, but because the students came up with the questions,

Performers/ performance:

Is the composer or the performer responsible for making the music pleasant and entertaining?

Can execution of the music affect whether it's pleasant or not?

Can a live performance be pleasant and entertaining, while a recording of the same piece isn't? What about a recording of the same exact performance?

Some good questions from groups that were not prioritized:

Is there a relationship between culture and what music is entertaining or pleasant?

Has the perception of "pleasant and entertaining" changed over time?

How would one adjust an unpleasant piece to make it pleasant or entertaining?

Can music still be enjoyable if it is not "pleasant"? When, if ever, are the concepts of enjoyability and pleasantness mutually exclusive?

Whose perspective are we prioritizing as the standard for what pleasant and entertaining is?

Visual art is a medium often used to provoke response, whether the response be discomfort, joy, repulsion, etc. This is often to provoke or plant seeds of thought about a given topic. Why shouldn't music also be used/exhibited in this way?

Does the background of the creator of the piece influence if the piece is worthy or not?

Example 7 (cont'd)

Case study #2—questions and themes.

they embraced the process, sometimes acknowledging that perhaps only provisional answers were possible. These discussions allowed students to wrestle with deeper questions about listening and their own expectations about music and allowed them to guide the direction of the conversation. There were echoes of these discussions in many class meetings over the next few weeks when we began to encounter challenging pieces. While it was not possible in the online format of the class, I imagine that an in-person small group discussion would have been even more successful. On the other hand, having the discussion online saved class time for other activities and allowed students to practice arguing for different positions while putting their ideas into written form.

Although I briefly went over some of the goals of the QFT exercise in class, the reflection step came mostly in the form of an asynchronous quiz without a class discussion. There were three questions that students had to answer regarding the role of questions in learning, their specific listening habits and expectations, and, finally, what they thought of the QFT process. Example 8 gives some examples of exemplary student responses to the first two prompts.

Reflection Question 1: Why is asking and developing your own questions important for learning?

It helps to know where your mind naturally goes and understanding how broad/narrow a topic may actually be and can also points out any potentially biases one may have. Also, understanding the limits of your own knowledge through what questions come to mind helps in focusing your learning towards new things rather than something that may simply be review.

It makes the student think about the subject instead of just giving them facts and letting them memorize things.

Formulating questions about a specific topic reveals a level of engagement that is not always present when a student is copying down notes from a lecture or words from a textbook. This “copy-paste” learning style leaves too many holes in comprehension, and while you might almost completely grasp an idea this way, creating your own questions forces you to place into words what you either don’t understand about the idea, or understand to be left up for interpretation (which is very common in musical conversation).

Reflection Question 2: Hopefully this process allowed you to think critically about listening expectations. Please describe any insights or thoughts that you had in relation to the idea of listening habits or expectations.

This activity really opened my eyes to the certain expectations I had about music based on my background. Although I was aware of some biased I had, I learned a lot about the ways I view music through asking questions. I feel more mentally prepared and open to listening to different genres of music now that we were briefed through this question activity.

We realized that the listening experience is extremely subjective, but there are still things we can objectively listen for to point out and discuss. When we point these things out, we can talk about why they were written/performed the way they were and how they affect the piece as a whole but we can’t objectively say if they make a piece “good” or not.

We have a lot of implicit bias that plays into the way we listen. Our expectations are often set from the start, and this activity allowed us to understand our biases (hopefully to combat them).

Example 8

Case study #2—reflection comments.

Overall, the QFT was a great way to prepare students to encounter the challenging world of post-tonal music. Once they had taken the time to think about their expectations and listening habits, many students seemed more willing to listen to non-tonal music and acknowledge that there could be many different perspectives on this kind of repertoire. Even those students who still found this style off-putting expressed their distaste in more interesting ways. They would say things like: “I don’t understand why someone would create a piece in this way,” or “I think I still prefer pieces that are less dissonant.” Taking one class period with the QFT to allow students a moment of introspection about their listening expectations ended up paying benefits throughout the semester.

Case study #3: Performance and Analysis (Burt)

Context:	1st-year diatonic harmony class, fully online, last day of class
Class and group characteristics:	56 students total (3 sections), groups of 4–5.
Total questions produced:	121
Logistics:	Steps 1–4 in class
QFocus:	

“As someone who is professionally active both as a music theorist and a pianist, I find the line between analysis and performance rather fuzzy. Even if an analyst writes nothing about performance, reading that analysis and internalizing the corresponding hearing will impact some aspects of performance. It is difficult to imagine a genuinely satisfying analysis of a composition that would in no way inform one’s subsequent performance of that piece, and most analysts would concede that their writings shape more than our understanding and aesthetic appreciation of musical works.”

–Ryan McClelland in “Performance and Analysis Studies: An Overview and Bibliography”

“The purely spontaneous, unknowing and unquestioned impulse is not enough to inspire convincing performance, and surely not enough to resolve the uncertainties with which the performer is so often faced.”

–Wallace Berry in “Musical Structure and Performance”

“It is one thing to be convinced that something is true analytically, quite another to decide how—even whether—to disclose such information to one’s listeners in a performance. Sometimes...it is better for the performer to suggest something which is ‘false’—or more precisely, something which is ‘true’ only from a certain, partial vantage point—than to spell out everything one knows. In that way, the performer adopts temporarily the viewpoint of one or two characters in the drama, so to speak, rather than assuming omniscience at every moment. Dramatic truth and analytical truth are not the same thing; a performance is not an *explication du texte*.”

–William Rothstein in “Analysis and the Act of Performance”

Example 9

Case study #3—quick facts.

In the last class of the semester, I typically ask students to list—in the order studied and from memory—the main topics we explored in the course. Taking a moment to review and reflect allows the students to feel good about how much they learned during our 14 weeks together. However, over the two years where I was experimenting with the QFT, I frequently thought about a striking and memorable statement from one of my graduate school professors. He said that perhaps what is more important than leaving an academic program with a body of knowledge is

leaving with a handful of really good questions. In that spirit, I thought it might be interesting to end our semester with questions for future exploration rather than a review of what we already knew. Having students transfer theory knowledge learned in the classroom to their own musical experiences when listening to, practicing, and performing music is one of the more difficult learning outcomes. For the last day of Theory II class, I crafted a QFocus that would provide the opportunity for students to ask questions about how to use the tools they gained from our course. The QFocus, shown in Example 9, contained three passages offering different ideas about the connection between analysis and performance.

The students spent 25 minutes of class time writing their questions and prioritized three of them before sharing their questions with the rest of the class. Students generated a total of 121 questions, a sampling of which can be found in Example 10. As expected, many student questions dealt with how analysis might directly impact performance, but students extended that idea to include questions about how analysis might affect listening to a piece. Some groups included questions about refraining from analyzing the music you perform and the value of spontaneous performance. Also, somewhat predictably, students asked about possible negative effects of analysis, like whether analysis can dampen the joy of performing music (see Margulis 2010). There were also two lines of questioning that I did not expect: First, students from more than one group wondered about the connection between the instrument one plays and the approach to analysis. Second, they also questioned whether there might be some overlap between analytic truth and dramatic truth.

Analysis and performance:

- Why is analysis so important to our interpretation of music?
- How can a knowledge of musical analysis improve one's performance?
- Is it necessary for a performer to do a harmonic analysis of a piece?
- Do we need harmonic analysis to understand the music?
- Does doing harmonic analysis make you a better performer?
- Is harmonic analysis necessary to perform a piece *convincingly*?
- Does harmonic analysis help you internalize the music better?
- How much do professionals analyze their music in general?
- Is it possible to perform an analysis and not have it influence a performance?
- Why wouldn't you "disclose such information" to one's listeners in a performance?

Example 10

Case study #3—questions and themes.

How analysis affects listening:

How does analysis shape our listening of a piece as well as performance?

How analytically should we be thinking when we listen to music?

Does harmonic analysis help you *appreciate* the music more?

Refraining from analyzing music:

Is there any value in spontaneous performance without analysis?

Can you tell when a performer *doesn't* understand the musical analysis of the piece they're performing?

How does one make a convincing performance without understanding musical analysis?

Does someone need to be professionally trained in music to understand music?

What would happen if you ignored an analytical approach and just performed the piece as your emotion dictated?

Are there any pieces that have been designed to be played without analysis?

Negative effects of analysis:

How do you find the point where analysis starts to drain the joy in performing?

How do we know when we have overanalyzed a piece?

Does analysis of the piece interrupt a performer's creative liberties?

Interactions between instrument played and analytic approach:

Does the instrument you play affect the way you should analyze a piece?

Does the instrument you play affect the way you analyze or perform?

With a focus on instrumental concentration, how can harmonic analysis benefit the performer's performance (i.e. choir)?

Dramatic truth vs analytic truth:

Is dramatic truth or analytical truth better for a performance?

How do you inspire convincing performance/how does analysis allow us to communicate dramatic truth?

How do we bridge the gap between creative impulse and theoretical analysis in performance?

Can the lines between dramatic truth and analytical truth blur?

Questions about the Qfocus:

In the second quote, what is the author referring to when they talk about an impulse?

What does the "*explication du texte*" mean?

Example 10 (cont'd)

Case study #3—questions and themes.

Finally, some students had questions about the quotations themselves. As mentioned earlier, the QFT offers the instructor a window into what students find relevant; it can also offer a window into what students find problematic. When constructing the QFocus, I decided not to provide the identities of the authors of the quotes. When we had returned together as a class after the question formulation period, one student asked who wrote the quotes, suspecting they were written by white men. I shared the authors of the quotes which led to a discussion about what values are hidden in the undergraduate theory curriculum (Palfy and Gilson 2018). Indeed, this particular student's group had asked a number of questions addressing diversity issues in music theory, many of which we had discussed at the very start of the semester.

Where are these quotes coming from?

Why do we only learn western tonal theory?

Why don't we use more examples from pop, hip-hop, and other modern forms of music?

Why don't we examine world music?

Students from other groups had also formulated questions about the limitations of what we learn in the classroom when presented with music that is outside the western canon.

If we're looking at a different culture, how does our own perspective affect how we analyze something we aren't familiar with? Is it necessarily right to analyze a piece that isn't from our own culture in that way?

Does the content of our theory curriculum (SATB western) limit the scope of what can inform our performances?

The questions about diversity, though outside of my specific goal of connecting analysis and performance, led to the course ending where it began. This particular class occurred in Fall 2020 after the discipline of music theory made national news with the response of the *Journal of Schenkerian Studies* to Philip Ewell's 2019 talk at the national meeting of the Society of Music Theory (see Ewell 2019 and Jackson 2019). The first unit of the class included reading and discussing ideas about what Ewell calls music theory's "white racial frame" (Ewell 2020). Despite an increased focus on including examples by women and BIPOC composers as well as including music from a variety of genres (pop, movie, video game, jazz), some students continued to sense limitations of the applicability of the course content to music they care about. Their questions at the end of the course offer another data point as we music theorists consider the extent to

which inclusion of more diverse examples—without dismantling the traditional theory curriculum—actually addresses the diversity issue in music theory.

Varieties of prompts and contexts

While the case studies above have provided an in-depth demonstration of how one might use the QFT in theory courses, the following brief summaries are meant to show the breadth of approaches and topics that are possible with this technique. As the above examples show, the QFocus is typically a short statement or quote; the only limit is that the QFocus should not be a question. In a music classroom, it could be appropriate to offer visuals (such as scores), multimedia, or audio excerpts as a prompt instead of text alone. Bringing in an unfamiliar piece (with or without the score) as a QFocus can be a good way to measure how students are processing new music and to gain a sense of a given group's range of reactions. Visuals—such as manuscript scores of continuo parts showing the range of approaches to figured bass (in addition to the misaligned staves and other idiosyncratic elements of older sheet music) or the illustrated scores to one of the fugues in Hindemith's *Ludus Tonalis*—could also provide fertile territory to explore. (See Walden 2010).

Multimedia prompts may seem less structured and unfamiliar, so it is helpful if students have had some experience with contextual listening, such as making observations about pieces or videos they hear. It is an especially good idea to provide foundation work for 1st-year students, who may not know where to start if given an excerpt for listening. Even in these cases, the QFocus can reveal how students approach listening or viewing and what aspects of these experiences draw their attention. Student reactions generate instructor insights about appropriate approaches for a given group of students. There are many possibilities for the QFocus, and we have found that a wide variety of prompts can be successful in different theory classes.

Score as QFocus: Arnold Schoenberg's "Nacht" from Pierrot Lunaire (Burt and Duker)⁵

Using a score as the QFocus allows an instructor to see what approaches and considerations students default to when examining an unfamiliar piece. We offered the score to Arnold Schoenberg's "Nacht" from *Pierrot Lunaire* as the QFocus in a post-tonal course. After a brief introduction and explanation about the QFT, we listened to

5 In this and the following QFocus example, Burt was the instructor of record for this course. That said, both co-authors participated in the presentation of this activity. Uses of the first person refer to Burt's perspective.

the piece and then the students went into groups to generate questions. As is typical, the questions ranged from trivial to insightful; many of them— such as one group who wondered why the piece was subtitled “passacaglia”—could have been used as good entry points into exploring the composition.

Using a piece of music as the prompt to a QFT activity holds great potential for allowing students to practice the skill of domain transfer. Even when instructors work hard to make their courses relevant to students, transferring ideas to different contexts is an additional skill that students often need to be taught. By allowing the students to lead an exploration of a composition, they practice applying the various analytical lenses they have learned. Letting students explore a piece in this way can increase the likelihood that they could apply what they learn in their theory courses to other contexts without the assistance of an instructor.

Video as QFocus (Burt and Duker)

As part of the first Theory I unit on texture and timbre, students learn about the physical characteristics of sound that determine timbre. I taught this course in 2019 and 2020 and, in the second year, prior to delving into the physics of timbre, I exposed the students to spectrograms through a QFT activity, summarized in Example 11. In both renditions of the course, the learning outcomes, assessments, and projects for this unit were similar so these two classes provide a point of comparison as well as a good framework for discussing some challenges an instructor may face when implementing the QFT.

Context:	Music Theory I (1st year), week 2
Class and group characteristics:	51 students total (3 sections), groups of 4–5
Total questions produced:	278
Logistics:	Steps 1–5 in class (1.5 classes used for this), students answered selected priority questions in groups and presented their findings to the rest of the class, post activity reflection as a homework assignment
QFocus:	Video of two contrasting pieces (solo shakuhachi and electronic music) played along with a spectrogram

Example 11

Case study #4—quick facts.

In the 2019 rendition of this class, spectrograms had been gradually and methodically introduced to students to demonstrate the physical properties of sound. For example, prior to studying spectrograms of an entire musical work, students looked at simple spectrograms of sine tones, white noise, and different instruments playing the same note as a way of gradually building up their understanding of frequency and the overtone series. In the 2020 rendition of the class, my students had no prior instruction about the physical properties of sound before encountering the QFocus: a shakuhachi piece and an electronic piece, both played along with videos of their respective spectrograms.

I was somewhat apprehensive about incorporating the QFT in this way because I had specific ideas about what I wanted the students to understand, and I was not sure how well the students' own questions would line up with my desired learning outcomes. In fact, this decentering of teacher authority is one of the challenges that can result in some discomfort on the part of instructors. In traditional course structures, learning is largely instructor-driven: the instructor chooses the topics, assigns the readings, decides the questions to ask, creates the assessments, designs grading systems, and, finally, evaluates the students. With the QFT, students can direct their own learning as they ask and research their own questions about a topic. The QFT requires that instructors share power over the curriculum with the students, and, because of this, student learning may not align perfectly with learning outcomes the instructor might have chosen in a more traditional setting. However, what they learn may be better retained and applied in the future, because it overlaps with their personal interests and musical experiences.

Student-centered pedagogies such as the QFT acknowledge that students come to the classroom shaped by a unique combination of educational background, life experiences, and personal interests. These differences in background can benefit some students and hurt others when students are asked to engage similarly with course material and achieve uniform learning goals set by the instructor. In contrast, the QFT can have a levelling effect where all students can contribute to the activity regardless of their previous preparation in music theory. When students who might struggle in some areas of theory come up with great questions and shine in the group stages of the QFT, they can dramatically increase their confidence and reinvigorate their performance in class. Furthermore, by allowing students to engage with topics according to their individual curiosities, we celebrate the differences that our students bring to our courses. Jesse Stommel, the co-founder of *Digital Pedagogy Lab* and *Hybrid Pedagogy*, encourages instructors to “start by trusting students” (Stommel

2020). We have found that students respond well when we trust them to take on the responsibility of their own learning.

In the instance of the spectrogram QFT, while students formulated questions about everything from what exact instrument was performing on the first excerpt to whether or not the electronic excerpt has any kind of organization, the questions the students prioritized overlapped with the main four questions I explored in the previous year:

- What are the axes on the spectrogram?
- What do the colors represent?
- What is the difference in sound between vertical bands and horizontal bands?
- Why are there often multiple horizontal bands when there is only one note being played?

After students completed steps 1–4, they chose some or all of the prioritized questions to research together and then presented their findings to the class. As we visited the different groups during the research process, we noticed the students seemed far more engaged than they typically would be in a lecture situation, and students who had some previous understanding were able to guide other students for whom this information was new. Group work of this kind offers many opportunities for peer instruction, the value of which has been well documented (see Mazur 2014).

Although, overall, students seemed more engaged when learning about physical properties of sound through the QFT, some students communicated in their reflections that they did not enjoy the QFT process:

My learning process is more listening to things being explained and taking notes, so this particular learning experience wasn't for me. I like to ask questions when I have them, but I don't like having to ask questions if I don't really have any.

I did not enjoy this learning process more than others. . . . The more straightforward the learning process is, the better I feel about the information I've been given, and the more secure I feel about my knowledge.

Unfortunately, many students arrive on college campuses having mostly experienced what Paulo Freire called the “banking model of education” (Freire 2018). In this model, instructors are depositors of knowledge and students are passive recipients. Among the many problems with this model is that it encourages students to passively accept rather than creatively inquire about the world around them. In contrast, the QFT encourages curiosity and allows students to freely explore a topic (and thereby to develop the skill of learning on their own). This kind of active

participation and construction of knowledge requires significantly more energy from the student and may, at first, feel uncomfortable. Taking some time to explain to students the pedagogical value of the QFT may assuage some of the discomfort or resistance on their part. Though some students may not prefer learning through the QFT, most students do understand the value of this learning process and even find it enjoyable:

I feel much safer asking the questions rather than always being expected to know the answers. I enjoyed creating our own questions in a collaborative way because I was able to not only understand my learning process, but other perspectives and processes as well.

In addition to some occasional student resistance, another challenge an instructor might face when using the QFT is a perceived lack of efficiency. Before embarking on this particular QFT activity, I was concerned that the process might take too long for students to come away with what I considered to be the most important concepts. Student-centered approaches like the QFT can seem inefficient, particularly when an instructor is crunched for time. This QFT process, for example, took 1.5 class periods. In a similar amount of time, I could possibly “cover” significantly more information using a lecture format. However, “covering” material does not necessarily translate into students learning or being able to retrieve information or skills at some point in the future. The QFT favors student engagement and depth over coverage (see Alegant 2014). The benefit of this approach was not lost on our students, one of whom wrote the following in a post-activity reflection:

It would have been way “easier” to learn about the spectrogram if we had been given a lecture about it, but the process of learning about it in groups by asking as many questions as we could was so much more engaging and thought-provoking. Now, chances are much higher that I’ll actually remember stuff about the spectrogram, because I went through the process of thinking about it for myself.

In the end, using the QFT process to learn about the spectrogram and related concepts added 25 minutes of extra class time compared to the year before. For me, this extra half class was time well spent as surely the experience of asking their own questions about what was initially a puzzling video, prioritizing their questions, researching answers to their questions, and finally teaching their peers what they had learned, was a more memorable learning experience.

QFT in the Aural Skills classroom (Duker)

Although the QFT probably fits best in written theory courses, it is possible to bring the QFT into the Aural Skills classroom. For example, in Aural Skills II, I used the QFT to encourage students to consider how much attention they pay to the sounds and music that they hear (see Example 12).

Context:	Aural Skills II (1st year), fully online, week 9
Class and group characteristics:	60 students total (3 sections), groups of 3–5
Total questions produced:	592
Logistics:	Steps 1–4 in class, asynchronous discussion on LMS with prioritized questions, post activity reflection as a quiz

QFocus:

"I have been training myself to listen with a very simple meditation since 1953 when my mother gave me a tape recorder for my twenty-first birthday. The tape recorder had just become available on the home market and was not so ubiquitous as it is today. I immediately began to record from my apartment window whatever was happening. I noticed that the microphone was picking up sounds that I had not heard while the recording was in progress. I said to myself then and there:

'Listen to everything all the time and remind yourself when you are not listening.'

I have been practicing this meditation ever since with more or less success. I still get the reminders after forty-six years. My listening continues to evolve as a lifelong practice."

- Pauline Oliveros

Example 12

Case study #5—quick facts.

Going through the QFT process during class was quite a switch from the typical Aural Skills meeting which is mostly focused on skill-based drills and discussion of listening strategies. As one can see from the total number of questions produced, there were a few groups that embraced the idea of healthy competition to produce the most questions (one group came up with 83 questions in a little over 15 minutes). Many students also enjoyed the asynchronous discussion about the questions and enjoyed thinking about how their listening habits differed in the many different contexts they experienced in a normal day. Reading through the reflections gives the impression that, while some students were rushed, quite a few others had epiphanies and were exploring ways to expand and be more conscious of their listening habits.

In full disclosure, the overall effect of the QFT with this class was not as successful as I would have hoped; quite a few students did not understand the point of the activity while we were doing it, and others saw it as an inefficient use of class

time once they heard from me and their peers why we were doing this. I think that I could have set up the activity better (especially given this was with first-year students in a fully online environment), and this course in particular could have benefitted from a class reflection discussion instead of asynchronous work after the activity. Nonetheless, it allowed the students to consider and reflect on their own listening habits and consider how they could focus more on the act of listening. Bringing this activity into the beginning of the semester and allowing a small amount of time for in-class discussion could have provided a better experience with this group, and these changes are worth exploring in the future.

Teacher preparation

When preparing to use the QFT in a theory class, there are a number of logistical aspects for an instructor to consider.

Group formation

A full study of group formation—the myriad approaches to creating and dividing up students into teams—is beyond the scope of this article, but in general it is advisable to have heterogeneous groups so that students are exposed to different ideas and perspectives (for more on group work, see Chi 2009; and Michaelsen, Knight, and Fink 2004.) When creating different groups, one can consider gender, age, ethnicity, native language, major, academic record, and personality type. In music classrooms, prioritizing heterogeneity could also include grouping across vocal and instrumental specialties; you can pair singers with instrumentalists, string players with brass players and other such combinations. Another potential structure to put in place is to designate roles (such as scribe or rule reminder); these roles could be rotated within a single session or over multiple class meetings.

How to record group questions

An instructor can adjust the mechanics of how groups record and share their questions to fit the course format. When we initially experimented with the QFT, we did so in a face-to-face classroom in which students could write questions on large posters on the wall (as in the “Nacht” example mentioned above). This layout for question recording was particularly effective for creating synergy and dialogue within each group; students listened and responded to each other with one person acting as the scribe to record questions on a single document. The act of attentive listening opened up entirely new lines of questioning. When the question formulation period was complete,

we held a gallery walk around the classroom so students could view the questions of the other groups. During the gallery walk, the act of physically moving around the classroom to view the posters created a sense of traveling to unique thought spaces.

An alternative method is for students to record their questions in a shared document (such as a Google Doc). In a virtual classroom, using a shared electronic document is much more feasible than the posters distributed around a gallery, but a shared electronic document can also be used in a face-to-face setting. One potential drawback is that, depending on how the groups are interacting, students can enter their questions simultaneously without any awareness of their peers' questions. Designating one student as the scribe can help mitigate this. Writing questions on an electronic document does allow for easy sharing with other groups and, furthermore, the shared document can easily be accessed any time after the class period for future work.

Using questions to drive learning while balancing class time considerations

An important question to consider is how an instructor will use the student questions developed through the QFT process. A related question is the availability and balance of in-class and out-of-class time. As we have shown above, one can take a number of different approaches to using the questions that do not need more in-class time. For instance, these questions can be used for individual homework assignments, small group projects, or asynchronous discussions. Another option, discussed with the Spectrogram QFT, is to have groups research the answers to their prioritized questions and then give short presentations to the rest of the class, either in- or out-of-class). Yet another alternative is to bring some of those questions into the classroom for deeper exploration of a piece or an idea. Using the questions to drive in-class activities both increases student ownership of the material and models a process that students can use with their own repertoire. The music-theoretical "answers" that an instructor provides would tie into authentic questions that the students have already considered. By selecting those questions that best align with the learning outcomes of a unit, instructors can be responsive to the students while simultaneously meeting course objectives. Other questions that are outside the scope of a unit could be used as extra-credit opportunities for either groups or individuals, or they could be saved for later units where they would be more relevant.

Student assessment

The work submitted at the end of the QFT process (e.g., the presentation or group

report) can often be graded the way that an instructor would approach any other individual or group project; similarly, student reflections (see below) can be graded as another assignment. In considering the initial four steps of the process, we have found that a low-stakes approach is often best so that students can freely discuss and explore ideas, rather than try to guess what will earn them more points and better grades. When we have done this activity, student participation is rarely a problem; in fact, classwork that is detached from grading concerns is often refreshing for students. If a group member seems disengaged, we have found that going over to the group, listening for a few moments, and then asking the disengaged member, “What do you think?” or a similar question is often enough to pull them back into the process. That said, if an instructor has had participation problems, they could certainly consider some mechanism of credit to incentivize good group work.

If there is a significant group project or component on either of the last two steps of the QFT (answering the questions and reflecting on the activity), it is beneficial to ask students to provide some feedback on how they and the other members of their group performed. A set of guiding questions can help structure the feedback and encourage students to consider the different roles and aspects of how the members of the group worked together. This peer feedback is also useful in talking with a group member who needs to improve their collaborative and groupwork skills—skills considered essential for almost all musicians.

Guiding students to reflect

An important final step of the QFT is for students to reflect on the process. It is worthwhile to take some class time for a final discussion to examine the QFT process and summarize the main learning goals. This gives students the opportunity to consider the role that questions played in acquiring knowledge and also to review and solidify the main learning goals of the unit. Metacognition, or thinking about thinking, is a practice that helps students understand their own process of learning as well as transfer skills and knowledge to new contexts (see Ferenc 2016, 2017). For each QFT reflection session, we include the following two question types: one aimed at students verbalizing what they learned with regard to content and another aimed at their thinking about their own learning process. The first question was typically a variation of: “What ideas, skills, or tools did you learn that relate to the course content?” For the second question, we pulled from the list of questions in Example 13 that ask students to think about the QFT process, the role of questions, and how they learn.

Why is learning to ask your own questions important for learning?

Describe your learning process.

Did this process change how you feel about asking questions? Please explain.

Did you enjoy this learning process more than other learning experiences? Please explain.

Describe some of the differences in your experience of learning with the QFT as compared with more traditional classroom learning activities.

How could the process of asking questions relate to your other musical activities?

How does asking questions about a piece of music deepen your understanding/appreciation of that piece?

After going through the question formulation process, what questions do you have about some of the other music you are performing or listening to?

How would asking questions about music you are performing change your learning process?

Example 13.

Sample post-activity reflection questions

Wrestling with these kinds of reflection activities helps our students develop awareness of themselves as learners. This reflection period can also be an opportunity to encourage transfer of ideas as students discuss other contexts where questions could be useful for learning. A follow-up assignment could encourage them to think of how they might apply this technique of questioning in other situations or even go through this process on their own—perhaps prompted by a jury piece or some large ensemble repertoire and then finishing with a written summary of their experience.

Conclusion

As we have shown, the Question Formulation Technique can be a valuable pedagogical tool in the music theory classroom. It encourages our students to develop their ability to ask questions and then transform those questions to focus on what interests them. Along the way, the QFT helps our students develop both agency and confidence in finding ways to explore music on their own. It gives them tools to follow their inclinations and curiosity wherever it may lead them, expanding the scope of topics and repertoire normally found in theory courses. At the same time, students will often pose questions that can be used to meet the previously established learning goals of a course, letting a teacher weave together their own objectives with student interests. The QFT generates a flexible space for creative assignments and differentiated learning, allowing each student to be challenged at an appropriate level.

Integrating the QFT throughout the theory sequence can reinforce a habit of questioning, which is among the many other skills that we want our students to develop. In describing an ideal music theory curriculum, Justin London emphasizes that “it should respect and engage the student’s intellect—it should encourage our students’ *curiosity* about the music they hear and play” (London 2020, 427, see also Duker 2020). The QFT is one approach to developing this curiosity and teaching our students how to harness the power of questioning to explore music they care about. Furthermore, learning how to ask meaningful questions is a skill that will serve students well beyond the end of a theory curriculum and indeed their undergraduate years. This skill can validate the curiosity that is often otherwise diminished through traditional educational practices. One of our students summarized this nicely:

Asking questions and developing questions is vastly important to the creative process and the process of learning. When you ask questions you seek to fill or expand parts of your knowledge and your greater understanding of the world and the connections you have in your life to everything happening around you. Developing questions allows you to discover more about yourself, your values, and your place in the world. I think that questioning and curiosity are essential to determine who you are and the role you have in the world.

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