Spring 5-2022

Teaching Music Theory Through COVID-19

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TEACHING MUSIC THEORY THROUGH COVID-19

by

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A THESIS

Presented to the Faculty of

The Graduate College at the University of Nebraska

In Partial Fulfillment of Requirements

For the Degree of Master of Music

Major: Music

Under the Supervision of Professor Stanley V. Kleppinger

Lincoln, Nebraska

May, 2022

Teaching Music Theory Through COVID-19

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University of Nebraska, 2022

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This thesis surveyed music theory instructors throughout the United States. Throughout the interviews, instructors shared their insight during COVID-19 as a college instructor. This thesis seeks to describe and inform college instructors of the changes made to the undergraduate curriculum and classroom during the COVID-19 pandemic; as a result, instructors found and created new ways to engage students in a classroom through an online format. While creating an online music theory course is challenging, instructors share their experiences navigating this temporary shift beginning in March 2020. A suggestion of implementing more technology into the music theory core could create a higher rate of academic retention and increase student outcomes. Finally, this thesis describes the avenues for online music theory programs and their benefits in a four-semester cycle.

ACKNOWLEDGEMENTS

To Dr. Kleppinger and Dr. Foley: I owe a significant amount of success in this degree program to you. You are both brilliant and I am inspired by the dedication you bring to the classroom. Thank you for making me a better teacher.

To Dr. Woody: Thank you for serving on my committee and providing me with a different perspective on music education.

To Isabel and Sydney: I am grateful to have you as a sound board when doing lesson plans or an analysis. Thank you for inspiring me about this thesis, and for providing helpful opinions.

To my family and friends: Thank you for your patience throughout my entire masters. Thank you for the constant encouragement. I love you all endlessly.

To Caleb: Thank you for always being there for me through the ups and the downs. Your support has always meant the most to me. I love you.

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CHAPTER 1:

INTRODUCTION

In March 2020, a virus called Coronavirus-19 (COVID-19) entered the United States that later became a global pandemic. Due to the level of infection from the virus, academic institutions throughout the country—from elementary schools to universities—were forced to shift to online instruction with little warning. For some institutions, the transition was predicted to last two weeks long, but instead lasted throughout the rest of the term, and in some cases, online instruction led into the next school year.[1]

In March 2020, instructors and students at a wide range of universities received an extra week of spring break so instructors could move their in-class curriculum to an online format. This thesis reports and synthesizes the results of a survey of college instructors of undergraduate music theory instruction from throughout the country. This survey sought to highlight the environment in which COVID-19 changed and how instructors handled the situation. Instructors shared their struggles through the transition and how they tackled aspects of the classroom environment, technology, assessment, and curriculum.

This survey is important not only for those teaching music theory, but all music educators. The time of the COVID-19 pandemic was unique to music education due to the spontaneity of the situation. No other pandemic, in the history of the United States, has affected the way that schools taught curriculum.

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1. University of South Dakota, "Effective March 23, the University of South Dakota will transition to online delivery for all course for two weeks", Facebook, March 16, 2020.

For the past two years, I have watched undergraduates struggle in sections of music theory due to the lack support in the classroom from the pandemic that was not present before. This support could range from in-classroom environment to instructor accommodation and availability. From personal experience and my observations as a graduate teaching assistant and student, it became alarming at the amount of content lost due to the pandemic—especially at the end of the 2020 school year. As a result, students seemed to not have a clear gasp on content that was taught the semester prior in a four-semester cycle.

Method

Out of 67 instructors contacted via e-mail, 20 responded to the survey (included as appendix B). Each state had one instructor chosen from either a state university or conservatory. Out of the 20 that responded, the instructors represent a variety of geographical backgrounds and had taught at least one music theory class prior to the pandemic. In addition to the survey, I conducted follow-up interviews with seven participants to further explore diverse instructors' perspective on teaching during the pandemic. The follow up interviews asked instructors to describe more about their responses to the survey.

The following list includes teachers represented in this text, whether through an online interview or survey:

Instructors and Graduate Assistants Interviewed:

Martin Blessinger—Texas Christian University, Associate Professor of Music Theory and Composition

Tom Cody—Penn State University, Associate Professor of Music Theory

Nancy Rogers—Florida State University, Professor of Music Theory

Zachary Cooper—Montana State University, Associate Professor of Horn and Music Theory

Jennifer Snodgrass—Appalachian State University, Professor of Music Theory

Catherine Martinez—The University of Nebraska-Lincoln, Doctoral Candidate, Graduate Teaching Assistant

Tanya Honerman—The University of Kansas, Doctoral Candidate, Graduate Teaching Assistant

The information in this thesis is based off of the survey and the interviews held via teleconferencing software. Based on the results of the survey and interviews, these instructors gave specific and unique insight into their classrooms during the pandemic that agreed with conversations between instructors via social media.

In Chapter 2 I will walk through the foundations of a music theory classroom in the twentieth century to show where theory classrooms were prior to the pandemic. This will include information about class sizes, exams, specific content discussed, instructor interaction, assessments, policies and technology. The content is based on the main survey for this thesis, pedagogical articles and studies, and pedagogical texts.

Then, Chapter 3 will explore the time period of March to May 2020, which I refer to as the transition period. This time period will explain how instructors handled the transition to online classes, how assessment and delivery of content changed, and technology. After discussing the transition in Chapter 3, I will talk in Chapter 4 about the school year following the transition. This school year brought its own unique challenges when compared to the transition. As we will find out later, some institutions did not move back to in-person instruction immediately. There were some institutions that remained either partially online and in-person or completely online.

The final chapter will synthesize what instructors say they learned throughout the entire journey of COVID-19.. Many faculty in the survey reflected on ways that they had previously been teaching and what should be changed. Although not all instructors changed curriculum, many did change the way that their classroom operated. The chapter concludes with consideration of interview instructors' perspectives on pedagogical insights gained from the unique circumstances of the pandemic alongside a broader synthesis of the wisdom represented in the collective survey responses.

Technology featured prominently in theory instructors' curricular responses throughout the pandemic, and it is helpful to understand the programs that figured into those efforts. Appendix A contains a list of programs that instructors deemed exceptional in their survey responses. Some of the programs are specifically for music theory classrooms—such as Harmonia and Auralia—but other programs have basic functions for all content—such as movie-making software.

COVID-19 has affected the education at all ages, but at this writing it has not been the subject of much academic research. My hope for this thesis is to gather data on

how academic institutions have handled the situation and made a positive and safe learning environment. This thesis thus improves my understanding of the music theory curriculum in higher education and provides positive examples for teachers that could benefit other the survey results. My hope is to also provide ideas for improving pedagogy that were learned during the pandemic.

CHAPTER 2:

MUSIC THEORY CLASSROOMS PRE-COVID-19

This chapter will explore music theory classrooms in the aspects of curricula, attendance and participation polies, assessments, instructor interaction with students, and technological aids to pedagogy. All of these aspects contribute to the classroom environment set forth by the teacher and received by the students. It is crucial to note how important classroom environment is to the development of a student's education.

This chapter explores empirical studies on classroom curricula, classroom demographics, assessments, and attendance policies. Most of the instructors from this survey mentioned that they were in a routine with their teaching. Most instructors had at least five years of teaching music theory. All instructors in the survey said they taught first-year music theory and aural skills, while others also taught second-year students and upper-level theory courses.[2] From the survey, the instructors are ranging from over twenty years of experience.

Music Theory Curricula

Based on the National Association for Schools of Music (NASM) handbook, music theory courses are to meet specific criteria. Based on the 2020-21 handbook, all students seeking to obtain a liberal arts degree in music are to understand the common elements and organizational patterns of music and their interaction, the ability to employ

2. An example of upper-level theory courses includes form and analysis, counterpoint, and post-tonal music theory.

this understanding in aural, verbal, and visual analyses, and the ability to take aural dictation.[3] Furthermore, students will receive a sufficient understanding of and capability with musical forms, processes, and structures to use this knowledge and skill in compositional, performance, analytical, scholarly, and pedagogical applications according to the requisites of their specialization.[4] Students are required to obtain the ability to place music in historical, cultural, and stylistic contexts to use within music theory.

Accredited institutions must comply with these NASM standards, —though— there is no specificity as to the courses or content a university is required to offer. All instructors in the survey said they taught first-year music theory and aural skills, while others also taught second-year students and upper-level theory courses.[5] Most curricula appear under the auspices of courses labeled "musicianship," "music theory I-IV," "fundamentals of music," and others.

Based on Jennifer Snodgrass's study of written music theory curricula via her own survey of 259 participants, the most common written theory topics are Roman numeral analysis, seventh chords, part-writing, triads, modulations, intervals, secondary functions, scales, key signatures, and chromatics.

Snodgrass's findings, which are consistent with those of this thesis, are shown in figure 1.

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3. National Association for Schools of Music, *National Association of Schools of Music Handbook 2021-2022* (2021), 103.
4. Ibid., 103.
5. An example of upper-level theory courses includes form and analysis, counterpoint, and post-tonal music theory.

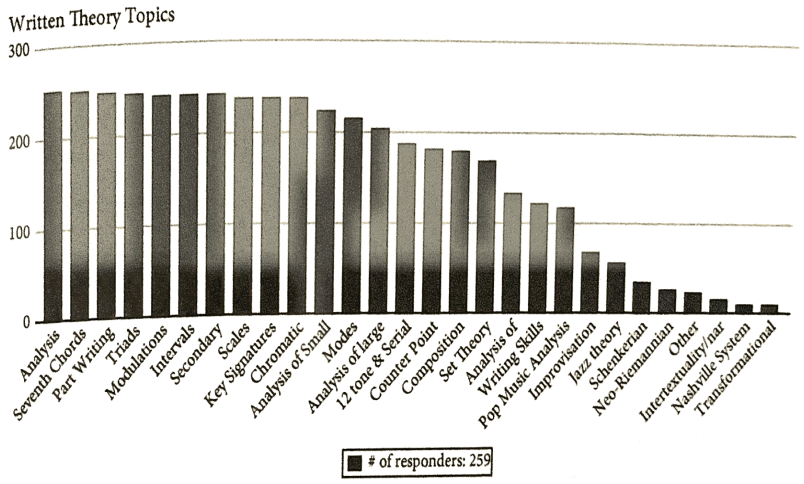

Figure 1. Most common topics in written music theory curricula.[6]

A similar survey by Richard B. Nelson in 2000 showed that 201 institutions require at least two years of written music theory, and 178 require at least two years of aural skills and sight-singing.[7] Of these 201 institutions, 147 required first-year students to take a placement exam. The written placement exam would include fundamentals, Roman numeral analysis, part-writing, and counterpoint. The aural skills placement exam included identification of intervals and triads (with a few schools testing seventh chord types), and melodic, harmonic, and rhythmic dictation.[8]

Several of the instructors I interviewed mentioned that their curricula are challenging, even for first-year students. From the survey most schools interviewed ranged from fundamentals through twentieth-century techniques. Some schools focused

6. Jennifer Snodgrass, *Teaching Music Theory: New Voices and Approaches.* (New York: Oxford University Press, 2020), 27.
7. Richard B. Nelson, "The College Music Society Music Theory Undergraduate Core Curriculum Survery-2000," *College Music Symposium* 42 (2002): 60-75.
8. Ibid., 67.

on other areas of theory—such as form—depending on the department's needs. Schools only need to fulfill the requirements of NASM to be accredited.

Attendance Policies and Expectations

The faculty interviewed for this thesis reported a variety of attendance policies prior to the pandemic. As will become apparent in Chapter 3, some of these policies had to be reconsidered in light of the circumstances dictated by the spread of the virus.

Faculty interviewed for the present study shared a variety of attendance policies that were in place prior to the pandemic:

> Attendance is crucial to student success in this class. Any time students are unable to attend class for any reason, they should contact the instructor immediately as a courtesy. Students are responsible for all material covered during class, including absences, and to take the initiative in arranging to make up missed work in a timely fashion. As a general rule, if a problem with any grading opportunity comes up, contact the instructor ***immediately and in advance***—but read on. —Stanley Kleppinger, University of Nebraska-Lincoln[9]

> You may miss six (6) classes. The seventh absence results in course failure. There are exceptions. Please see the one-page document that details the policies. After three absences, each additional absence will lower your grade one notch. For example, if your final grade is a B+ and you have 5 absences—2 more than the permissible number, your grade will be a B-. —Steven Latiz, Julliard[10]

> Class begins promptly at 1:00 p.m., and punctuality and regular attendance is mandatory. Absences are either excused or unexcused. Excused absences will result in no penalty on your grade, but too many of them will adversely affect your progress and could prevent you from succeeding in class. Your first two unexcused absences will induce no penalty on your grade. Each unexcused absence will induce a 3.5% penalty on your total grade. — Paul Lombardi, The University of South Dakota

9. Jennifer Snodgrass, *Teaching Music Theory: New Voices and Approaches.* (New York: Oxford University Press, 2020), 80.
10. Ibid., 77.

> If a student were to miss two aural skills classes, unexcused, that will result in being dropped from the course. –Martin Blessinger, Texas Christian University[11]

In general, courses that required a stricter attendance policy in aural skills classes saw a greater improvement throughout the semester. Instructors believe that this is due to the consistent practice of skills. As shown above, part of Martin Blessinger's attendance policy required students to attend all classes; if two unexcused absences occurred the student would be dropped. Blessinger mentioned that this forced students to practice their aural skills by being present in class. Although the curriculum was demanding on students, instructors made it their mission to have the students learn the material with ease.

Intertwined with student attendance are the other expectations of students. Students were expected to read the material before class, complete homework, attend class—whether or not an attendance policy was in place—participate in discussions, and complete tests and quizzes. As will become apparent in Chapter 3, instructors reduced attendance policies due to online instruction.

Assignments and Assessments

According to NASM requirements, students engaging in music theory need to show sufficient understanding and capability with music form and structures to use this knowledge and skill in compositional, performance, and analytical applications.[12] In written theory, assignments might include Roman numeral analysis and part-writing, on

11 Blessinger. 2022.
12. NASM, *National Association for Schools of Music Handbook 2021-2022,* 103.

subjects such as counterpoint, form and analysis, and twentieth-century techniques. As mentioned above, NASM requires skill in compositional applications which could refer to an assignment using specific compositional techniques. On the other hand, other institutions complete this requirement through part-writing assignments using advanced techniques in tonal harmony.

At larger institutions, graduate teaching assistants (GTAs) often assess undergraduate assignments. Based on Nelson's survey, only 15% of the schools interviewed employed GTAs. Primarily, GTAs teach and grade for undergraduate courses. At Florida State University, Nancy Rogers mentions that there are seven sections of first-year music theory. Within those seven classes, others are taught by GTAs or other faculty. For assignments, a student receives a grade based on accuracy—not completion.[13] When students take an exam, all of the instructors would collaborate during the evaluative process to ensure there was no bias.

Other institutions, like the University of Nebraska-Lincoln, use online reading comprehension quizzes. Typically, a student would complete this assessment for a small portion of the grade before class time. These quizzes are typically open-book and untimed.[14]

Some aural skills programs—particularly at the first-year level—use software such as Auralia and SmartMusic to practice skills outside of class. Although the programs grade the submission, instructors manually grade them as well. Appendix A holds a complete selection of software collected from this thesis' surveys.

13. Rogers. 2022.
14. Martinez. 2022.

Another common assessment tool in aural skills is a face-to-face demonstration of specific skills known as audits, hearing, or appointments. These assessments might more preparation than week-to-week dictation and sight-singing assignments. Typical audit activities include sight-singing, singing of prepared melodies or other relevant material (intervals, chord arpeggiations, etc.), and in some curricula, keyboard exercises.

Prior to the pandemic, most tests and quizzes were administered in-person and on paper. Though some institutions used software for their tests for a quicker turnaround time. In Chapter 3, we will see how these trivial attributes about test will be handled differently once the pandemic hits.

Instructor Interaction

Student interaction with their peers and instructors is an essential part of the classroom culture. Instructors said there are able to utilize discussion-based classes, which helped improve the retention and understanding of a particular concept. A study by Fredson Soares dos Reis da Luz examines how a supportive relationship between teachers and students in the classroom can improve the learning process. da Luz concluded that 50% of students surveyed indicated their relationship with their teachers were good, while 38% said that their relationship was very good. da Luz's study surveyed students explained how the relationship with their teacher helped them improve their motivation and encouraged them to ask teachers for help and support. A student from Fredson's study stated: "the teachers try to create a safe environment where students feel free to interact and ask questions. Teachers must try to establish good conversation… not

just related to the teaching content, but also related to aspects outside the classroom which shows that they care about students' welfare."[15]

Later in Fredson's study, a student considers having a strong relationship with a teacher is key to success and that it is easier to communicate and interact. Although it is important to have insightful discussions inside of class, having the ability to talk to instructors about academia outside of class is just as important. Students who have a better relationship with their teachers tend to have better outcomes. Da Luz also demonstrates that teachers who connect with their students can also increase those students' intrinsic motivation to learn.[16]

Survey reposes reinforced the significance of face-to-face interactions in music theory pedagogy:

> Student interaction was good. We talked before class, during class, and after class. I would walk around the room as I taught and talk with students individually. I would sometimes sit in an empty seat in the room and talk from within the group. Students interacted with each other. —Tom Cody, Penn State University
>
> I'd say class participation was generally pretty good and students often seemed to be friends. —Nancy Rogers, Florida State University
>
> There was great deal of interaction between the students and me. Students interacted with each other on projects as well as teaching assignments. There were more composition projects with traditional analysis. —Jennifer Snodgrass, Appalachian State University
>
> Students would contact me more through my email instead of visiting office hours. More often students see us as a help line. I would use my Skype up for students to talk and ask questions. As for the classroom, I believe that I get particularly good participation. I am incredibly open to discussion. I am a very lively teacher. —Martin Blessinger, Texas Christian University

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15. Fredson Soares dos Reis da Luz "The Relationship between Teachers and Students in the Classroom: Communicative Language Teaching Approach and Cooperative Learning Strategy to Improve Learning" (master's thesis, Bridgewater State University, 2015), 34.
16. Ibid., 54.

> Students would come up to the board and write out harmony. Students would interact well with each other. —Zachary Cooper, The University of Montana

In Chapter 3, we will see how, because of the pandemic, face-to-face interaction was hindered. Although technology can help support the face-to-face connections with instructors and students, it can also complicate those interactions, as we shall see.

Technological Aids to Pedagogy

Technology in the has the potential to create a more engaged environment, incorporate different learning styles, and improve collaboration.[17] Technology makes it easier for students to collaborate, save, and share their work. Another benefit of technology is by the use of those who receive accommodations from student disabilities. Using technology in the classroom can help them by using recordings of class to improve their learning. Technology has also increased productivity and helped students to be more creative. Students are able to improve executive function with the use of learning management systems (LMSs) and the calendars they provide. Instructors also make use of LMSs to store and share content and to collect assignments.

As we shall see in Chapter 3, the status quo prior to 2020 was seriously challenged by the onset of the pandemic. Each of the elements of undergraduate theory programs explored in this chapter—curricula, attendance policies and expectations, in-person interaction and technology—underwent substantial transformations and re-

17. "Top Five Benefits of Technology in the Classroom," Education for Good, Walden University, accessed March 1, 2022, https://www.waldenu.edu/programs/education/resource/top-five-benefits-of-technology-in-the-classroom.

evaluations by the faculty I surveyed starting in spring 2020. Throughout the next chapter, instructors handled the unique problems and situations of an online classroom differently. In chapter 3, we will learn how the instructors coped with the transition—including the change of assessments, mode of teaching, and in-person interaction.

CHAPTER 3:

TRANSITION TO ONLINE COURSES MARCH 2020

In March 2020, the emergence of COVID-19 entered the United States. This launched a global pandemic. This airborne virus spready throughout the world in a matter of months. Due to high transmissibility, a large number of schools—elementary through post-secondary—cancelled classes for the week following spring break buying time for instructors to move classes to an online format on short notice.

This was undoubtedly a unique educational circumstance: a situation like that caused by the COVID-19 pandemic had never happened before. Instructors had to navigate various conversations with administration and then communicate with graduate teaching assistants and students as to how the remainder of the semester would proceed. Instructors also had to re-evaluate their curricular content in light of the abbreviated time available in the term.

This chapter documents affected instructors' pedagogical efforts during the crucial window in March 2020, the nature of their interactions with students, the technology they mounted and the curricular adjustments they made. By investigating the experiences and reactions of those music theory instructors who taught through this first wave of the pandemic, we can learn about the tools and techniques that were most beneficial during this trying time.

Instructor Reactions

Most university faculty were instructed to move courses online by their administration in mid-March 2020. At this time, some instructors realized that they had a week to create an online course based on their in-person classes for the reminder of the semester. At this point, universities had roughly nine weeks left of the semester. The extra week of spring break that it took to transform an in-person class to an online format was a week lost in the curriculum. At some institutions, like Texas Christian University, instructors were not allowed to assign homework during this transition week due to the influx of students who were moving back home.[18]

Some issues that instructors had to address when preparing for this new move of instruction included the decision to hold a given class asynchronously or synchronously.[19] Faculty interviewed for the present study shared their immediate reactions on the onset of this crisis:

> It was busy because I was thinking a lot about how to duplicate or substitute an online environment for an in-person environment. The university sent various emails to help provide resources for us as well as keeping us in touch with the teacher resource center. —Martin Blessinger, Texas Christian University

> I didn't know what to do at first. It seemed like there was a lot involved. There was not a lot of help. I felt closed off from everyone else and I just did what I thought I needed to do. I started figuring out what the minimum was and went from there. That was setting up class meetings online. There is still a lot of learning for me as I went along. –Tom Cody, Penn State University

> When we were told to move to an online format, I think it took me by surprise. I created video lectures. I used my phone to create a homemade dock camera on a soup can to look down at staff paper to record for class. A lot of students fell "off the planet" from my class. —Zachary Cooper, The University of Montana

18. Blessinger. 2022.
19. An asynchronous class is when the class does *not* meet at any given time, while synchronous classes meet for interaction between instructor or students, whether in-person or via teleconference.

> We got lucky that all our resources were handout and extras that we would put up on Blackboard for the students, but it was a stressful time. My supervisor created all the videos to be uploaded as lectures. —Tanya Honerman, University of Kansas

> When the COVID-19 pandemic happened, I had no idea how to accomplish teaching online—asynchronously—effectively, because my entire online teaching identity was centered on avoiding it. —Greg McCandless, Appalachian State University

> I had to figure out how we could convey the same information and maintain reasonable standards, plus I didn't want to create a whole new sort of problem with unfamiliar technology. —Nancy Rogers, Florida State University

> My personality is very, okay let's go. I read quickly about other programs to help in the classroom. My biggest concern at that time was aural skills. It is easy to figure out online curriculum for written theory. For aural skills, it was difficult to find a way to continue that singing in a musical environment was very difficult because they can't all sing together. I was then told that all of the classes had to be asynchronous. —Jennifer Snodgrass, Appalachian State University

A number of instructors reported that the first couple of weeks after the break were difficult. Some universities, like Florida State University, required instructors to hold asynchronous classes while others used synchronous classes with the option of recorded lectures. The reasoning was because of students in various time zones accessing the class at different times of the day. From the survey, the instructors found or created unique ways to share content. Even so, faculty found ways to lean on each other during this time to ensure the students were safe and comfortable.

Communication of Content

All of the faculty who participated in the survey said that they created video lectures for content and used an asynchronous format. Instructors reported that they

struggled to find ways to communicate content in a clear and concise manner. Although most of the instructors used video lectures for content, Cynthia Brame suggests [in a study on effective educational videos] keeping videos brief to make them more palatable to students. When necessary, she recommends splitting longer presentations into multiple videos that are six minutes or less.[20] The recommendation of splitting longer presentations into shorter segments was affirmed by Tanya Honerman, who reported that although video instruction is more accessible than written explanation of content, making sure that videos are shorter can increase retention and the likelihood that the student will engage in the video.[21]

For active learning, Brame advocates for integrating questions in videos to increase cognitive load and improve memory using a testing effect.[22] Creating videos for content due to online learning is an ideal step when introducing new concepts. Online assessment of material introduced in video lectures can encourage student engagement with those lectures. As mentioned in Chapter 2, some instructors use comprehension quizzes that supplemented readings; instructors still used these quizzes as an engagement tool in correspondence with video lectures.

In special cases, curricula coordinators had to determine on what content to include in the remaining weeks. This was difficult for Kleppinger as he decided to remove certain aspects of the theory (and aural skills) IV curriculum. “Given the choice between re-creating every element of my remaining curricula in a remote medium with

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20. Cynthia J. Brame, Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content,” *CBE Life Science Education* 15, no. 4, (Winter, 2016): 3.
21. Honerman. 2022.
22. Cynthia J. Brame, Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content,” *CBE Life Science Education* 15, no. 4, (Winter, 2016): 5.

zero warning, or hitting the high points and getting my classes across the finish line… I have to choose the latter."[23] For Kleppinger, that meant students may not explore minimalism, the final topic of that course.

Assessments

Before the pandemic, students would regularly submit homework on paper or through their LMS systems for instructors to grade. Students and instructors who were already accustomed to the exchanging assignments electronically had less of an adjustment to make at the start of the pandemic than those who dealt with assignments on paper—submitting and returning hard copies is obviously more difficult when the class does not meet in-person.

Being able to upload homework is only part of the problem. Instructors noticed an increase in time needed to grade assignments that were electronically submitted. One factor that slowed assessment is the tendency for electronic interfaces to force a grader to evaluate the entirety of a single student's assignment before moving on to the next student's work. Grading a stack of student work on paper allows for assessing, for instance, all students' efforts on the first exercise of an assignment consecutively before moving on to the next exercise. Experienced theory teachers know that this process can be far more efficient than shifting gears among multiple exercises when evaluating a multi-part assignment, but this approach to the grading workflow is all but unavailable in most electronic contexts (LMS systems, email submissions, etc.).

23. Stanley Kleppinger, "Teaching in the Coronasemester." *Bridging the Music Theory Gap.* April 22, 2020.

Besides homework assignments, instructors have been using in-class assessments for generations. With the lack of a classroom environment, it can be difficult to assess students—even more difficult when the classes are asynchronous. The main forms of assessment used in classrooms are summative, interim, and formative. Figure 1 shows the three-tier relationship of how each assessment related to one another. Formative assessment is the base of all assessment needed build a level of mastery towards a subject. Daily assessment is just as important as a final exam. For asynchronous learning, formative assessment went away, leaving instructors without any feedback on the mastery of the content.

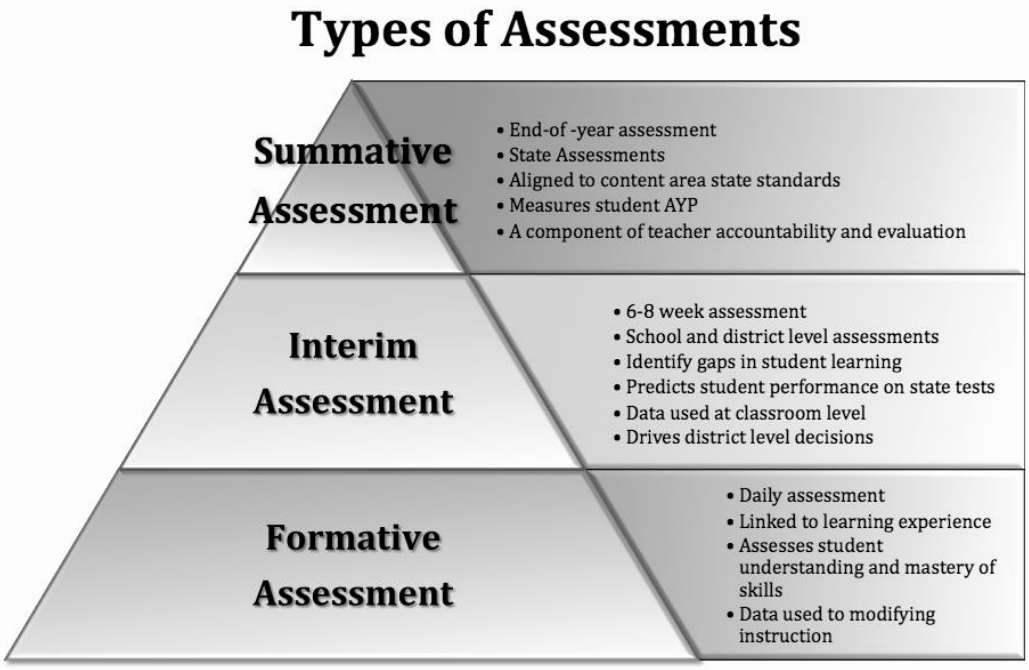

Figure 1: Types of Assessment[24]

24. Jordan Taylor, "Using Homework as a Formative Assessment (Part 2)." *Edulastic.* July 30, 2014.

With the lack of a daily classroom environment because of online learning, COVID-19 hindered instructors' ability to use formative assessment. Formative assessment is more difficult—in an online format than others—and creative solutions were needed to make an accurate assessment. Jennifer Snodgrass used Google Forms to create online responses to video lectures. Although only nine weeks were left in the semester, that only left a summative assessment—the final exam.

Chapter 2 mentioned the use of aural skills audits in which a student would sight-singing, singing of prepared melodies or other relevant material (intervals, chord arpeggiations, etc.), and in some curricula, perform keyboard exercises. When the pandemic required schools to move to an online format, in-person audits were precluded. Synchronous, online audits were possible but problems that arose during these assessments included Wi-Fi connectivity, issues of privacy and distractions (as the student was often performing in a shared living space), and lack of materials. At the University of Nebraska-Lincoln, audit material included keyboard exercises. Cat Martinez expressed that this was a problem for students when living at home. "Not everyone had a keyboard with them at home or were able to find a place that had one."

Some schools, like Michigan State University, were fortunate enough to have a grant that provided keyboards to students—prior to the pandemic—for theory classes. Having access to these materials created a smoother transition in regard to aural skills audits.

Lesson Planning

Instructors found that it took significantly longer to plan lessons in the context of a global pandemic. Lesson planning would differ from instructor to instructor and depending on if their class was synchronous or asynchronous. Some instructors explained how they spent significantly more time lesson planning during the transition period than from prior to the pandemic. Most instructors mentioned that the increase of time for lesson planning was due to the added element of technology. For synchronous classes, instructors needed to prepare examples for aural skills by uploading documents to the LMS system prior to class.

Asynchronous classes also demonstrated need for additional planning time. Content would primarily be comprised of short videos to explain a topic with another video showing an analysis using the tools from the previous videos. However, there are other ways to demonstrate material in asynchronous classes such as discussions through online software, creating teaching demonstrations, and writing assignments. Honerman said that —at the University of Kansas, —the coordinating instructor took over the job of creating the content for the course.

When teaching written music theory prior to the pandemic, instructors prepared the score of the pieces they were to cover in a particular lesson. The process of recreating and uploading a fresh score online can be challenging; especially if the instructor is not sure whether the student has access to the material when at home.

Access to printed materials was an issue in Martin Blessinger's courses. Since students were encouraged to stay home during the transition week—and the rest of the

semester—students left their textbooks in their rooms, unable to have access to material. Therefore, Blessinger had to locate and publish the scores that were to be discussed in class.

Technology and Resources Used

Instructors increased their use of technology throughout the transition. For instance, instructors started to use the eBook version of their text if they had not previously done so. These eBooks included assessments for each chapter where students could see their score and improve. As mentioned previously, some students did not have access to their books because of the sudden switch to online learning. Companies like W. W. Norton were more than accommodating according to instructors. They assured instructors and students that they would have access to the material without an additional charge.[25] Instructors also learned new software to create and deliver content including iMovie, Auralia, Harmonia, FlipGrid and others that are listed in appendix A.

Honerman expressed a unique approach offered by the University of Kansas. A summer course titled "GTA Flex and Online Teaching Modules," for instructors and graduate students provided an opportunity to learn about the pedagogical resources that the University of Kansas had to offer; as well as instruction in building an online course from scratch[26] Honerman describes this as one of the better opportunities provided by her institution throughout the pandemic. Through this course she was able to help her colleagues navigate an online classroom.

25. Cody. 2022.
26. Honerman. 2022.

Instructor Interaction

The COVID-19 pandemic all but ended in-person interactions between instructors and students for the remainder of spring 2020. Every instructor surveyed for this study reported a decrease in student attendance, student performance, and student communication.

Cody reached out to students regularly to make sure that they were okay. “I felt isolated from the world,” he said about the situation. Jennifer Snodgrass also reported feeling angst throughout the transition. She says that being with her students is one of the most important parts of her career and that she cares deeply about all of her students.

Although the interaction between students and instructors was diminished, Cat Martinez said that her coordinating instructors, Nathan Koch and Stanley Kleppinger, were exceptional at communicating content concerns and issues and ensured that they were all on the same page with regard to content. The communication between Martinez and her coordinators dissolved any confusion about the curriculum.

The period from March to May 2020 was a unique time in education due to the pandemic. Navigating an online course without experience can be difficult, but instructors rose to the challenge to help students. Instructors learned from the transition and implemented techniques and resources into the next school year.

Each of the elements of the transition during the pandemic explored in this chapter—instructor reactions, assessment and grading, lesson planning, communication, and technology—continued to go through re-evaluation into the following school year.

Instructors struggled to make connections with the students which might have resulted in some curricula deficiencies.

This chapter showed how COVID-19 not only was hard on students, but it was equally as hard on instructors. We explored through the instructors' reactions as well as communication and student interaction, technology used, and lesson planning. At the time of the school year, students were starting to learn content that would be reviewed the following school year. In some cases, instructors had to re-teach material taught in March 2020 rather than review material the following term.

Chapter 4 will delve the perspectives of instructors from the following school year. These perspectives will range from instructors teaching many different modes of instruction—in-person, online, and hybrid. Then, Chapter 5 will combine what instructors learned throughout the past two years while teaching through COVID-19 and the pedagogical lessons that might be beneficially adopted going forward.

CHAPTER 4:

THE 2020-2022 ACADEMIC YEARS

Although instructors had to navigate a difficult two months from March to May 2020, the next academic year brought new challenges. Based on how classes went from March to May 2020, they had a better idea of how to accommodate students, relay content, and create a positive learning environment. However, as COVID-19 cases continued to increase throughout the summer, colleges had to make difficult decisions in choosing instruction style for the following academic year. The safety of the students and staff was at the forefront of the administration's minds when making decisions.

Although some institutions went back to in-person instruction in the fall—with specific regulations—some were not as lucky. Institutions encountered social distancing of six-feet apart, a face-covering inside buildings, a certain number of students per classroom, and a thirty-minute wait time between classes to disperse air particles. This chapter will explore the experience of music theory instruction during the 2020-2021 academic year: modes of instruction used, class policies and student participation, the outcomes of a shortened term, the technology used, the impact of online instruction on music theory pedagogy, and pedagogical lessons learned through the pandemic that might be fruitfully carried forward.

Modes of Instruction

After the transition and into the following academic year, music theory courses were delivered via three main types of instruction—in-person, online, and hybrid. At

institutions, like Florida State University, the decision of mode instruction was primarily at the administration's discretion. Institutions considered the health matters of the faculty, students, and community.

In-person instruction, although the default, came with a set of regulations: six-foot social distancing and a facial covering were typical requirements. For some instructors, in-person classes created unique issues: student attendance, the interaction between students and instructors, managing quarantining students, and singing in classes. During the 2020-2021 academic year, the Center for Disease Control recommended a ten-day quarantine upon receiving a positive COVID-19 test. When positive cases were rising, instructors had to handle students in quarantine. Some instructors would set up a teleconferencing software link for the student to participate in a class or record the class. The interaction between students and instructors was also dwindling during this time. Instructors stated that they had a decrease in student communication as the term marched forward. In some classes, like aural skills—where singing is a crucial segment of the class—some instructors either had a small group singing or had the students upload videos weekly for participation credit.

In the 2020-2021 academic year, a common mode of instruction was online. Instructors were coming off of teaching online courses for the end of the previous academic year and possible online courses. This was an easier choice for some but still created difficulties: student attendance, student engagement, and student and instructor interaction. Depending on if the course was asynchronous or synchronous depended on if there was a lack of student attendance. Those instructors who taught synchronously expressed that they saw a decline in student attendance and engagement. When using

teleconferencing software, a user can choose to activate their camera or not. For some instructors, this was not a problem. Students would still have their cameras turned off and participate in class. However, some students would log in and possibly walk away from the screen. This became a struggle for professors who ran synchronous classes that relied heavily on class discussion. As for student and instructor interaction, this also declined. Students were no longer interacting with students in buildings or with their instructors. As discussed in Chapter 2, the interaction between students and their instructor is essential when creating a safe and engaging classroom.

As discussed in Chapter 2, online instruction can make formative assessment more difficult. Honerman found ways through A teleconferencing software to use formative assessment with her aural skills class. She would use the chat feature during aural skills to assess students on the mastery of a particular skill set.[27] Tanya expressed that using this in her classroom was beneficial for her and the students. Throughout this process, Tanya would be able to ask questions such as "I see many people are saying the solfege at measure X is XYZ," or "It seems as though measure X is confusing many of you. Let us break it down."[28]

Hybrid instruction has half of the class in-person on specific days while the rest attend through teleconferencing software such as Zoom. Hybrid instruction seemed to be used the least. This style of instruction is difficult to maintain—mainly if the instructor is not used to using a great deal of technology in their classroom. The survey revealed that the amount of technology needed to run a hybrid classroom was roughly double that of an

26. Honerman. 2022.
27. Honerman. 2022.

in-person class. Even as a projector and a laptop or table display content to students in the room, an external camera and microphone must also be engaged to provide access to students who are attending virtually. The technological skills required to negotiate all this hardware are substantial and doing so can be a distraction from the actual act of teaching the class. Despite the mode of instruction during the 2020-2021 academic year, respondents from the survey claimed there was a decrease in student averages in relation to previous years. Because of the instructor's observations, they acknowledged the decrease in averages as a possible effect of the lack of student interaction and attendance surrounding COVID-19.

Class Policies and Interaction

In a pandemic, the context of in-person instruction suggested to many the need for new attendance and participation policies. Instructors had to rethink these policies for various reasons: students in quarantine, the mode of instruction, and personal reasons. Throughout the transition period, instructors realized that they should approach students with compassion and grace. Snodgrass's attendance policy for the 2020-2021 academic year illustrates:

> "Attendance and class participation are expected but we also believe in the idea of humans first, students second. We know that life circumstances may keep you from attending class. In this time of a pandemic, you might be quarantined or find yourself not feeling up to par or you might need a day to talk to your family. We just ask that you keep in touch …I if you decide you won't be able to attend class. We are here to show compassion and grace."[29]

28. Snodgrass. 2022.

Other instructors elected to change their late-work policies due to what they experienced in March 2020. “I became much more lenient with due dates. Everyone was dealing with a lot of stress and uncertainty. Students were good about getting assignments turned in, but if a little more would help someone, then it was no problem to give them the time. I still expected high-quality work.”[30]

The technology made interaction with students in online and hybrid contexts more awkward and complex. Having group discussions—whether small or large—was difficult for some students. These discussions would require that the student who signed into the meeting was physically present. Some instructors struggled with class participation making it more difficult to hold meaningful and intellectual conversations. Other issues like Wi-Fi connectivity also occurred in classrooms. Privacy concerns made matters more difficult. Despite the value of face-to-face interaction over a teleconferencing software, such as student participation and interaction, concerns for students’ privacy as they were participating from their own living spaces led to the decision in many courses not to require students’ cameras to be activated during class meetings. As a result, instructors saw low attendance and participation from students.

A Compressed Term Schedule and Burnout

In the 2020-2021 academic year, some universities experienced a shortened or compressed term. One typical approach removed breaks throughout the schedule. Many institutions addressed this by, for example, completing the semester before Thanksgiving

29. Cody. 2022.

break was for transmission. Administrators realized that there would be a higher risk of transmission if students were to return quickly after the break.

Due to the lack of breaks in the term, instructors and students started to exhibit burnout. “Myself and my colleagues started to become overworked throughout the semester. The lack of breaks did not allow myself, my colleagues, or my students to have a time to reset before continuing on.”[31] Instructors and students did not get a break as they went to classes five days a week for fifteen weeks in a term. The much-needed fall breaks were crucial to recharge. The demands on the faculty and students created by the pedagogical circumstances created an overwhelming sensation. Some would use the break to catch up on grading or lesson planning that was falling behind. Technology helped with lesson planning and grading when using specific programs, yet instructors and graduate assistants felt overworked throughout the entire year. However, technology was also a factor in burnout. This added more stress for the instructors who were not as technologically inclined. In the spring 2021 term, some institutions like the University of Nebraska-Lincoln removed their spring break, condensing the semester.

In the 2021-2022 academic year, some universities resorted back to the original layout of the fall and spring terms. In fall of 2021, instructors started to see an increase in in-class participation and attendance. Most instructors interviewed stated that they will keep their attendance policies from the transition period. The reason instructors decided to keep the new attendance policies was due to the positive reaction instructors received. Participants argued that students were handing in greater quality of work due to the decrease in stress regarding a policy. Keeping the newer attendance policy created a

30. Martinez. 2022.

larger line of communication between their instructors on assignment due dates and questions.

Technology Explored

At the beginning of the 2020-2021 academic year, instructors tested new music theory programs to use as a tool for homework and content. Some instructors found new music theory programs that would grade homework for the students. The attractive part of these programs, other than freeing up time from grading, is that these programs also show the student what they got wrong with an explanation as to why. Before the pandemic, programs such as Auralia and Harmonia have been in music classrooms. However, there are programs like Auralia and Harmonia for aural skills, and new programs started to get attraction for written theory through the pandemic.

Snodgrass states that she used a great deal of technology in her classroom pre-pandemic and even more so now. Jennifer mentions that the technology is what helps administer crucial discussions about music outside of class. Programs such as Hypothesis and PlayPosit help create an engaging environment. Snodgrass used Hypothesis when discussing articles in her upper-level theory courses. Hypothesis allowed students to interact with the same article and discuss main points through one software. She also used PlayPosit on videos in her aural skills and written theory classes. PlayPosit allows the instructor to create small quizzes in the posted video for the student to answer. Snodgrass would use PlayPosit to ask questions about phrase structure or solfege syllables in an aural skills setting. As for written theory context, she would ask questions about the form or specific techniques.

Although instructors have recommendations for what software or program to use in other classes, it is ultimately up to the instructor. Appendix A lists all of the programs mentioned during the interview process and their benefits. Throughout difficult experiences, instructors learned and grew with their students. It is beneficial to realize that not all technology can benefit the classroom. Rogers expressed that Artusi felt inadequate for her classrooms needs. It was stated that relying on software to do the grading and assessments of students takes that insight away from the instructor. Programs like InQuizitive show exactly what area a student is struggling in, yet they cannot pinpoint the missed problem or step.

In this chapter, we discussed how different modes of teaching affected student attendance, student interaction with instructors and their peers, the technology used, and burnout from instructors and students. Chapter 5 will provide a synthesis of the pedagogical journey experienced by music theory instructors during the pandemic. By reflecting upon this challenging time, it may be possible to gain new pedagogical strategies that can be beneficial and will pay dividends to future pedagogues. Instructors reflect upon their teaching styles, attendance policies, interaction with students, new ways of assessing students, and the impact COVID-19 had on their teaching careers.

CHAPTER 5:

WHAT INSTRUCTORS LEARNED THROUGH THE COVID-19 PANDEMIC

This chapter will look at what instructors have learned throughout the COVID-19 pandemic and how that has changed how they teach or interact with students. The instructors' responses, collected in this study's survey and follow-up interviews, focus on student interaction, assignments and assessments, and technology and conclude with a broad overview of what instructors, GTAs, and students have learned.

Classroom Environment

The pandemic experience tended to underscore the pedagogical value of active student participation in music theory courses by making it scarcer and more difficult to facilitate. Nancy Rogers, a music theorist at Florida State University, emphasized this: "Having people together is really important in beginning classes. Although it's less crucial for more advanced classes, it's still very difficult to have a good discussion when people aren't in the same room." It was difficult for students to communicate asynchronously or even synchronously due to the lack of a classroom environment.

Students were able to meet simultaneously with their peers for synchronous classes, which is helpful when going through unforeseen circumstances, yet they lacked communication due to technology and lack of motivation. Technology became a problem due to students not having access at home. As for motivation, instructors saw a decrease in participation and attendance in the transition—and in some cases—into the 2020-2021 academic year. Instructors mentioned that they tried to contact students, yet some were

unsuccessful. Kleppinger expresses this: "I'm also going to be less adept to catch students who might fall between the cracks. This is the thing I'm most upset about…but that's the crummy world we're living in for the moment."[32]

However, asynchronous classes endured more problems with communication. Without the consistency of attending class, instructor-to-student conversations seldom happen. There are moments expressed by the instructors of this survey that students continuously reached out to instructors for either help or clarification; between students and instructors, the level of expectation might not have been clearly stated. In addition to e-mail communication between students and instructors, the level of expectation might not have been clearly stated. Instructors then learned how to relay information, such as expectations, to the students.

During the pandemic, instructors put much thought and effort into negotiating the problem of encouraging students' greater participation in their own educational experiences. One creative solution—that manifested in several ways—was to change the dynamic around assessments.

Assignments and Assessments

Instructors like Tom Cody and Zachary Cooper have decided to take a different approach with their assessments since the pandemic. Cody says that he "learned how to structure assignments to make better use of the students' time (which is already stretched very thin)—this is something that I am still working on. I feel like I have a better understanding of what students deal with in college, and it has pushed me to rethink what

[32] Stanley Kleppinger, "Teaching in the Coronasemester," *Bridging the Music Theory Gap.* April 22, 2020.

I do, what they need from me, and what they need from a theory course in the twenty-first century." Cody's revelation seems to reflect an important reality for undergraduate students: they often negotiate credit-hour overloads and other ensemble and course requirements for which no credit hours are awarded. Additional responsibilities outside of their role as students—including working to fund that education—make students' time and energy precious. The pandemic seems to have bred a new awareness of this problem among college instructors.

Cooper changed assignments from grading for accuracy to grading for completion: he no longer penalizes students for incorrect responses to prompts. Instead, he gives credit based on the percentage of homework completed and the level of effort. By doing this, he found an increase in student retention. He found that students were less stressed about turning in homework for accuracy and that students took the time to understand the material through trial and error. He eventually continued using this method as he saw the significant impact on the students. Cooper states that he is constantly asking questions and looking for ways to see what benefits the student and their learning: "Looking at what am I grading, how am I grading, and what am I expecting of the students was important. Learning how to balance all of that was difficult. Students these days have a lot more anxiety. Being a friendly face to my students was important." An NIH-sponsored study on anxiety in university students during COVID-19 confirmed Cooper's perspective by showing that there is an importance of implementing

strategies for prevention, intervention, and diagnosis of university students, who were deemed a vulnerable group.[33]

Cooper also began integrating a piece of software into his pedagogy, InQuizitive, that students could use to repeatedly practice their skills—Roman numeral analysis, fundamentals, voice leading, etc.—with no time limit. Cooper used InQuizitive for both assessment and practice and expresses that he will continue to use it in the future.

Technology

Using technology is an easy way to mitigate the anxiety of grading and improve the classroom environment from the college setting due to COVID-19. Technology can help with grading, increase and improve classroom discussions, and assess students' critical thinking skills.

Software like Harmonia and Artusi can grade assignments and show students how to improve. Jennifer Snodgrass uses various programs to increase conversation and keep students engaged. Snodgrass uses the software Padlet to enhance conversation inside and outside of the classroom. Padlet is a digital notice board that carries features such as images, links, videos, and documents. These notice boards can be made public or private, and students are also allowed to write on the notice boards, not just instructors. Snodgrass also utilizes websites like Google Forms for assessment. She would use Google Forms for quizzes or short response assignments.

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32. Shefali Liyange, Kiran Saquib, Amber Fozia Khan, Tijhiana Rose Thobani, Wang-Choi Tang, Cameron B. Chiarot, Bara' Abdaallah AlShurman, Zahid Ahmad Butt, "Prevalence of Anxiety in University Students during the COVID-19 Pandemic: A Systematic Review," *International Journal of Environmental Research and Public Health* 19, no. 1 (2022): 1-13.

Some technologies help with grading to ease the work of a GTA or instructor, though they have drawbacks. Martin Blessinger of Texas Christian University said,

> "One thing is that technology is always in service of the pedagogy. So, everything we use is technology. Sometimes we can get caught up in new technology as it is always better and it can be as long as it is in service of the pedagogy. New technology doesn't mean new pedagogy. We learn so many things that way and I hope that we can learn what is new and good for the pedagogy."

Blessinger is talking about technology by remembering that it is not an end-all-be-all. Technology can aid in curriculum, but it can also hinder student improvement. On the other side, some programs are not the best for the student or the instructor, and these need to be considered when creating or updating a course.

As universities became laxer on COVID-19 restrictions, students could return to in-person classes. Various instructors are using technology in ways that they never perceived possible. Instructors are continuing to use their LMS system more often, Artusi[34], online quizzes in either the form of Artusi, e-book, or Google Forms,[35] and the use of an iPad or dock camera.[36]

Overview

Throughout this study, instructors commented on aspects of teaching that they overlooked in previous years that they learned from the COVID-19 pandemic: compassion for students, student availability, different styles of assessment, and if technology have a positive impact in the classroom. Every response from participants

34. Cody. 2022
35. Cody, Cooper, Rogers, Snodgrass. 2022.
36. Blessinger, Honerman, Rogers. 2022.

exhibited—on some level—a stronger realization of compassion and teaching. Although the instructors had explained that they were compassionate to their students prior to the pandemic, they realized the degree to which compassion can improve communication between instructors and students and increase the willingness to learn in difficult times.

As discussed previously, the availability of a music student is already stretched thin. Although some professors realized this prior to the pandemic, some instructors took a step back and looked at what they were asking of their students and why. This was one reason that Cooper changed his grading to be completion based rather than accuracy-based. When instructors started asking themselves these questions, they used different assessment tools and programs to help in the classroom.

All instructors were asked a series of questions—available in appendix B—in which the final question was: "what is the most important aspect of teaching you have learned through the COVID-19 pandemic?" Instructors interviewed for the present study shared what they learned about teaching in the pandemic:

> The fact that students have lives outside of this, supporting their families, and that we are here to teach. We are here to teach the content. If you think of the humanistic and personal relationships, the content comes, and respect is earned. I know I knew that before, but it became stronger for the need of communication and clarity. All in all, you matter. – Jennifer Snodgrass, Appalachian State University

> I learned that it is really important to have a good support system and I mean that in myriad ways. Firstly, for teaching, is that having mentors and colleagues and a faculty that are all on the same page, we all had a common goal of wanting to the best we can for our students and figuring out what that meant. Did we get it right all of the time? Probably not. Having faculty that understood and was going to try things and listen to concerns outside of teaching. To feel supported in my own personal life is huge. From a logistical standpoint is my university having so many resources and being able to readability use those resources. Being able to

> know where to go for questions was big for me. – Tanya Honerman, The University of Kansas
>
> Having people together is really important in beginning classes. Although it's less crucial for more advanced classes, it's still very difficult to have a good discussion when people aren't in the same room. – Nancy Rogers, Florida State University
>
> I learned that I could let go of the standard model for a theory class and have the students do more creative work. I learned to trust them to do the background work and then we could work with real music more. I have always stayed away from online work. Now that the technology has gotten so much better, I have found that I don't have much use for a paper version of a workbook. I've always known this, but the pandemic has made it more obvious—love what you do, care about your students, show them that you are putting in the effort in their best interest, and they will be more likely to give you their best work. We are models for our students—if they see that we care about them and the work that we all share, they will be more invested in the work that they do. – Tom Cody, Penn State University

Some instructors have said they have let go of the standard model for a theory class and have students do more creative work.[37] Other instructors talked about the importance of being together in-person. Although it is less crucial for advanced classes, it is still challenging to have a good discussion when people are not in the same room.[38] First and second-year music theory students—specifically—have been affected by the rapid change from the pandemic. Only time will tell as to how much that missed sense of community and use of collaborations will affect their education. There are various ways that an instructor can assess the success rate of the students while having meaningful discussions through an online format. Using technology in music theory—or any other music class—can increase student outcomes.

37. Cody. 2022.
38. Rogers. 2022.

There is at least one common theme among the perspectives represented above: we are humans that need to take care of each other. Whether taking care of each other is reaching out, removing an older class policy, or just sitting and talking, we need to take care of each other.

As educators, we need to bring forth a sense of community in the classroom. When a classroom environment is respected, student achievement seems to strive from these instructors' statements. Having an instructor that cares about their students makes students more likely to show up, resulting in higher comprehension.

As universities became laxer on COVID-19 restrictions, students could return to in-person classes. Various instructors are using technology in ways that they never perceived possible. Instructors are continuing to use their LMS system more often, Artusi[39], online quizzes in either the form of Artusi, e-book or Google Forms,[40] and the use of an iPad or dock camera.[41]

The COVID-19 pandemic has taught instructors that there are various ways of teaching and has given them a better understanding of today's students. Instructors have learned how to structure assignments to make better use of students' time.

Conclusion

During the COVID-19 pandemic, there have been significant changes in music-theory education. Instructors were challenged to find and create new ways to engage students and improve student communication: removing specific attendance or

39. Cody. 2022
40. Cody, Cooper, Rogers, Snodgrass. 2022.
41. Blessinger, Honerman, Rogers. 2022.

participation policies, flexible grading (grading for completion versus grading for accuracy) and using different forms of technology to communicate when in-person instruction is not available. Throughout this thesis, we looked at what music theory classrooms looked like prior to the pandemic, March to May 2020, the following school years after the transition, and what instructors learned from their experience.

Instead of thinking that COVID-19 was an awful pandemic—which it was—maybe, as educators, we should look at the experiences in our classrooms and use them to build programs that better encourage students of all levels and teach them through grace. New and exciting technology will continuously be available, yet it is our jobs as instructors to ensure that technology is in service of the pedagogy. Learning from history is an integral part of improving the art of teaching, and the COVID-19 pandemic taught students and instructors about the ever-changing shape of pedagogical philosophy.

APPENDIX A

TECHNOLOGICAL PRACTICES AND PROGRAMS IN THE CLASSROOM

When switching to online instruction in March 2020, instructors had to leave their comfort zones. Instructors had to find a way to create an inclusive and engaging classroom environment from the comfort of their living rooms. This chapter is to be an aid for technology and online music theory teaching programs as instructors guide online instruction—with or without a pandemic.

1. Artusi

Artusi is a game-changer for those learning music theory for the first time. Getting instantaneous feedback while doing theory exercises is exceptionally invigorating and liberating.[42] *Artusi* is a unique program that instructors can use throughout high school and higher education. Instructors can create custom content within the program or use a pre-created curriculum for assignments and exams. This program can also be used for placement exams for colleges, graduate schools, and high schools.

The instructor can create a curriculum for harmony and counterpoint, fundamentals, aural skills, and post-tonal theory within the program. The program can do harmony and counterpoint: 4-voice part-writing, species counterpoint, embellishing tone creation, and chordal dissonance resolutions. The counterpoint section, specifically, extends from first-species counterpoint to fourth-species counterpoint. The students and instructors can hear the part-writing to check for mistakes and learn to listen to the progression accurately.

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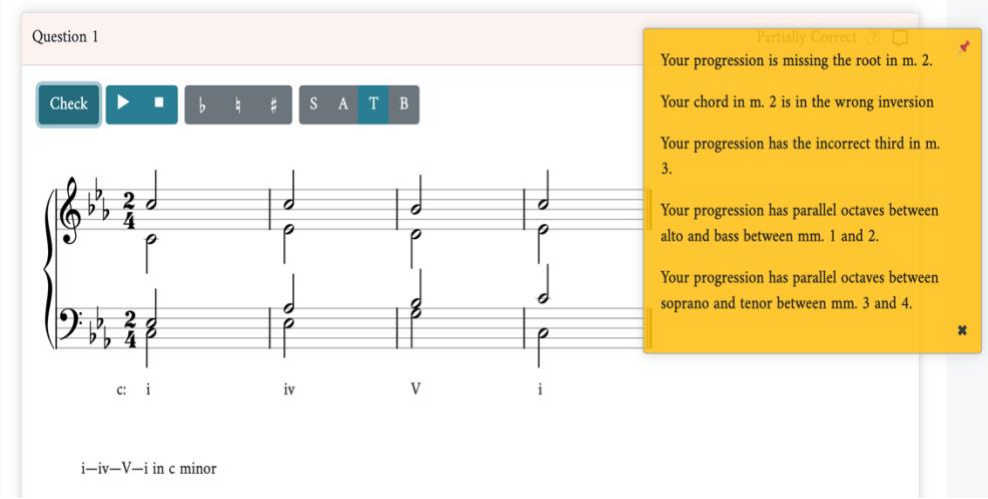
42. Artusi. “Artusi Music.” About Artusi. 2022. https://www.artusimusic.com/.

The fundamentals category covers chord, scale, and interval spellings, missing barlines, note lengths, enharmonic spellings, and motion identification. The fundamentals section is ideal for first-year students or remedial theory based on the amount of practice the program provides.

Building aural skills takes time, and *Artusi* does a clear-cut job of engaging students when not in the classroom. The aural skills category covers harmonic, melodic, and rhythmic dictation, chord, scale, interval identification, error detection, and pitch direction. The built-in exercises of *Artusi* include eighteen levels of difficulty. However, *Artusi* does not offer a sight-singing option. Another course would be used to supplement *Artusi*.

Lastly, the post-tonal category assesses twelve-tone rows, pitch-class cardinality, and Neo-Riemannian operations. This post-tonal category contains Forte numbers, interval class vectors (ICV), the use of normal and prime form, as well as set transposition and inversion.

Arguably the best aspect of *Artusi* is the instant feedback and practice for the students and automatic grading for the instructors. There are options to license an institution with *Artusi*.



Example of Artusi part-writing corrections.

2. Auralia

Auralia has been considered one of the most comprehensive ear training software available.[43] Fundamental such as pitch, rhythm, intervals, chords, scales, and tuning are covered throughout the program. Students will progress through cadences, dictation, harmony, melodic transcription, and jazz progressions.

Some, but not all, of the topics include meter recognition, rhythm elements, scale singing, interval comparison, 2, 3, or 4-part harmonic dictation, cadences, form, and modulations. *Auralia* has been known more for its use for dictation in aural skills programs, yet its capabilities are almost endless.

Auralia is valid because it records how long each student practices and what they practiced. If an institution uses logged practice as part of their curriculum, this would be a beneficial program for them to use. Instructors can change any time limit or hearings for specific problems.

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43. Auralia. "Auralia[7]." About Auralia. 2022. https://www.risingsoftware.com/auralia.

Auralia can be integrated with your LMS platform. Auralia supports some of the LMS are Moodle, Canvas, Blackboard, D2L, Schoology, and the MusicFirst Classroom. There is an option to import students.

3. FlipGrid

FlipGrid is a program that allows instructors to ask a question through either voice recording or a video.[44] Students are then able to respond to the submission and write comments. FlipGrid has been used more now than before due to the rise in remote learning. Instructors know how difficult it can be to create a sense of community while social distancing or learning remote.

This program can either create a pre-lesson activity to assess what students know or as a post-lesson activity to check for understanding. Music theory instructors have used this program for classes such as songwriting, aural skills, written theory, form and analysis, post-tonal, and musicianship.

FlipGrid features that are beneficial:

- Mic-only mode—students who don't feel comfortable being on camera.

- Time-stamped feedback for in-text comments.

- Quick search—helps users quickly find the correct lesson when many are posted.

- Immersive reader on videos creates a transcript to reach a variety of learning styles.

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44. Kristin Clinton, "What Is FlipGrid and How Does It Work for Teachers and Students?" *Teaching Expertise.* December 28, 2021. https://www.teachingexpertise.com/technology/what-is-flipgrid-and-how-does-it-work-for-teachers-and-students/.

- The program is also sharable across multiple platforms.

Instructors can create an instructors account for free through the website.

4. Good Quality Microphone and Camera

An excellent quality microphone is essential, especially when creating external content. Having a higher quality microphone will increase the accuracy of Zoom transcriptions and overall understanding of pitch. Various movie-making software allows for the option of closed captioning, making it easier for transcription.

Along with a higher quality microphone, a camera of the same caliber is equally essential. If an instructor is teaching through Zoon, there is the option of screen share, but this is not the case sometimes. Some instructors do not have an iPad or tablet to do annotations on to see an analysis. Annotations through Zoom, or any movie-making software, can be difficult to portray accurately. Some instructors set up a dock camera to connect to zoom. The dock camera was helpful because they could create an almost in-person style of analysis through Zoom without spending the money on a tablet or iPad. Another reason for a higher quality camera is that some computer cameras are not excellent quality.

5. GoodNotes

GoodNotes is a program that has been recommended by a vast number of educators over the past couple of years. Goodnotes is an app on the Apple Store for note taking. The program comes with various templates built in and separated into distinct categories. The categories are

- essentials (which are your blank, dotted, and ruled papers),

- writing papers (such as Cornell and column writing), and
- music (guitar scores and tablature, as well as staff paper).

There is an option to import a different template to any of the categories listed above. This can be helpful for grading tic sheets during a sight-singing audit or when doing specific part-writing assignments.

All templates can come in a variety of sizes such as A7, A6, A5, A4, A3, letter, and tabloid. The user can also set the paper color to white, dark, or yellow toned. Within that the user can also choose whether they would like their paper to be portrait or landscape. Portrait mode is useful for doing part writing assignments, while landscape would be more beneficial when studying prolongational analysis.

The user will be able to have countless tabs opened at a single time with ease in switching. In the tool bar you can annotate in an assortment of colors, erase, highlight, create shapes, select tool, add stickers, images, or text, and laser pointer. The user will be able to create folders to store documents in for each class or student when grading homework.

The app has text recognition as well for written documents. GoodNotes can search through typed messages as well as handwritten notes if it is legible. Unfortunately, GoodNotes will not recognize text from an imported document. This can be good when trying to find a topic or comment quickly.

GoodNotes can import files when airdropped or downloaded. When the file appears in the app, you can move the document to a specific folder. If a document was placed in the wrong folder, GoodNotes makes it easy to move documents or copy documents into a different folder. There is also an export option within the file itself, as

well as in the folder view. This makes it easier to upload documents for grading back into an LMS or to your email. A file can also be shared with other GoodNotes users for group projects or assignments.

GoodNotes gives the user the option to print directly from the program. This makes it easier for some institutions who have a wireless printer if the iPad is hocked up to the correct Wi-Fi.

When using GoodNotes to present or screen share, it offers three different presentation modes. The 'Mirror Entire Screen' allows the audience to see what the presenter sees, 'Mirror Presenter Page' allows the audience to see the file but no the interface, and 'Mirror Full Page' where the audience does not see the interface or the zoom feature.

6. Google Forms

Google Forms can be used to sub-optimize student performance in lab-based statistics that can increase student engagement through active learning, to answer questions alone or in small groups, in-class discussion of answers to focus on clearing up misconceptions and increase interactivity to reduce class time to cover material while improving performance among students.[45] Previously, instructors would use clickers in class to answer questions or collect data. The application is free if the user has an account with Google. Within Google Forms, an instructor can create a set of questions and invite students to respond to those questions.

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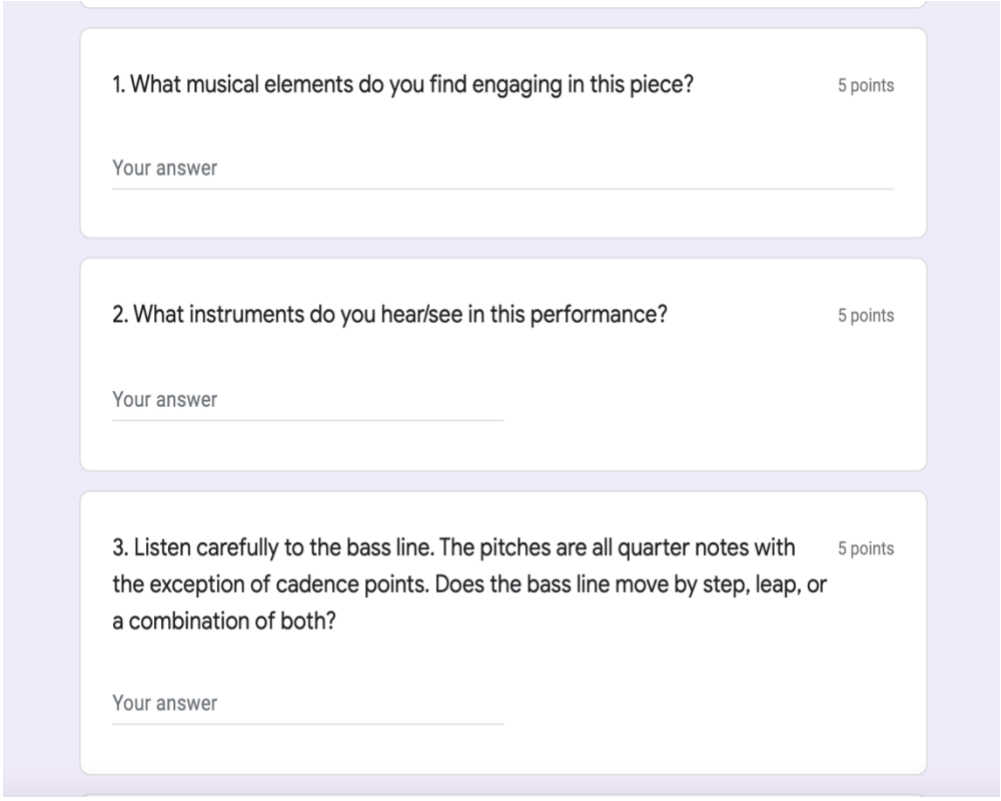
45. Kim Dong-gook, "Using Google Forms for Student Engagement and Learning." *Why IT Matters to Higher Education.* March 29, 2011. https://er.educause.edu/articles/2011/3/using-google-forms-for-student-engagement-and-learning.

For aural skills, the instructor can upload a video or recoding into Google Forms for the students to analyze. Questions that are most likely to be asked in this manner are contextual listening. Some examples of these questions are “what musical elements do you find engaging in this piece,” “what instruments do you hear in this performance,” “in the vocal line, what is the solfege for the highest pitch sung but the vocalist, and where does it occur in the performance,” “do you think a modulation occurs at X time? Why or why not?” Questions like the ones above engage the student to listen at a deeper level.

Using Google Forms for written theory is a little different. The student could see either a specific chord or a small excerpt and explain what the chord is or the progression present. Some questions that could be asked when looking at a chord and its resolution would be “name the given chord,” “how would X chord resolve,” and “which voice has $\hat{X}$?”



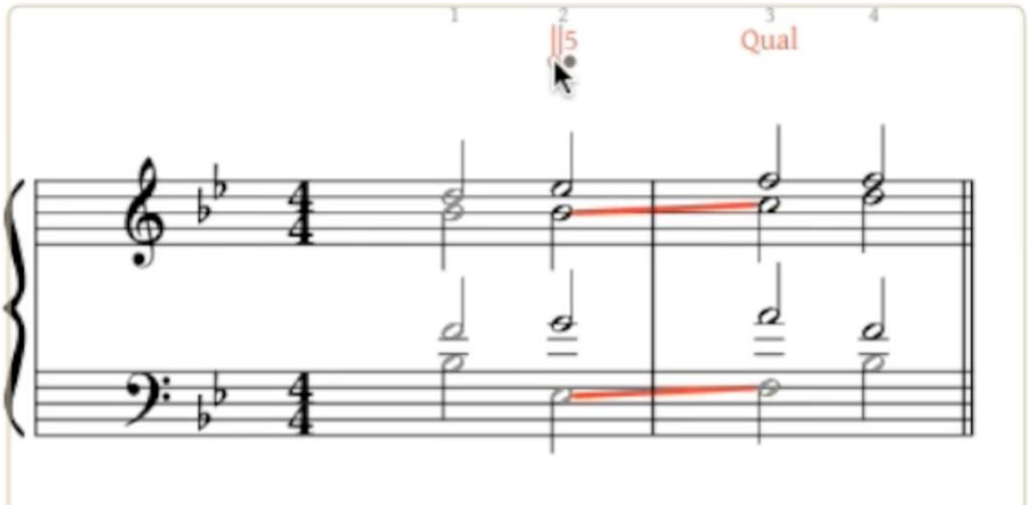
Example of Google Form assessment from Jennifer Snodgrass.

7. Harmonia

Harmonia is a music theory program similar to Artusi.[46] Harmonia is intended to improve the quality and speed of learning. Students do not need to wait for days to find out their grades—they can find out in seconds. There is an option to allow students to submit an assignment multiple times, redo a particular section with a transposed part, or incremental grading that allows them to grade what they have completed as they progress through the assignment.

46. Illiac Software. “Harmonia.” About Harmonia. 2022. https://harmonia.illiacsoftware.com/teachers.

Instructors can choose between templates or create their homework assignments. Instructors can use the templates for quizzes, homework, or exams. Harmonia has a built-in curriculum that any instructor can use. Harmonia also includes automatic grading. Although similar to Artusi, Harmonia is free for instructors. There is a relatively small fee for students, yet it covers the entire semester. (15-week course)



Example of Harmonia with voice leading errors.

8. Hypothesis

Hypothesis is an annotation software used to aid in reading comprehension and in developing critical thinking about course materials.[47] Hypothesis makes reading active, visible, and social. Within the annotation process, students can write comments and highlight areas of the text. The students do not need a tablet to start annotating with Hypothesis.

47. Hypothesis. “Hypothesis for Education.” 2022. https://web.hypothes.is/education/.

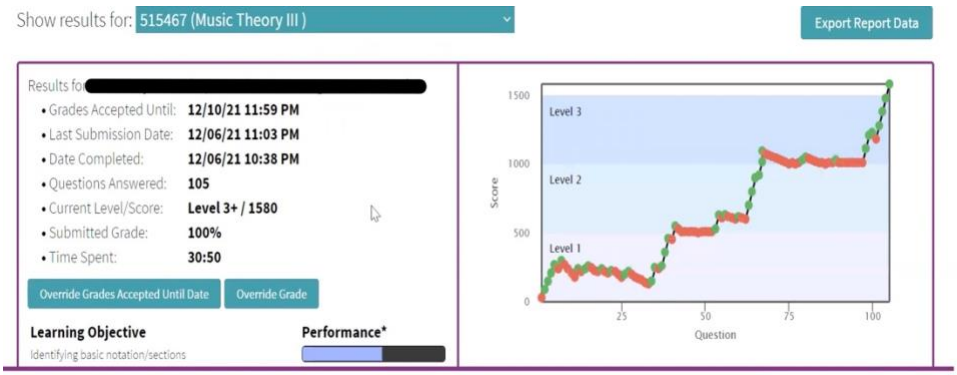
Within Hypothesis, other students can reply to comments. This can lead to a more meaningful discussion in class about the article. Instructors can see all comments and reply to a student if necessary.

9. InQuizitive

InQuizitive uses learning objectives and questions to see how your class is performing on learning objectives. Instructors are able to see where their class and individual students lie on a national average.[48] InQuizitive personalizes individual students learning paths, so they receive more questions on topics they are struggling with. Every question will include detailed feedback and help students assess their own understanding. InQuizitive is part of W.W. Norton and can be linked to the classes' text.

InQuizitive gives immediate feedback. If a student were to get an answer wrong, there is an option that links to the eBook and explains where the correct answer is. The program also allows instructors to see where individual students struggle and how long it took them to complete an assignment. InQuizitive can be integrated directly into Canvas, Blackboard, Moodle, or D2L so students can access and complete assignments directly from an LMS course.

48. https://wwnorton.com/inquizitive



Example of InQuizitive to track student progress.

10. Movie-making Software

No matter what interface of computer you have, there is likely a compatible movie-making software. Movie-making software is essential in the age of online instruction. The programs listed below can make prerecorded lectures, supplemental videos, or group projects or performances. Movie-making software does range in price based on which one you decide. A small guide is provided below on the top ten programs for movie-making software in 2022.[49]

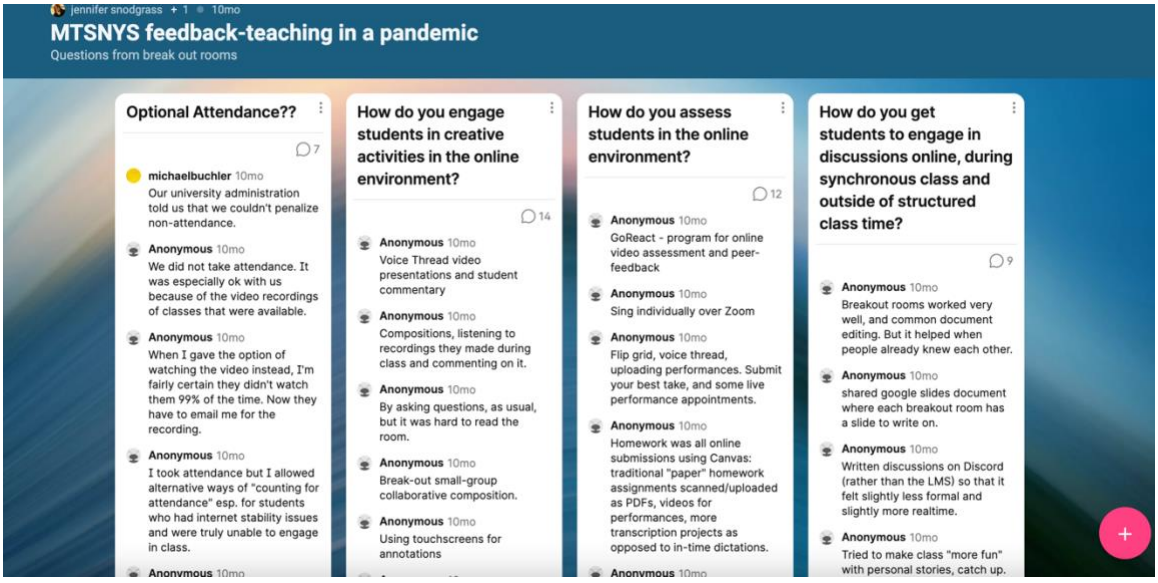
- Adobe Premiere Pro
- Cyberlink PowerDirector 365
- Wondershare Filmora X
- Apple Final Cut Pro
- Adobe Premiere Elements
- DaVinci Resolve
- VideoProc
- Movavi
- Corel Video Studio Ultimate
- Apple iMovie
- Clipify

49. Tania Braukamper, "Best Video Editing Software Tools for Movie Making." *Shotkit* (blog). November 28, 2021. https://shotkit.com/video-editing-software/.

11. Padlet

"Padlet is a digital tool that can help instructors and students in class and beyond by offering a single place for a notice board."[50] Padlet is a digital notice board that carries features such as images, link, videos, and documents. These notice boards can be made public or private. Students are also allowed to write on the notice boards, not just instructors.

Padlet is user friendly and can be accessed through any web browser. Students can brainstorm and answer live questions. You can also integrate Padlet with Google Classroom. The cost of the program is not expensive. Padlet offers a basic plan or a 30-day trial.



Example of Padlet from Jennifer Snodgrass.

12. PlayPosit

50. Edwards, Luke. "What is Padlet and How Does It Work for Teachers and Students?" *Tech&Learning.* October 19, 2020. https://www.techlearning.com/how-to/what-is-padlet-and-how-does-it-work-for-teachers-and-students.

PlayPosit allows educators to supply formative assessment both inside and outside the classroom. Instructors can create quiz-type questions and certain pauses and jump in a video. An instructor can then analyze the work at an individual or group level.

PlayPosit is unique for its student engagement and accountability, digital time-stamped notes that allow for easy review, later printed, video viewing, and performance analytics. PlayPosit is also available for some LMS.[51]

13. Podcasts

Podcasts are a way to still study without the act of actively studying. A student could listen to a podcast while doing the laundry, cooking dinner, or driving to class. Students can find podcasts on YouTube, Apple Podcasts, Google Play, and Spotify. Below is a list of the top music theory podcasts of 2022.

Guitar Music Theory is based in Tennessee and posts two episodes a month. This is learning music theory on guitar by using scales, chords, progressions, and modes. The average length of the episodes is about an hour in length. The podcast has been active since 2017.

The 10 Minute Jazz Lesson Podcast is more specifically for students interested in jazz improvisation. The average length is fourteen minutes, and an episode is realized once a week. The podcast has been active since 2016.

Everyday Musicality: Unlocking the Inner Musician Through MLT (Music Learning Theory) is a podcast based on music education majors but can certainly be for

51. PlayPosit. “Features of the PlayPosit Video Player.” 2022. https://go.playposit.com/learn.

any musician. The podcast discusses Edwin E. Gordon's Music Learning Theory (MLT) and its applications to music teaching and learning. There are two podcasts a month, averaging about half an hour in length. The podcast has been active since 2019.

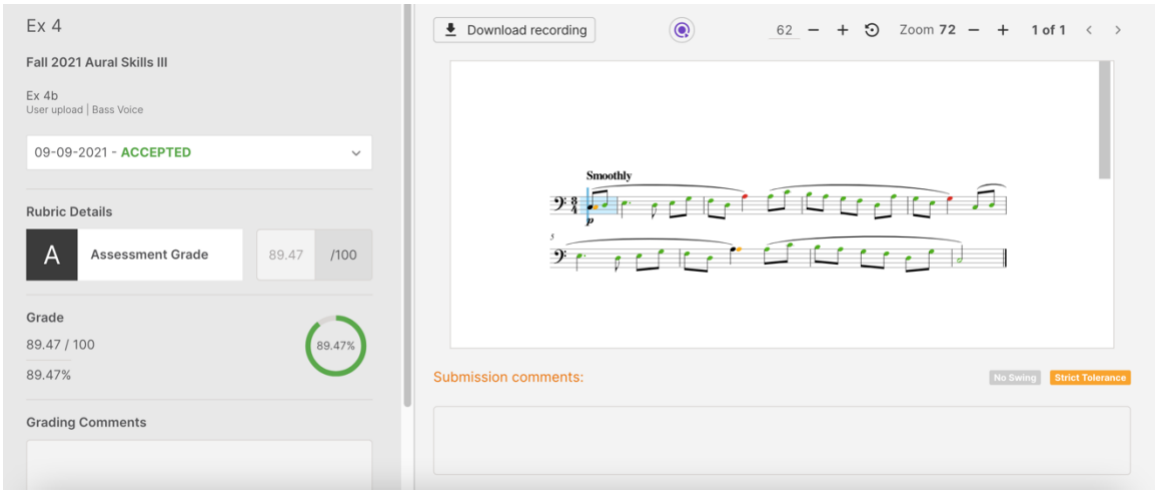
Music Student 101 discusses the path of being a musician by exploring music theory, history, ear training, technique, unique topics, and overall musicianship. The podcast releases episodes once a month with an average of eighty-four minutes in length. The podcast has been active since 2016.

14. SmartMusic

Although SmartMusic was initially intended for instrumental practice, it is still helpful for aural skills.[52] Within SmartMusic, an instructor can put a time limit or entry limit on each melody or prepare all the melodies. Instructors can also add their rubric to the assignment for quicker grading.

Instructors have the choice to upload a melody or customize exercises from SmartMusic's library. SmartMusic's grading for aural skills is inaccurate and will have to be manually changed. The microphone and pitch sensitivity are high. Students can playback each recording before submitting it for a grade. The program only picks up pitch and rhythm, not solfege.

52. MakeMusic. "SmartMusic." 2022. https://www.smartmusic.com/.



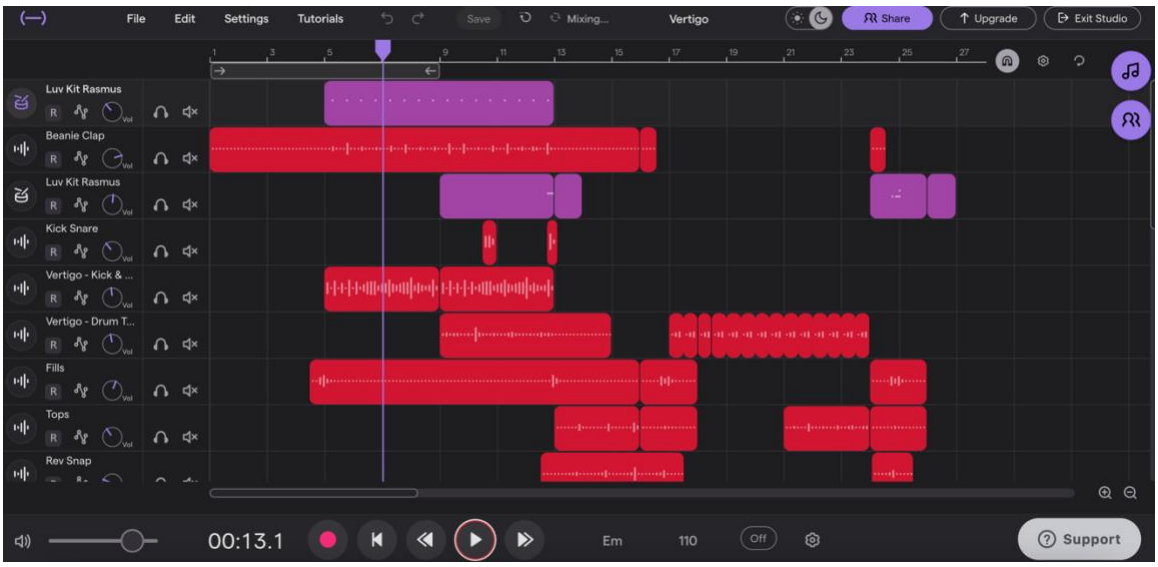
Example of SmartMusic submission.

15. SoundTrap

SoundTrap allows students to collaborate with each other through music in a meaningful and academic way. SoundTrap has lesson plans for music uploaded within the interface. SoundTrap makes use of an amplifier, loops and presets, patterns beatmaker, and the highest quality audio. Students can share what they have created and conjoin with another student or group.

SoundTrap connects to major LMS systems as well as Google Classroom. With this, students can work on projects from home. They will have access to an extensive collection of quality loops, effects, and software instruments.[53]

53. SoundTrap. “Explore Creative Sound Making.” 2022. https://www.soundtrap.com/edu/.



Example of SoundTrap with generated backtrack.

16. Zoom

Zoom is a program that academia has become far too familiar with in the past A couple of years.[54] Zoom is an electronic interface that, with licensing from an institution, can host an entire class with the private meeting rooms of the instructor. Within Zoom, you can change your settings to have new admissions enter a waiting room or join. The waiting room feature works well for aural skills when conducting audits, or even using for office hours. Within the waiting room, the host can message the student to inform them of a schedule change, if needed.

While in the middle of a lecture, the instructor or student have the option to share their screen. This feature helps the student to engage with the instructor and class. When sharing screen, they can select to 'use original sound' or 'share sound.' Selecting 'share

54. Howard Bowen, "Using Zoom for School: What are the Pros & Cons?" *VCG*. August 28, 2020. https://videoconfguide.com/zoom-for-school/.

sound' is helpful to those who have a hearing disability and can adjust the volume as they see fit, compared to having a universal frequency in a classroom. If you are using Zoom for aural skills classes, make sure to put the audio suppression on low instead auto. This will help background noise and will not filter out live musical examples.

Zoom's feature of being able to switch from 'speaker view' to 'gallery' view allows students to either focus on the person presenting or interact with the entire class. There are, however, certain times in which a student cannot exit speaker view; this is when an instructor or another student are sharing their screens.

For instructors of all grade types, Zoom has a 'raise hand' feature that, once pressed, moves the student to the top of the gallery view so that the instructors recognize the question. The downfall of this is that the instructors cannot lower the hand. There are times where students will forget when their hand is raised. Nevertheless, this is a feature that is quite useful in academic settings.

Annotation within Zoom allows the instructors to create a more interactive class. Not only do instructors have access to the annotation tool, but students do as well. In the settings, you can enable/disable attendee annotation. Instructors can also see who incorporated ideas into the annotation. This is a helpful tool to track participation if your course highlights participation.

Arguably the best feature about teaching through Zoom is breakout rooms. This allows the instructors to create random or assigned breakout rooms for discussions. This element would work well in seminars, history, and education courses due to the high demand of conversation.

APPENDIX B

INTERVIEW/SURVEY QUESTIONS

Please be as specific as possible. This will give me a great deal of information when writing my thesis. I appreciate the time it will take for you to complete this. All of these sections will be labels with the different sections of the pandemic—pre pandemic, transition period, and 2020-2021 school year.

PRE COVID

1. What was the curriculum you were teaching in academic year of the pandemic and how many students per class, on average? This can include graduate courses if you'd like.
2. How would you describe the intensity of the program?
3. What was the range in content covered in the curriculum for each class?
4. What were the expectations of the students for the class?
5. How were assignments graded? (i.e., points, pass/fail)
6. Did you have any GTA help?
7. Did you use any form of technology in your classroom for pedagogy purposes? This would include the use of apple AirPlay or any other screening devices as well as content on pages such as D2L or Canvas.
8. What was the student interaction during this time?

TRANSITION WEEK TO ONLINE LEARNING

1. What was your thought process like when your institution told you to switch your form of instruction in one week?
2. What did the first two weeks look like—from the instructor's perspective?
3. How did you communicate the content? Please go into full detail
4. How did the planning process differ from in-person instruction?
5. Were there any technological devices or programs you used to help with assessment?
6. Did you have the help of a TA throughout the transition?
7. How was the student interaction during this time?
8. What form of assessments were you using in your classes during the last month of the semester?
9. Did you have to teach a summer theory course? If so, please elaborate on how you successfully got through the course.
10. After the transition period, did you see a decline in student attendance (synchronous) and/or participation (both synchronous and asynchronous)?
11. Were your classes synchronous or asynchronous, and why?
12. Did your expectations of students change over this beginning stages of the pandemic?

2022-2021 SCHOOL YEAR

1. What was the main form of instruction?
2. What was your class policy on attendance and participation?

3. If students could be in-person, did you have a policy or a way for students to access materials outside of class?
4. Did you make any changes to the curriculum if you had a shortened semester?
5. Are there any techniques that you used during the end of the 2019-2020 school year that you incorporated into the 2020-2021 school year?
6. Were there any programs that you explored for the school year? This could be for grading, interaction, assessment, or anything you can think of.
7. Did you see a decline in student attendance (synchronous) and/or participation (both synchronous and asynchronous)?
8. Was your assessment style different, or did it alter, between the two school years?
9. Do you believe that student final outcomes were close to average, above average, or below average in comparison to previous years?
10. If you could do anything differently—besides curing COVID—what would it be?
11. If you had any students who has SSD requirements, could you please explain how you were able to work with a student to achieve success?

1. What are tools/programs that you will continue to use in your classroom?
2. What are tools/programs that you will not continue to use in your classroom?
3. What were some of the most important aspects that you learned throughout the pandemic about teaching?

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