

Students' Perception of Online Learning During COVID-19: A U.S.-Based Music Therapy Survey

Petra Kern, PhD, MT-BC, MTA, DMtG

Music Therapy Consulting, Santa Barbara, CA, USA

Daniel B. Tague, PhD, MT-BC

Southern Methodist University, Dallas, TX, USA

The Coronavirus disease 2019 (COVID-19) global pandemic affected music therapy education, with many university programs instantly shifting from in-person to remote online teaching. As literature related to various aspects of COVID-19 is emerging, none has yet examined music therapy students' responses to the sudden modification of teaching modalities. The aim of this study was to understand how the music therapy learning environment changed during the COVID-19 pandemic; students' experiences with unexpected remote learning, clinical training, and examination; and their perception of barriers and benefits of online learning. American Music Therapy Association students attending courses from Spring 2020 through Spring 2021 were invited to participate in this national survey. In total, 230 music therapy students across seven regions responded to the 26-item questionnaire through Qualtrics®. Seven questions were further explored with a student focus group. Results indicated that courses were mainly altered to synchronous lectures, clinical training changed to varied telepractice experiences, and examination was modified across universities. Students spent about the same time in remote learning and found synchronous lectures mostly engaging. Commonly perceived barriers included screen fatigue, physical isolation from peers, and poor internet connection. Safety during COVID-19, no traveling time, and being more comfortable at home were noted as key benefits. In conclusion, online learning allowed the continuation of music

The authors appreciate the productive collaboration with students of the 2021 Student Affairs Advisory Board (SAAB) and the generous support of Jeffrey Wolfe, AMTA's SAAB Chair. Thanks go to Dr. Nicole Rivera for content review and validation.

Funding: None declared.

Conflict of interest: None declared.

Address correspondence concerning this article to Petra Kern, PhD, MT-BC, MTA, DMtG, 618 De La Vista Avenue, Santa Barbara, CA 93103, USA. E-mail: petrakern@musictherapy.biz. Phone: +805-899-1257.

therapy education during the COVID-19 pandemic. Moving forward, the development of effective online courses and research-based guidelines for tele-interventions is desirable to improve the music therapy educational landscape during future crises and to prepare students for competent services in a digital world.

Keywords: *higher education; music therapy; students' perception; on-line learning; COVID-19; survey study*

The abrupt shifts demanded by the Coronavirus disease 2019 (COVID-19) crisis affected higher education across the United States. In response to stay-at-home orders, quarantines, and social distancing requirements, many departments, including music therapy programs, transitioned from in-person classes to emergency remote teaching. With little to no experience and preparation, countless faculty and students alike embarked on managing an unfamiliar learning environment for an uncertain length of time. Yet, implementing effective online education takes careful instructional course design and planning and, therefore, cannot be compared with emergency remote teaching delivered during a crisis (Hodges et al., 2020).

Numerous instructional research outcomes show that online education is as effective as in-person course delivery (Means et al., 2014). High-quality online teaching, online learning, and online course design directly relate to the success of online education and should address four core principles: personal relationship, pedagogic concept, content delivery, and technology use (Palloff & Pratt, 2013). Additionally, Kumar et al. (2019) found that high-stakes online teaching practices include the following five key elements:

- a) authentic and relevant course materials that connect to practice, b) the use of multimedia resources, c) student creation of digital content individually and collaboratively, d) students' reflection on learning, and e) the instructor's explanation of the purpose of activities technologies, and assessments in the online course. (p. 160)

Moreover, a high-quality online environment supports students by providing technology support, access to health and well-being

services, and a sense of belonging and community between learners (Roddy et al., 2017). Typically, planning, preparing, and developing a full online university course takes 6 to 9 months (Hodges et al., 2020). However, at the onset of COVID-19 in early March 2020, faculty members had to find quick solutions with minimal support and limited resources from their universities (Bao, 2020).

Music therapy educators with online teaching experience prior to COVID-19 shared their expertise and offered ad hoc advice and consultation related to online delivery modalities, methods, and media. The American Music Therapy Association's (AMTA) COVID-19 Task Force compiled resources from online education experts, including information for applying core concepts in music therapy online education (Kern, 2014), immediate tips for successful online course routines (Kern, 2020; Zarate et al., 2020), and best practices for online education in the arts therapies (Sajnani et al., 2019). Resources also included information specific to COVID-19 and related issues (National Association of Schools of Music, 2020) and guidance for institutions of higher education (CDC, 2021). Additionally, an international group of educators (now known as The Global Music Therapy Educators Network; McCaffrey et al., 2020) provided minutes from two consecutive meetings summarizing discussions about various aspects of online teaching and learning (McCaffrey & Rickson, 2020a, 2020b).

In terms of alternative clinical placements, AMTA's (2020) Academic Program Approval and Association Internship Approval Committees released a joint COVID-19 response. This FAQ document and subsequent emails and social media announcements provided guidance for faculty and internship directors regarding clinical hours for practice, online supervision guidelines, telehealth options, possible internship extensions, and new internship site openings. In March 2021, AMTA's (2021a) COVID-19 Task Force released raw data from a music therapy clinical training survey. The survey included responses from university faculty and internship supervisors/directors revealing that due to COVID-19 restrictions, 65% of faculty had difficulty in securing pre-internship sites, 84% temporarily lost pre-internship sites (anticipating re-opening in Fall 2021), and some permanently lost pre-internship sites (particularly community-based, mental health, private practice, and skilled nursing sites). More than 75% of respondents utilized

telehealth/telepractice options, with 25% incorporating clinical videos or simulated clinical experiences. An internship delay of 1 to 6 month(s) was noted by 69%.

Parallel to AMTA efforts, music therapy practitioners explored telehealth/telepractice following protocols and best practice applications from related fields. Music therapists trailblazed all aspects of the therapeutic process in online formats to provide continued support to their clients. Additionally, AMTA's COVID-19 Task Force shared valuable telehealth considerations and resources (AMTA, 2021b), including Knott and Block's (2020) service delivery model, and *imagine* magazine dedicated an entire issue to telepractice applications in early childhood music therapy (see Kern & Furman, 2021). Various clinical practice surveys were conducted investigating music therapists' service delivery adaptations during COVID-19 (AMTA & CBMT, 2021)—employment, service delivery, perceived stress, and hope (Gaddy et al., 2020); practice changes, use of technology, and future implications (Agres et al., 2021); telehealth experiences, trends, and recommendations for neurologic music therapy (Cole et al., 2021)—with additional surveys likely coming in the future.

Along with their faculty advisors and clinical supervisors, many undergraduate and graduate students worldwide learned about the ins and outs of online learning and telehealth/telepractice. Their experiences and perception of emergency remote learning during COVID-19 were explored with international undergraduate students (Nguyen et al., 2021) and by scholars in the fields of chemistry (Blizak et al., 2020; Jeffery & Bauer, 2020) and medicine (Dost et al., 2020). Nguyen et al. found that students from 95 countries missed social aspects of learning on campus most, preferred synchronous classes, and reported more student engagement/motivation when active-learning techniques were applied. In their inquiry involving students from nine undergraduate chemistry courses, Jeffery and Bauer found classes changed little from traditional lectures, but laboratory work shifted dramatically. As students seemed to have lost supporting peer communication networks, the authors stressed the importance of cognitive exchange, social dynamics, peer interaction, real-time discourse, and hands-on manipulations in any learning environment. In contrast, Blizak et al. concluded that their students at the University of Boumerdes,

Algeria, preferred the traditional way of teaching and were reluctant with the new digital pedagogy implemented during the COVID-19 pandemic. Finally, Dost et al.'s cross-sectional survey involving students across 39 medical schools in the UK revealed that new distance learning platforms enabled the continuation of medical education during the pandemic restrictions. Students reported spending more time on online platforms to access content, remote lectures, question banks, and other recall resources during the pandemic compared with before. While medical students indicated flexibility of learning as a key benefit, family distraction and poor internet connection were noted as major barriers to emergency remote teaching.

To date, there have been no studies examining music therapy students' responses to the sudden modification of teaching and clinical training modalities during the COVID-19 pandemic. The current study, modeled after Dost et al. (2020), surveyed music therapy students about their experiences with unexpected remote learning, clinical training, and examination. It seeks to understand how the music therapy learning environment changed during the COVID-19 pandemic along with the perceived barriers and benefits of online learning.

Method

Participants

All members of the American Music Therapy Association Students (AMTAS; $N = 990$ students based on AMTAS social media followers; J. Wolfe, personal communication, March 5, 2021) pursuing a music therapy degree in the United States who engaged in remote learning during the semesters Spring 2020, Fall 2020, and Spring 2021 were eligible to participate in this national cross-sectional online survey. Additionally, student leaders on the AMTAS Executive Board ($N = 5$) served as participants in a follow-up focus group to further explore seven questions stemming from the survey responses. Both parts of this study received ethical approval from the University Institutional Review Board (H21-024-TAGD). Participation was voluntary, and informed consent, as well as verification of completing the survey for the first time, was obtained by all participants.

Questionnaire Design and Distribution

A 26-item online questionnaire was developed based on the currently available literature about online teaching (Dost et al., 2020; Kumar et al., 2019; LaGasse & Hickie, 2017; Palloff & Pratt, 2013; Roddy et al., 2017; Vega & Keith, 2012) and COVID-19 recommendations related to music therapy education and clinical training in the United States (AMTA, 2020, 2021b; Gaddy et al., 2020; Kern, 2020; Knott & Block, 2020). Items comprised a mixture of multiple-choice questions with single/multiple responses, a ranking question, and short text response options to collect both quantitative and qualitative data. Questions exploring students' perception of online learning were constructed by using selected items of sections I, III, and IV of the validated Dundee Ready Education Environment Measure (DREEM; Roff et al., 1997) as well as two ranking questions and three open-ended questions. Similar to Kern and Tague (2017), student leaders who served on Student Affairs Advisory Board (SAAB) during Spring 2021 collaborated as key partners in this study. All initial items were piloted and discussed with eight student leaders and underwent an editing process afterward. The finalized questionnaire (see [Supplementary Appendix A](#)) included three parts:

- I. Demographics (8 items),
- II. Remote Instruction and Clinical Training (12 items), and
- III. Student Perception of Online Learning (6 items).

To maximize outreach, student leaders distributed the survey through their national and regional social media platforms (i.e., Instagram and Facebook). To track the distribution, each followed a schedule and reported when and where the pre-designed announcement and two reminders were posted. Additionally, the AMTAS Executive Board emailed a notification to AMTA-approved music therapy programs and directors. The online survey was accessible through a link to Qualtrics XM (<https://www.qualtrics.com>) from March 15 to 31, 2021. Respondents were allowed to advance without answering all questions and could exit the survey at any time.

Data Analysis

Similar to the procedure applied in Kern and Tague (2017), quantitative data gathered from Parts I and II of the survey were

automatically tallied by Qualtrics and converted into percentages and graphs for analysis. Short open-ended text responses were tallied and underwent categorization. Data from Part III were organized for quantitative and qualitative analysis. Following [Creswell and Creswell Báez's \(2021\)](#) protocol for qualitative data analysis, responses to the three essay-style questions were read independently by the co-investigators to obtain a general sense of the content. One researcher (representing a faculty viewpoint) and a research assistant (representing a student viewpoint) then organized and separately coded the data by identifying and marking text segments to serve as codes, assigning and reducing overlapping codes, identifying emerging themes, and marking descriptions for examples. They completed the data analysis by cross checking each other's codes and discussing discrepancies to reach consensus and intercoder agreement. Finally, an expert in the field of music therapy/psychology conducted an external audit to validate the accuracy of the data analysis and findings and also confirmed the alignment between the quantitative and qualitative outcomes.

Questions resulting from the data analysis related to survey items 2, 11, 12, 17, 18, 21, and 22 were further explored with the student focus group. The researchers met with five student leaders online and conducted a structured interview. Student responses were recorded, transcribed as text, and analyzed using a process similar to Part III survey responses.

Results

Demographics

Of the 230 eligible responses collected, 75.65% ($n = 174$) were undergraduate students and 24.35% ($n = 56$) were graduate students completing music therapy programs located in one of AMTA's seven regions who had engaged in remote learning during Spring 2020 (78.92%, $n = 176$), Fall 2020 (87.89%, $n = 196$), and Spring 2021 (78.48%, $n = 175$). Responses were collected from 87.83% ($n = 202$) women, 7.39% ($n = 17$) men, 3.48% ($n = 8$) non-binary, and 1.3% ($n = 3$) self-describing students across all academic years. Prior to the pandemic, 79.39% ($n = 181$) of the respondents' universities did not offer online music therapy courses, 12.28% ($n = 28$) offered all courses online, and 8.33% ($n = 19$)

made some of the courses available online (e.g., Introduction to Music Therapy, Psychology of Music, Practicum). At the time of this study, 46.29% ($n = 106$) of the music therapy courses were offered online, 45.85% ($n = 105$) in a hybrid modality, and 7.86% ($n = 18$) in-person. [Table I](#) provides additional information about the students' demographics. Because of the confusion between students' membership with AMTA and/or AMTAS, as well as the inability to track the number of unique students reached through AMTAS social media platforms, it was impossible to calculate a response rate. Although the percentage of responses by region varied, nonresponse bias was addressed by ensuring the survey was distributed to all AMTA regions.

Remote Instruction and Clinical Training

As a response to the COVID-19 pandemic, music therapy university programs adopted multiple instructional platforms and online teaching modalities (see [Figure 1](#)). Students identified synchronous lectures (94.93%, $n = 206$) and video conference platforms for clinical training (73.27%, $n = 159$) as their universities' primary adaptations. Furthermore, most students found all their synchronous lectures (64.81%, $n = 140$) or the majority of them (28.7%, $n = 62$) to be interactive and ranked live video lectures (85.71%, $n = 180$), breakout rooms (42.38%, $n = 89$), and screen shares (40%, $n = 84$) as the most engaging features ([Figure 2](#)). Some students specified that guest lecturers (i.e., learning from a wider professional community) added to student engagement and motivation as confirmed by the student focus group. However, 4.63% ($n = 10$) reported that the majority of their live lectures were not interactive, and 1.85% ($n = 4$) experienced non-interactive synchronous learning. As an alternative mode of learning, asynchronous and prerecorded lectures were reported by 34.56% ($n = 75$). While 21.66% ($n = 47$) of the students reported that their music therapy program introduced a new learning management system, 34.1% ($n = 74$) indicated new tools were added to an existing one.

While 94.82% ($n = 183$) of the students indicated that their online music therapy courses followed a competency-based curriculum and outlined learning objective in lectures, assignments, and evaluations, 3.11% ($n = 6$) though only to some extent, and 2.07% ($n = 4$) not at all. Findings from the student focus group

TABLE I.
Demographics of Eligible Students Responding to the Survey (n = 230)

Music therapy degree		Undergraduate		Graduate			
(n = 230)		174 (75.65%)		56 (24.35%)			
Academic year	1st undergraduate	2nd undergraduate	3rd undergraduate	4th undergraduate	1st graduate	2nd graduate	Internship
(n = 229)	25 (10.92%)	32 (13.97%)	54 (23.58%)	47 (20.52%)	23 (10.04%)	27 (11.79%)	21 (9.17%)
AMTA regions	Great Lakes	Mid-Atlantic	Midwestern	New England	Southeastern		
(n = 226)	36 (15.93%)	33 (14.60%)	39 (17.26%)	8 (3.54%)	Southwestern		
Remote during	Spring 2020	Fall 2020	Spring 2021		50 (22.12%)	43 (19.03%)	Western
COVID-19	176 (78.92%)	196 (87.89%)	175 (78.48%)				17 (7.52%)
(n = 223)							
Gender	Female	Non-Binary	Male				
(n = 230)	202 (87.83%)	8 (3.48%)	17 (7.39%)	Self-Described			
Online before	Yes, all	No	Some				
COVID-19	28 (12.28%)	181 (79.39%)	19 (8.33%)				
(n = 228)							
Current courses	Online	Hybrid	In-Person				
(n = 229)	106 (46.29%)	105 (45.85%)	18 (7.86%)				
AMTA student	Yes	No					
member	95 (41.48%)	134 (58.52%)					
(n = 229)							

Note. AMTA = American Music Therapy Association; COVID-19 = Coronavirus disease 2019.

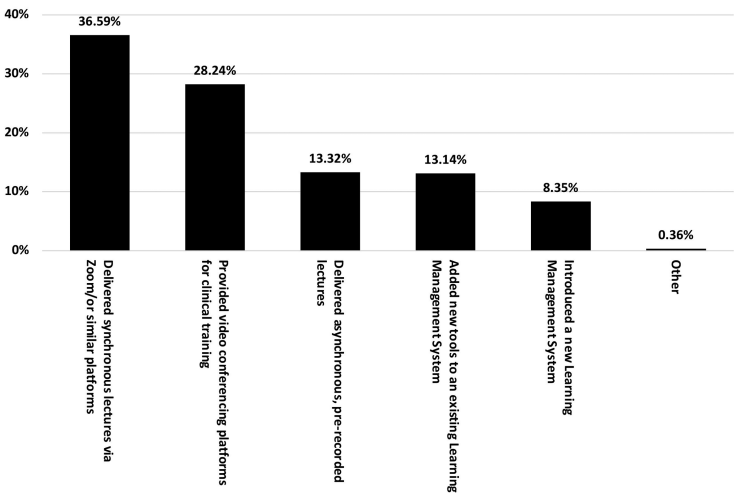


FIGURE 1.
Adapted online platforms and teaching modalities during COVID-19.

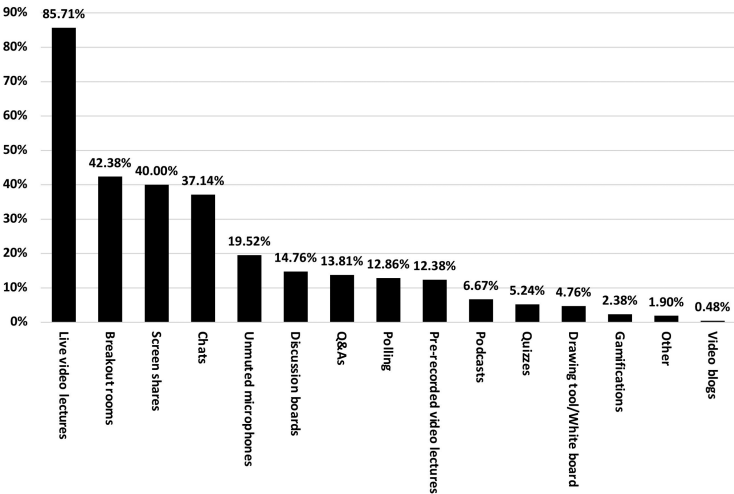


FIGURE 2.
Engaging online teaching tools. *Note.* Most of the responses referred to interactive tools available on the online platform Zoom.

suggested that competencies were more likely tracked through periodic evaluations than through achievement of weekly learning objectives. There seemed to be confusion between proficiencies

and competencies. One student leader said, “Yeah, so in my school, we do have learning objectives and we go through them, but not really specifically, but my professors are very good at giving me feedback on my performance throughout the course.” Overall, 49.74% ($n = 96$) of the students estimated that their time commitment to a remote music therapy course was about the same as an in-person course; 30.05% ($n = 58$) thought a remote course was more time consuming, and 20.21% ($n = 39$) felt it was less.

Survey responses also indicated that music therapy clinical training changed drastically (see Figure 3). Most students reported leading/co-leading (69.68%, $n = 131$) or observing/assisting in (49.46%, $n = 93$) telepractice sessions. Additionally, students reported fulfilling their clinical training hours by providing onsite sessions with personal protective equipment and infection protocols in place (25.0%, $n = 47$), analyzing archived video-recorded sessions (18.09%, $n = 34$), and providing “window sessions” outside with a mask (1.6%, $n = 3$). Some described alternative assignments such as creating session plans. The top three settings for students’ clinical services during COVID-19 were education and school (43.43%, $n = 76$), community (38.86%, $n = 68$), and mental health (31.43%, $n = 55$) facilities followed by those displayed in

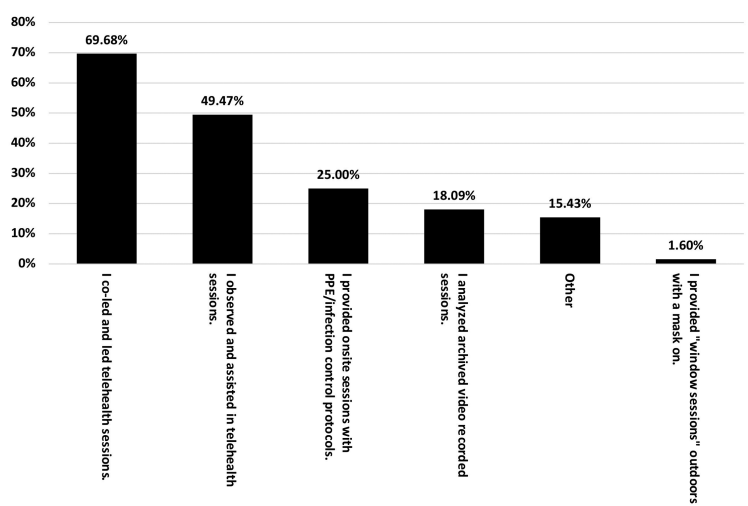


FIGURE 3.
Music therapy clinical training modalities.

Figure 4. Online music therapy services ranged from facilitating individual (69.87%, $n = 109$) and group music therapy sessions (60.26%, $n = 94$) to curating online resources (22.44%, $n = 35$) and developing original content (21.79%, $n = 34$) for clients. Students also indicated conducting online music therapy assessment sessions (50.64%, $n = 79$). However, further investigation with the student focus group revealed that students most likely employed ongoing assessment strategies rather than conducting initial assessments utilizing standardized assessment tools. In addition to singing and vocalization (65.59%, $n = 122$), movement and dance (53.76%, $n = 100$), and instrument play (52.15%, $n = 97$), students used a variety of music therapy techniques in their telepractice sessions (see Figure 4). Those who reported using computer-based music activities in online sessions (20.97%, $n = 39$) listed apps such as GarageBand (8 mentions), Soundtrap (4 mentions), Incredibox (3 mentions), or the Chrome Music Lab website (4 mentions). Focus group members stated that students most often transferred familiar music therapy techniques to tele-interventions due to the lack of instruction on how to appraise and use technology and interactive media with clients intentionally in the online environment.

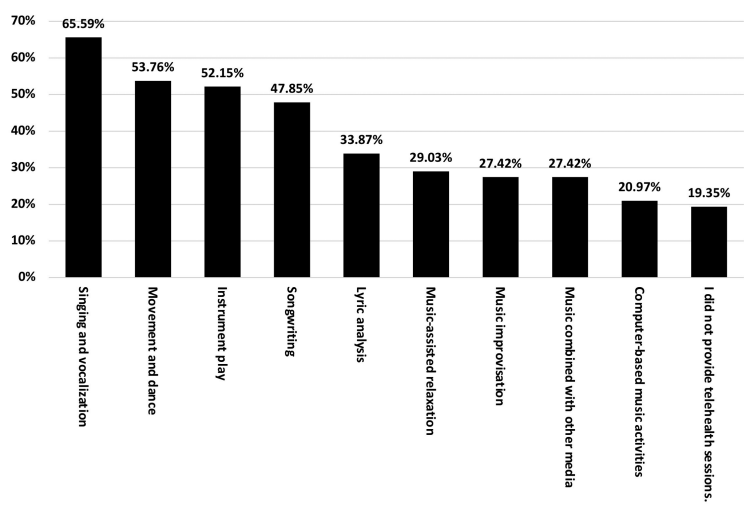


FIGURE 4.
Music therapy techniques applied in tele-interventions.

Both course-based and clinical examinations were adjusted across universities. Some students reported that their exams were either canceled (course-based: 12.15%, $n = 22$; clinical: 14.84%, $n = 23$) or postponed (course-based: 8.84%, $n = 16$; clinical: 14.19%, $n = 22$), but the majority were modified (course-based: 85.64%, $n = 155$; clinical: 73.55%, $n = 114$). Examination modifications that emerged from responses included: test administration through online learning management systems, including Zoom (101 mentions), submitting video recordings (15 mentions), open book/open note exams (15 mentions), written assignments/projects (13 mentions), and digital assignments/projects (4 mentions). A few students took in-person exams (5 mentions) or experienced no changes in examination (6 mentions). While 15.87% ($n = 30$) of the students indicated that their internship application had been affected by the COVID-19 pandemic, 14.29% ($n = 27$) reported no impact; most had not yet applied for internship (55.56%, $n = 105$).

Student Perception of Online Learning

The unexpected and immediate change to undergraduate/graduate education during the COVID-19 pandemic forced numerous students to quickly adjust to remote instruction. Students ranked their unique experience of online learning using 20 validated statements from the DREEM (see Table II). Overall, students stated that they learned much about empathy in their profession, felt confident of passing this year, were encouraged to participate in online lectures, developed problem-solving skills, and thought they have good friends in school. On the other hand, students reported being less able to concentrate well and felt lonely. Of note, many students chose “neither agree nor disagree” as a response. Additional exploration with the student focus group revealed that students might have had a variety of experiences across different courses during the three-semester period and, therefore, chose the neutral option as an answer.

As barriers to remote learning during COVID-19, students ranked the length of online lectures/screen fatigue (49.73%, $n = 93$), physical isolation from peers (45.99%, $n = 86$), and a weak internet connection (37.97%, $n = 71$) as the top three (see Figure 5). The fourth barrier, anxiety, was further explored with the student focus group, suggesting that it may be more related to life circumstances (e.g., concerns around COVID-19 and its spread,

TABLE II.
Students Perception of Online Learning Ranked on a Five-Point Likert Scale Ranging From 1 = Strongly Disagree to 5 = Strongly Agree (n = 189)

Statement	M	±SD
I am encouraged to participate in online lectures	4.16	1.06
The teaching helps to develop my competencies	3.90	1.10
I am clear about the learning objectives of the class	4.07	1.01
The teaching is often stimulating	3.61	1.12
The teaching time is put to good use	3.89	1.10
The teaching is student centered	4.11	1.05
Last year's work has been a good preparation for this year's work	3.63	1.12
Problem-solving skills are being well developed	4.13	1.02
I am confident about passing this year	4.30	0.99
I have learned a lot about empathy in my profession	4.39	0.88
I feel able to ask the questions I want	4.21	1.04
I feel comfortable in the courses socially	3.82	1.12
There are opportunities for me to develop interpersonal skills	3.77	1.11
The atmosphere motivates me as a learner	3.06	1.37
I am able to concentrate well	2.60	1.29
I have good friends in this school	4.13	1.07
There is a good support system for students who get stressed	3.52	1.26
I am too tired to enjoy the courses	3.63	1.14
I am really bored in online courses	3.35	1.13
I seldom feel lonely	2.65	1.25

feelings of isolation, environmental distractors, or technology issues) than remote learning. In contrast, students indicated safety benefits during the COVID-19 pandemic (62.23%, *n* = 117), no travel time and carrying instruments (60.63%, *n* = 114), and feeling more comfortable at home (53.72%, *n* = 101) as major benefits of online learning (see [Figure 6](#)).

The total of 389 narrative responses to the three open-ended questions illustrated a wide range of students' lived experiences and perceptions of emergency remote teaching, online learning, and engagement in practical clinical skills during the COVID-19 pandemic. Findings from the three topics led to 14 themes displayed along with short descriptions and supporting example quotes in [Table III](#). When asked, "Tell us about your most valuable music therapy online learning experience?" students' top responses were observing and implementing telehealth/telepractice, enhancing creativity and adaptation capabilities, improving technology/multimedia skills, and accessing content experts through guest lectures. Yet, a few students

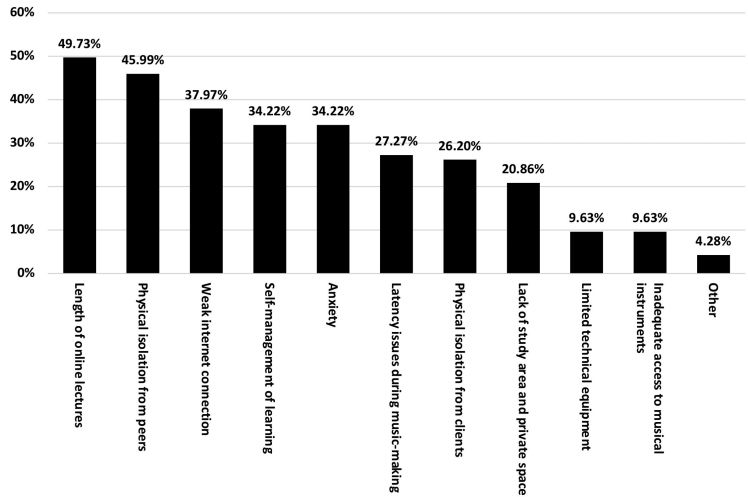


FIGURE 5.
Barriers to remote learning during COVID-19.

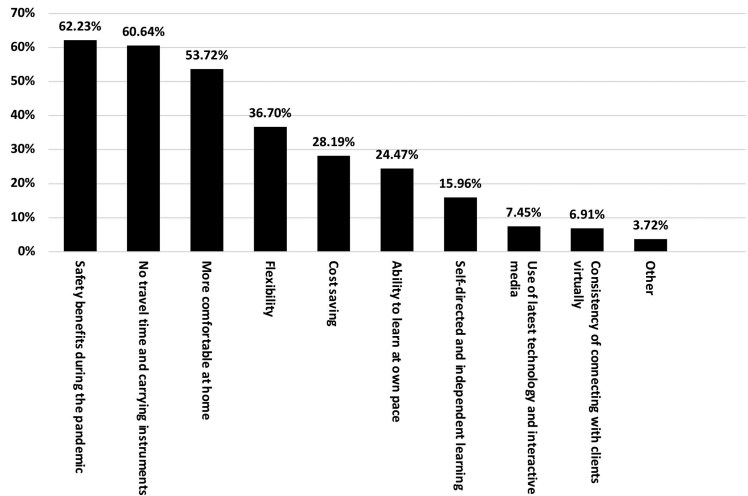


FIGURE 6.
Benefits of online learning.

also expressed not having learned much online and worry about their preparedness for in-person services. The question, “What would work best for you to gain clinical experiences online?” generated recurring

TABLE III.
Themes, Descriptions, and Example Quotes Reflecting Three Survey Topics

<i>Topic 1: Tell us about your most valuable music therapy online learning experience (n = 132)</i>		
Themes	Descriptions	Example Quotes
Synchronous course lectures worked as a social and communication lifeline.	Live lectures on online platforms helped students to relieve isolation and build a sense of community by connecting them with their professors and peers while providing various engaging communication and discussion options (e.g., breakout rooms, chats as well as inspiring guest lecturers).	When the pandemic first began, I had one professor immediately begin doing synchronous presentations and that class was able to maintain some level of normalcy. ...getting to chat with other students and getting to bounce ideas off with them about assignments during class.
Asynchronous course content provided flexibility and convenience.	Asynchronous learning gave students the flexibility to engage with course content on their own time, pace, and space, which made learning more accessible and less stressful than interacting in real time.	Online courses are usually very well-focused. It's easy to engage in lectures without the in-person stress of raising a hand or speaking aloud. ...it was more relaxed and flexible. ...I valued that my learning was more self-directed...
Students discovered new technology, digital tools, and multimedia.	From interactive lecture tools (e.g., polls, whiteboard) to music-based apps (e.g., GarageBand, Soundtrap) and multimedia use (e.g., video creation, use of green screens), students explored novel learning technology to them and created digital music.	We have had opportunities using Soundtrap and other technologies to work in teams and practice composing and different aspects of music therapy. Working with GarageBand to create music for clients.
Students experienced online clinical placements and newfound accessibility to clients.	Exposed to telehealth/telepractice, students gained new skills including various aspects of the therapeutic process (e.g., building therapeutic relationships and verbal instructions), application of digital music therapy techniques (e.g., improvisation, songwriting), and experienced online service delivery modalities with a variety of clients seen in their natural environments.	I learned how to effectively use zoom and make music therapy experiences interactive. Though it was very challenging at first, I feel I have a good grasp and approach to telehealth. ...seeing how my clients interact with their home environments gives me more clinical insight into their needs on a daily basis.

TABLE III.
Continued

Themes	Descriptions	Example Quotes
Students gained maturity in self-management and flexibility.	Online learning provided an opportunity for personal growth in self-directed learning (e.g., time management, self-motivation) and for adapting to difficult work-life circumstances through flexibility.	Finding the right balance between homework, study time, practice/rehearsal time, class time, and me time. It has forced me to be more creative and it has taught me to really go with the flow.
<i>Topic 2: What would work best for you to gain clinical experiences online? (n = 127)</i>		
Addressing equipment and technical issues.	Three recurring issues need to be resolved: Stable internet connection for both clients and students, adequate online platform for telehealth/telepractice services including less sound latency, and access to high-quality equipment (e.g., microphone, recording tools, video camera).	To best gain clinical experiences, clients in rural areas need a more consistent and stronger internet connection. This has been a large barrier for facilities, families, and sites. Find a medium for music making with less latency issues. I think being able to see and hear all of my clients would be beneficial to help with assessment, data collection, and evaluation.
Selecting experienced instructors and digital music resources for telehealth/telepractice.	Clinical training needs to include experienced practitioners who provide tele-interventions to various clients in different contexts, implement different online service delivery modalities, and use a broad spectrum of digital tools and applications for music making.	I think having resources/lectures from people who strictly work online would help a lot. I think the best approach would be teaching clinical skills that are more applicable to online sessions. I would like to learn more about different music applications and how to utilize them in a session.

TABLE III.
Continued

Themes	Descriptions	Example Quotes
Modifying student-led sessions and clinical supervision to telehealth/telepractice.	Tele-interventions led by students need to be guided 1:1 and supervised by an experienced practitioner before, during, and after the session; more clinical opportunities are desirable, and ongoing collaboration between the university and client/facility is vital.	Being in the same space as the supervisor when working with the client virtually so there is more guidance and support right in the room. It can easily get crowded with a lot of people on the call and it is harder to interact.
	Preparing for the job in a digital Clinical online experiences need to be extended to various populations, contexts, and service delivery models; opportunities to lead and co-lead sessions increased; and alternative learning opportunities provided (e.g., online summer courses, workshops, conferences).	To gain more clinical experiences in an online format, I need to experience this type of training in multiple different settings with different clients. Leading and co-leading online is how I've learned best. Continue to have some clinical experiences that remain online so we as students get the exposure prior to getting our internships and jobs.

Topic 3: Leaving a message about your COVID-19 online educational experience for a music therapy student in 2030, what would it say? (n = 132)

Practice self-care and empathy.	Students described the collective experiences of the pandemic, the importance of taking care of self and others, making step-by-step achievements, identifying coping skills, seeking support from various people, and being forgiving.	Lastly, I hope that current students take this experience to care for themselves and others with grace and humilityit forced me to take a look at myself and my mental health. It forced me to take a step back because I couldn't be as busy as I was before the pandemic.
---------------------------------	---	---

TABLE III.
Continued

Themes	Descriptions	Example Quotes
Connect with others.	Students described feelings of isolation and loneliness affecting their motivation and mental health during the pandemic and stressed the importance of maintaining relationships, reaching out and connecting with others, and taking advantage of professional social engagements whenever possible.	...take advantage of your college experience. Always show up to class even when you do not want to go, join clubs, be on an executive board, go to conferences, do it all. Take everything as it comes and don't be afraid to ask for help and clarification with assignments. Reach out to your professors—communication is key!
Struggle and cope.	Students described being stressed and exhausted during the pandemic but stayed hopeful by relating their experiences to others and seeking out positive points of view.	Zoom and screen fatigue is real. That is one of the most difficult components to push through for multiple hours in the day...especially for an online educational experience. You may be stressed, overwhelmed, tired but take some comfort in that you have your support system and friends... ...the pandemic helped us grow as people and learners.
Make it a learning moment.	Students described overcoming challenges and struggles caused by the pandemic as a unique learning opportunity that developed resilience, flexibility, creativity, and their confidence in mastering almost anything.	I think we were able to improve skills that otherwise would have been neglected as a student. If we got through COVID-19, we can get through anything.

TABLE III.
Continued

Themes	Descriptions	Example Quotes
Experience the pros/cons.	Students described the pros (e.g., adapt to pandemic restrictions, interactive synchronous classes, tech-savviness) and cons (e.g., confusion/anxiety, family distraction, latency issues) of their experiences with emergency remote teaching and online clinical placements (e.g., accessibility for clients, no in-person experience) during the pandemic.	...in these unique circumstances, music therapists and music therapy students have done what they historically do best; we have adapted. While I've taken online courses before, nothing prepared me for transitioning from fully in-person to 100% online. Though it was difficult, important work was done (e.g., source of social interaction for clients).

suggestions: engaging with broader client populations, settings, and digital service delivery models and increasing opportunities to co-lead/lead tele-interventions during practica and internship. Some students thought that telehealth/telepractice services were better than nothing, but they clearly preferred in-person services. Asking, “Leaving a message about your COVID-19 online educational experience for a music therapy student in 2030, what would it say?” sparked suggestions for staying connected with peers and professionals, practicing self-care, as well as embracing novel experiences and making the best of it. However, most students shared their struggles and missed in-person learning and their on-campus community. One student summarized their experience in the following message:

This was an eye-opening experience which music therapists worldwide were put on the spot to find new ways to interact with their clients. Online schooling however found one solution (Zoom) and rarely explored outside of this, creating a deficit in experience and hand-on learning for students.

Discussion

This study looked at how the COVID-19 pandemic has shaped the music therapy education landscape, students’ experience with the unpredicted changes, and their perception of online learning. Based on the current literature and results, the following statements and their implications for future music therapy education can be made. The findings may also inform instructors in their pedagogical decision-making when designing online courses.

Emergency Remote Teaching Is Different Than Online Education

Due to the soaring cases of COVID-19 in March 2020, it is not surprising that many music therapy university programs turned to instructional online platforms and teaching modalities to continue with course work and clinical training in a matter of days. With almost 80% of the programs teaching in-person prior to the pandemic, most faculty members likely were inexperienced, unprepared, and not sufficiently supported by their universities to provide high-impact online courses. Similarly, most music therapy students shifted involuntarily and unequipped into online learning.

This clearly reflects “emergency remote learning” as described in the literature (e.g., Hodges et al., 2020; Jeffery & Bauer, 2020). In a sample case study of Peking University, Bao (2020) suggested effective instructional strategies for emergency remote teaching: (1) prepare a Plan B for online platform glitches, (2) deliver content in short modules to help students stay focused, (3) use an expressive voice to ensure students capture key concepts, (4) get online support from teaching assistants and have them follow up with underprepared students, (5) reinforce students’ active learning between course times by giving practice-relevant assignments, and (6) have students prepare content offline for online illustration and discussion. Moreover, as the pandemic restrictions continue to be periodically in place, guidelines for shifting in and out of in-person, hybrid, and online teaching modalities and any combinations therein should be developed. Overall, to achieve a smooth transition to full-capacity online education for future public health and safety issues, it is advisable to be proactive and collaborate with university’s instructional designers in revamping courses (e.g., course outline, multimedia content, eLearning materials, assignments, assessment tools, technology support) and embedding them into a learning management system. Additionally, partnering with music therapy online faculty to learn from their experiences and successful examples (e.g., reshaping music-based and clinical aspects) might improve high-quality teaching practice.

Social Presence and Active Learning Are Essential

Given the COVID-19 pandemic restrictions and shift to emergency remote teaching, many music therapy students experienced social isolation, loneliness, and a lack of motivation. In fact, several expressed how much they missed social aspects of on-campus learning and student life and emphasized the importance of staying connected and in communication with faculty and peers. Aligned with findings from Nguyen et al. (2021), music therapy students valued the social presence and personal relationship offered by music therapy faculty in synchronous course lectures and embraced live interactions with course participants. In addition, online lectures that included interactive learning techniques resulted in significantly higher levels of engagement, motivation, enjoyment, and satisfaction with course instruction (Nguyen et al., 2021). They also suggested that undergraduate students preferred synchronous over asynchronous course modules

given their desire for social interaction. Therefore, changes for future music therapy online education may be twofold: (1) improved social presence through engaging instruction, small-group assignments, and peer communication networks; and (2) increased active learning by using a variety of interactive course tools beyond those available on the online platform Zoom (e.g., discussion board, gamifications, video blogs, extended reality technology, and other emerging tools).

Guidelines and Online Procedures Are Key

During the COVID-19 pandemic, many music therapy students faced complex challenges affecting their mental health as reflected in the following example quote: “I cannot believe I made it through. I never knew how exhausted, lonesome, and anxiety-inducing the pandemic would be for me as a student.” In this study, anxiety was rated as the fourth barrier to remote learning and, therefore, needs to be addressed to ensure students’ engagement in effective online learning. One way to relieve anxiety is to establish clear guidelines and online procedures to avoid confusion, disorganization, and frustration. Palloff and Pratt (2013) suggested to outline the following items in the syllabus: (a) online course routines and course content (e.g., course modalities, communication structure, learning activities, and planned modules), (b) attendance and participation policies (e.g., expected time commitment and minimum log on times), (c) technology requirements and support (e.g., access to computer, mobile devices, and high-speed internet connection, hardware and software, and IT Help Desk information), (d) netiquette standards, (e) weekly course topics and objectives related to professional competencies, (f) digital-readings/resources, and (g) assignments with transparent grading rubrics. To maximize students’ online learning and support their mental health, faculty members should not only consider these guidelines and procedures but also embed self-care routines in online lectures and assignments (e.g., music-assisted relaxation techniques, individualized relaxation playlists, and nature sound walks) and make sure that students have access to university-based mental health resources and support services.

Telehealth/Telepractice as Clinical Placement Is Here to Stay

With the temporary loss of clinical placements in music therapy, telehealth/telepractice was the solution to fulfilling clinical

training hours during the COVID-19 safety restrictions. Like medical students (Dost et al., 2020), music therapy students were initially concerned about developing clinical competencies without in-person patient/client contact. However, most of the music therapy students led or co-led telehealth/telepractice sessions (69.68%) and recognized their newly gained skills, the increased accessibility to services for patients/clients, and the opportunity to observe them in their natural environment. Similar to practitioners surveyed by Gaddy et al. (2020), students adapted to the changes in service delivery. Interestingly, a few first-year undergraduate students wondered how in-person patient/client contact would work. Several music therapy publications released during the pandemic have already provided guidance that can be applied to music therapy telepractice post pandemic. Knott and Block (2020) addressed organizational, operational, and clinical concerns of telehealth delivery in music therapy, and their 3-tiered model continues to provide structure to clinicians, educators, and students providing online services. Kern and Furman (2021) reviewed the knowledge, experiences, and values of telepractice in early childhood and released a glossary of terms and a comprehensive checklist for use with young children and their caregivers. With regard to advanced practice, Cole et al. (2021) recommended that telehealth in Neurologic Music Therapy should be a part of routine care for those who could benefit from remote delivery. Moving forward from this pandemic, telepractice/telehealth should be a clinical placement to prepare students for newly required job tasks in music therapy practice. Advisors and supervisors should have adequate experiences in providing tele-interventions to a variety of populations in different environments, continue developing best practice guidelines, and conduct research on the effectiveness of this service delivery model. Students should have access to a secured videoconference platform, equipment, technology, and interactive media to lead tele-interventions and be supervised in a 1:1 format before, during, and after each session.

Music Technology and Interactive Media Skills Are Needed

With the onset of the COVID-19 pandemic, the field of music therapy underwent a digital transformation, which fundamentally changed higher education and clinical service delivery including music making. While music therapy students explored online

communication platforms and interactive learning technology, only a few (20.97%) used music-based apps (e.g., GarageBand, Soundtrap, and Incredibox) and multimedia (e.g., video creation, use of a green screen) in tele-intervention sessions; most continued transferring familiar in-person music therapy techniques. Similar to findings from Agres et al. (2021), students described a lack of skills and training in using music technology in tele-intervention sessions. As telehealth/telepractice most likely continues as a service delivery modality in music therapy, students should develop digital competencies in using music technology (e.g., specialized music therapy software, digital instruments, streaming services, music apps, music games, and music-based augmented and virtual realities) and other interactive media (e.g., Bitmoji classrooms). Students will require explicit instruction in how to use technology intentionally and with a purpose, to consider when to incorporate technology in a session, to keep technology interactive and engaging, and to model the use of technology for generalizing skills when working with music therapy patients/clients (Bolton, 2017). Clinical training advisors and supervisors should familiarize themselves with appropriate tools and appraise their functionality and intentional use before using with students. In general, music therapists should embrace the new opportunities that emerged from the COVID-19 pandemic and stay current with future digital developments.

Study Limitations

One of the strengths of this study was the collaboration with student leaders from AMTAS who contributed to the survey reliability and validity, distributed the online questionnaire, and shared their perspective in the follow-up focus group. Yet, this investigation also faced some challenges and limitations. During the design of this study, student leaders revealed that there are two different ways to join AMTAS (i.e., nationally through a paid AMTA membership or locally through a university club membership), which made it impossible to determine an exact sample size. Meaning, only followers of AMTAS social media platforms could be recruited, leading to potential response bias. For future studies, it would be helpful if the organizations could clarify student membership and provide an accurate number and contact information to avoid response bias and be able to calculate a response rate. Also, it is important to note that sending out this survey during the mid-term

exam period and third semester under COVID-19 restrictions might have led to a lower number of responses as students possibly were stressed or fatigued. Student leaders of AMTAS suggested to disseminate future student surveys through email and earlier in the semester. Furthermore, it is likely that students' perceptions have been compromised by the complexity of challenges they encountered during the ongoing pandemic. Future research could investigate the long-term impact of emergency remote teaching on students' theoretical and clinical competencies needed for safe and competent practice. Lastly, some parts of this survey depended on students' memory and might have influenced their accuracy of reporting leading to potential recall bias. Consequently, the findings of this study might be different from unique students' perception of online learning during the COVID-19 pandemic.

Conclusions

Conclusively, the COVID-19 pandemic triggered a substantial change in both music therapy course content delivery and clinical training modalities. Although it was stressful at the time, faculty and clinical advisers/supervisors now have the opportunity to consider students' perspectives about online learning and integrate the findings into their course and clinical training development. Being prepared for future public health and safety concerns and adjusting to digital learning and service needs, music therapy programs should be prepared to offer high-quality online education and telehealth/telepractice services. Lastly, it is remarkable that despite the unique challenges the COVID-19 pandemic has presented, students stayed hopeful and saw online learning and telehealth/telepractice as an opportunity for personal and professional growth. One student shared, "It was a really challenging time, but it helped to evolve music therapy and it demonstrated how resourceful we can be in times of need." Just like music therapy professionals, students developed resilience, flexibility, and creativity that will prepare them to adapt to difficult circumstances in their future careers.

Supplementary Material

Supplementary material is available online at *Journal of Music Therapy*.

References

- Agres, K. R., Foubert, K., & Sridhar, S. (2021). Music therapy during COVID-19: Changes to the practice, use of technology, and what to carry forward in the future. *Frontiers in Psychology*, 12, 667–790. <https://doi.org/10.3389/fpsyg.2021.647790>
- American Music Therapy Association (AMTA). (2020). *APAC/AIAC COVID-19 response: FAQs*. https://www.musictherapy.org/assets/1/7/APAC_AIAC_COVID-19_Response_FAQs.pdf
- American Music Therapy Association (AMTA). (2021a). *COVID-19 and music therapy clinical training survey to faculty and clinical supervisors/internship directors. COVID-19 Task Force*. https://www.musictherapy.org/assets/1/7/COVID19_EdTrainingData_SurveyResults_5-2021.pdf
- American Music Therapy Association. (2021b). *COVID-19 resources: Telehealth consideration and resources*. https://www.musictherapy.org/about/covid19_resources_telehealth_considerations_and_resources/
- American Music American Music Therapy Association (AMTA) & Certification Board for Music Therapists (CBMT). (2021). *AMTA and CBMT 2020 COVID-19 survey results*. Retrieved from https://www.musictherapy.org/assets/1/7/COVID19_survey_results_AMTA_and_CBMT_condensed_4-21.pdf
- Bao, Q. (2020). COVID-19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113–115. <https://doi.org/10.1002/hbe2.191>
- Blizak, D., Blizak, S., Bouchenak, O., & Yahiaoui, K. (2020). Students' perception regarding the abrupt transition to online learning during the COVID-19 pandemic: Case of faculty of chemistry and hydrocarbons at the University of Boumerdes – Algeria. *Journal of Chemical Education*, 97, 2466–2471. <https://dx.doi.org/10.1021/acs.jchemed.0c00668>
- Bolton, D. (2017). Using technology and interactive media: Considerations for music therapists. *imagine*, 8(1), 28–35. Retrieved from https://issuu.com/ecmt_imagine/docs/imagine_8_1_2017/28
- Centers for Disease Control and Prevention (CDC). (2021). *Guidance for institutions of higher education (IHEs)*. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/community/colleges-universities/considerations.html>
- Cole, L. P., Henechowicz, T. L., Kang, K., Pranjic, M., Richard, N. M., Tian, G. L. J., & Hurt-Thaut, C. (2021). Neurologic music therapy via telehealth: A survey of clinician experiences, trends, and recommendations during the COVID-19 pandemic. *Frontiers in Neuroscience*, 15, 648–489. <https://doi.org/10.3389/fnins.2021.648489>
- Creswell, J. W., & Creswell Báez, J. (2021). *30 Essential skills for the qualitative researcher (2nd ed.)*. Sage.
- Dost, S., Hossain, A., Shehab, M., Abdelwahed, A., & Al-Nusair, L. (2020). Perceptions of medical students towards online teaching during the COVID-19 pandemic: A national cross-sectional survey of 2721 UK medical students. *BMJ Open*, 10, e042378. <http://dx.doi.org/10.1136/bmjopen-2020-042378>
- Gaddy, S., Gallardo, R., McCluskey, S., Moore, L., Peuser, A., Rotert, R., Stypulkoski, C., & LaGasse, A. B. (2020). COVID-19 and music therapists'

- employment, service delivery, perceived stress, and hope: A descriptive study. *Music Therapy Perspectives*, 38(2), 157–166. <https://doi.org/10.1093/mtp/miaa018>
- Hodges, C., Moore, S., Lockee, B., Trust, T., & Bond, A. (2020). *The difference between emergency remote teaching and online learning*. *EDUCAUSE Review*. Retrieved from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Jeffery, K. A., & Bauer, C. F. (2020). Students' responses to emergency remote online teaching reveal critical factors for all teaching. *Journal of Chemical Education*, 97(9), 2472–2485. <https://dx.doi.org/10.1021/acs.jchemed.0c00736>
- Kern, P. (2014). *Teaching today and tomorrow: Rethinking education for an online world* [Keynote slides, adopted 3-19-2020 for COVID-19 educators' response]. Retrieved from [https://www.musictherapy.org/assets/1/7/Teaching_Today_and_Tomorrow_Dr_Petra_Kern_3-19-2020_\(1\).pdf](https://www.musictherapy.org/assets/1/7/Teaching_Today_and_Tomorrow_Dr_Petra_Kern_3-19-2020_(1).pdf)
- Kern, P. (2020). *Online course routines for successful learning: 10 Tips*. Retrieved from [https://www.musictherapy.org/assets/1/7/Online_Routines_Dr_Petra_Kern_3-19-2020_\(1\).pdf](https://www.musictherapy.org/assets/1/7/Online_Routines_Dr_Petra_Kern_3-19-2020_(1).pdf)
- Kern, P., & Furman, A. (2021). Inside early childhood music therapy: Exploring a flexible online service delivery model during COVID-19. *imagine*, 12(1), 12–23. <https://www.imagine.musictherapy.biz/product/imagine-2021/>
- Kern, P., & Tague, D. (2017). Music therapy practice status and trends worldwide: An international survey study. *Journal of Music Therapy*, 54(3), 255–286. <https://doi.org/10.1093/jmt/thx011>
- Knott, D., & Block, S. (2020). Virtual music therapy: Developing new approaches to service delivery. *Music Therapy Perspectives*, 38(2), 151–156. <https://doi.org/10.1093/mtp/miaa017>
- Kumar, S., Martin, F., Budhrani, K., & Ritzhaupt, A. (2019). Award-winning faculty online teaching practices: Elements of award-winning courses. *Online Learning*, 23(4), 160–180. <http://dx.doi.org/10.24059/olj.v23i4.2077>
- LaGasse, A. B., & Hickle, T. (2017). Perception of community and learning in a distance and resident graduate course. *Music Therapy Perspectives*, 35(1), 79–87. <https://doi.org/10.1093/mtp/miv027>
- McCaffrey, T., McFerran, K., Gattiona, G., & Sundar, S. (2020). The Global Music Therapy Educators Network. *British Journal of Music Therapy*, 34(2), 80–81. <https://doi.org/10.1177/1359457520969322>
- McCaffrey, T., & Rickson, D. (2020a, March 19). *International meeting: Music therapy online teaching and learning* [Meeting minutes]. https://www.musictherapy.org/assets/1/7/International_Meeting_Online_MT_updated_notes_19.03.2020.pdf
- McCaffrey, T., & Rickson, D. (2020b, March 26). *International meeting 2: Music therapy online teaching and learning* [Meeting minutes]. Retrieved from https://www.musictherapy.org/assets/1/7/International_Meeting_2_MT_online_26.03.2020.pdf
- Means, B., Bakia, M., & Murphy, R. (2014). *Learning online: What research tells us about whether, when, and how*. Routledge.
- National Association of Schools of Music. (2020). *A challenging time: COVID-19 and related issues*. <https://nasm.arts-accredit.org/about/current-notice/covid-19-and-related-issues/?fbclid=IwAR0T0LWrhnex7udXV6BIIRjGI2rsYpCtaTAo54Rd9PLEqvm5G4bWpWfUI>

- Nguyen, T., Netto, C. L. M., Wilkins, J. F., Bröker, P., Vargas, E. E., Sealfon, C. D., Puthipiroj, P., Li, K. S., Bowler, J. E., Hinson, H. R., Pujar, M., & Stein, G. M. (2021). Insights into students' experiences and perceptions of remote learning methods: From the COVID-19 pandemic to best practice for the future. *Frontiers in Education*, 6, 1–9. <https://doi.org/10.3389/feduc.2021.647986>
- Palloff, R. M., & Pratt, K. (2013). *Lessons from the virtual classroom: The realities of online teaching*. Jossey-Bass.
- Roddy, C., Amiet, D. L., Chung, J., Holt, C., Shaw, L., McKenzie, S., Garivaldis, F., Lodge, J. M., & Mundy, M. E. (2017). Applying best practice online learning, teaching, and support to intensive online environments: An integrative review. *Frontiers in Education*, 2, 1–10. <https://doi.org/10.3389/feduc.2017.00059>
- Roff, S., McAleer, S., Harden, R. M., Al-Qahtani, M., Ahmed, A. U., Deza, H., Groenen, G., & Primparyon, P. (1997). Development and validation of the Dundee Ready Education Environment Measure (DREEM). *Medical Teacher*, 19(4), 295–299. <https://doi.org/10.3109/01421599709034208>
- Sajnani, N., Beardall, N., Stephenson, R. C., Estrella, K., Zarate, R., Socha, D., & Butler, J. (2019). Navigating the transition to online education in the arts therapies. In R. Hougham, D. Pitruzzella, S. Scoble, & H. Wengrower (Eds.), *Traditions in transition in the arts therapies* (pp. 153–170). European Consortium for Arts Therapies Education.
- Vega, V. P., & Keith, D. (2012). A survey of online courses in music therapy. *Music Therapy Perspectives*, 30(2), 176–182. <https://doi.org/10.1093/mtp/30.2.176>
- Zarate, R., Routhier, C., Heiderscheit, A., & LaGasse, B. (2020). *Distance learning tips for best practice in music therapy*. https://www.musictherapy.org/assets/1/7/Distance_Learning_Tips_and_Best_Practices.pdf