

Title: From Theory to Practice: Cultivating Practical Application in a Music Therapy Class

Author: Deanna Hanson-Abromeit

Summary: A music education and music therapy professor revamps a traditional lecture class into an experiential learning course that equips music therapy students to apply theoretical knowledge to their clinical practice.

Background:

Influence of Music on Behavior (MEMT 463/763) provides music therapy majors with an introduction to the cognitive neuroscience of music. A co-listed course offered to undergraduate juniors and graduate students, it facilitates a basic understanding of neurological music foundations, exploring the effect of music on human memory, attention, learning, emotion, and motor-movement. This knowledge becomes a tool to inform the therapeutic function of music as a mechanism for change in human behavior. When I taught this course in the fall of 2014, I had 16 undergraduates and six graduate students enrolled.

COURSE OBJECTIVES

1. Articulate the relationship between brain structures, function, and the role of music to facilitate human behavioral and functional outcomes.
2. Use evidence-based research to create a theoretical basis to inform the effective purpose and description of the musical characteristics for therapeutic outcomes.
3. Develop critical thinking and articulation of scholarly thought on the influence of music on human behavior, in both oral and written forms.
4. Use the terminology to describe and apply brain function and music to a clinical problem.

In previous iterations of this course, I found students struggled to apply the scientific course content to "real world" scenarios. I incorporated information in my lectures on the brain and music as they connect with behavioral outcomes, but there was little focus on applying this knowledge to specific characteristics of music in a way that would affect outcomes with clients. My goal in redesigning this course was to integrate the basic science emerging on the cognitive neuroscience of music and make such content accessible and applicable to students' clinical practice. As music therapists, we do not just use music; we tailor the characteristics of music specifically for a functional goal, and I wanted to provide my students with the opportunity to actually practice this specific skill. For example, if we want to increase speech production, we must consider the ways

in which melody will work for that task and that particular client. Adults who have developmental disabilities and Down syndrome have very narrow pitch range in their vocalizations, so we have to take that into consideration when we are using the music.

Because each client and each clinical environment is going to be different, I want my students to not only have a foundational knowledge about the neurological processes of music, but also possess the ability to find new research and apply it. The goal is that when they are working with a client on attention or memory, they have foundational knowledge of how dynamics or melodic contour can support the goal, and they know how to utilize the ever-advancing science into practice – a feature of evidence-based practice. My goal in redesigning this course was to help students learn to make more systematic choices and to understand the science and theory enough to practically apply it.

Implementation:

In the fall of 2014, I redesigned this course to minimize lecture time and create more experiential, team-based activities that would allow students to apply their new knowledge. This felt especially difficult when teaching a class that demands the coverage of so much new information. Furthermore, much of this new knowledge was scientific in nature, which is less familiar material for music therapy students. Team-based and experiential learning requires cutting down long lectures that explicitly cover all of this content, which can feel counterintuitive. However, I wanted students to leave my class knowing how to think critically about this material, and it was a priority to me that they possess the skills necessary to apply the content of our course to the work they are doing with clients. The team-based, experiential learning activities allowed students to actually tackle a problem together, actively applying the course-content, instead of passively listening to me lecture on the same material.

To accomplish these goals, I still began class with lectures, but I designated a consistent space within the class time for students to work in small groups and practice applying the information I had just provided them. Students were assigned to groups based on their clinical rotations, which allowed them to consistently collaborate with those who were working with similar populations in their practicums. One group might work with several clients who have autism, while another group may work with clients who have Down syndrome or other developmental disabilities; each unique client-base requires a distinct set of considerations when developing a plan for the function of music during therapy. Regularly allowing these groups time to talk through and apply the material with their peers made the work more manageable, accessible, and provided them the opportunity to ask questions of each other and me.

One example of an experiential learning opportunity that replaced a lecture was the Article Assessments activity. For this assignment, students found an article that expands on the content we were discussing in class. In past semesters, this was the extent of the assignment, but this semester, I enhanced the activity by requiring my students to think critically about their sources and consider how to ask questions of a text, such as: how do you analyze whether or not this is a worthwhile article? By allowing my students the chance to interact with and evaluate their research in a low-stakes context, they were able to practice applying a skill that they will need as they continue in their professions.

Assessment

The Therapeutic Function of Music Plan worksheet serves as a plan for students' clinical rotations and follows a format that prepares students for the work they do as clinicians or

for research projects. I did not use the Therapeutic Function of Music Plan worksheet when I taught this course previously, but in the new course design, I wanted to emphasize the way that the theory and the science connect to clinical practice. The worksheet requires a theoretical foundation to support the design of the music for a specific treatment goal. Following the assessment, students create a treatment plan. An effective music therapist will need to decide how music is going to function for that particular goal. The worksheet serves as a way to organize a wide variety of information taken from the literature and assessment in order to determine what role and structure the characteristics of music should have to effectively facilitate the desired change in behavior, i.e. the treatment goal. For example, identifying which pitch ranges therapists should use for which client helps them be more systematic about their choices.

Students turned in one of these worksheets early in the semester. This version was left ungraded, but served as a baseline to assess progress over the course of the semester. Early assignments and class-based experiences were designed to help students with the pragmatics of locating literature, reading, interpreting, and translating information to support students' integration of course content into their final projects. At the end of the semester, I allowed them to redo their Therapeutic Function of Music Plan worksheets and present their final version orally to the class. The contrast between early and final projects of this document allowed me to evaluate how much they were able to integrate new knowledge and use the skills we developed in the course. I designed a rubric that evaluated students on the development of their knowledge and their ability to apply it to their clinical practice, as well as a rubric for peer evaluation during a short presentation at the end of the semester. These final assignments became examples of the shift from simply understanding the theory and science to the application of this knowledge into practice.

Student Work:

Students were required to write summaries of two research articles over the course of the semester. These summaries addressed Course Objectives 2 (use evidence-based research to create a theoretical basis to inform the effective purpose and description of the musical characteristics for the therapeutic outcomes) and 3 (develop critical thinking and articulation of scholarly thought on the influence of music on human behavior, in both oral and written forms). Students wrote the first summary independently, but I assigned students to teams for the second summary. Each group was assigned a music characteristic (timbre, melody, pitch, loudness, or harmony) and asked to select primary research articles related to the music characteristic and a human behavior—memory, language, and emotion. Students were responsible for identifying and reading a research article, summarizing it for interpretation and, as a team, synthesizing the information and translating it for application to practice. Teams presented their material to the class, thus exposing students to a wider variety of content, as well as autonomous and collaborative practice in reading, interpreting, translating, and applying basic research to practice. Several examples of the student presentations follow.

After the course redesign, student presentations covered more complex research articles, and students demonstrated stronger understanding of synthesis and application to practice. Students reported they liked this process better than an individual citation summary and class discussion. I also felt the team-based approach functioned better in the way it supported the generalizability of relevant information (see Emotion and Melody PowerPoint), as well as facilitating specific application of material to clinical populations (see Language and Loudness Prezi). In addition, it allowed students to learn from one another, particularly terminology and translation of science to practice. An additional outcome of this assignment adaptation was that the team-based citation summaries addressed course objectives 1 (articulate the relationship between brain structures, function, and the role of music to facilitate human behavioral and functional outcomes) and 4 (use the terminology to describe and apply brain function and music to a clinical problem), rather than just the originally intended 2 and 3.

For their final projects, students submitted a revision of the baseline Therapeutic Function of Music Plan and gave a short presentation of the essential music characteristics deemed most important to effective therapeutic goal achievement and music-based application. The students and course instructors rated the presentations on reliability (whether the characteristic of the music did what TFM Plan intended) and fidelity (whether the characteristic was structured in the presentation as intended). The following are examples of students' baseline and final projects, as well as presentations of the Therapeutic Function of Music Plan.

Final projects received an A if the student demonstrated integration of course content into the theoretical framework component of the worksheet and showed a clear translation between the theoretical framework, purpose, and description of the musical element. Stronger papers accurately synthesized the music elements from the theory, purpose, and description areas of the worksheet. In addition, they showed reliability and fidelity with the transcription of the music (most notably if the student composed an original song) and the implementation of the music during the final presentations. Projects that received a C had little change in the worksheet content or made broad generalizations in the theoretical framework and had little connection between the theory, purpose, and description. In addition, weaker projects may have used “piggybacked” songs (i.e. client-familiar or preferred songs in which the lyrics have been modified) with limited representation of the synthesis description.

Overall, students seemed to struggle with applying course material to clinical practice. The graduate teaching assistant and I were surprised at the emphasis students placed on client preference and familiarity as a primary feature of music characteristics, rather than using the theory-based approach to guide the selection or composition of music for therapeutic interventions during the final presentations. Even with the higher-level final projects, there was little translation of the basic science to practice, unless it was explicitly identified (e.g. related to language). When providing feedback, a few students referenced the team-based citation presentations, suggesting that this type of assignment could be beneficial and that more explicit interpretation is necessary. Based on student comments during the final project presentations, the inclusion of peer scoring for the music-based intervention helped students think more carefully about the music-based intervention, especially as it applies to the Therapeutic Function of Music Plan. In other words, the process of peer scoring allowed students to grow in their abilities to translate theory into practice.

Students in this class have traditionally done well with the content; even with the course redesign, there was a slight increase in grades from fall 2013 to fall 2014. In fall 2013, 77% of undergraduates and 75% of graduate students received an A or A- in the course. In fall 2014, 86% of undergraduates and 100% of graduate students received an A or A- in the course.

Reflections:

I am happy with the outcomes of my course redesign. Overall, based on classroom discussions, students reported that they “went down the rabbit hole of library data searches” to find more information and more complex articles used in citation summaries. I also observed an improved quality of integration in class presentations. Since this class relates to students’ clinical practice, I would like to do follow-up with their subsequent clinical practicums to determine whether students can transfer the course content to other settings and foster sustainability to the content and application of this course.

A major challenge to this course is the lack of comprehensive and accessible textbooks. There are a variety of sources that touch on different characteristics of course content, but I have yet to find one that provides a comprehensive overview that is also written in a manner understandable to undergraduates and graduate students without a lot of exposure to neuroscience. Much of the research is emerging, so it requires the ability to pull from the basic science. This proved too time-consuming from an instruction preparation perspective – class lectures required accessing a multitude of sources and integrating the content into clear and manageable lectures. Students were asked to read basic scientific literature, which required them to develop skills in reading and analyzing research that, for many, involved looking up terminology and breaking apart the articles into smaller chunks. Applying the basic science to clinical practice also required a high level of critical thinking that at times stretched the capacity of the students’ current learning paradigms.

While there was a slight increase in grades from fall 2013 to fall 2014, the amount of material that was integrated into the final projects could be increased. I don’t know if this is a reflection of the complexity of the course material, limited understanding of how to apply a broader range of information for a specific population or diagnosis, time constraints at the end of the semester, or confusion over using an assignment for this course that was also used in their clinical practicums. The integration of neuroscience and theory-based clinical practice is a new practice in the discipline; thus, there is a learning curve for teaching these concepts. In the future, I want to use the Therapeutic Function of Music Plan more actively across the semester to support the integration of the information as we learn it. I would also like to streamline some of the pre-requisite skills introduced at the beginning of the semester (e.g. basic knowledge of brain structures and function, and searching, reading, analyzing, and interpreting research studies) now that I have a clearer understanding of what students need in order to understand, manage, and apply the content. This is especially important for students who may struggle with critical thinking. Overall, I look forward to continued refinement of this course for fall 2015.