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Developing TPACK in Music Educators

Description of the Capstone Experience and Results

In July 2015, the proposal for a capstone project entitled Developing TPACK in Music Educators was submitted to the faculty of the Instructional Technology department at Kennesaw State University. The proposed capstone project was designed to fill the need for pedagogy- and content-specific technology training for elementary music teachers in Fulton County, GA. These teachers had long noted that any technology training they received from their schools would typically have little or nothing to do with the specific pedagogy or content involved with teaching elementary music. Therefore, these teachers were in need of professional development that combined the domains of music technology, pedagogy, and content knowledge (TPACK). "Music and technology have always had a unique relationship. From the early history of music to the technological advances of today, many tools have been developed that afford musicians, teachers, and/or students the opportunity to experience, develop, play, and critique music" (Roblyer & Doering, 2013, p. 356). However, it would be extremely difficult for these music teachers to congregate in a central location on a regular basis for any music-specific technology training as the school district covers an area of 534 square miles. Therefore, the proposed solution and basis for the capstone project was to design and implement a series of professional development offerings in an online format. The proposed objectives of this online professional development included:

- Assess teachers' readiness levels for technology integration, including technical skills, current uses of technology, and philosophies for technology integration using a teacher survey.

- Develop a series of ten (10) music-specific technology integration trainings with an increasing level of difficulty in technical skills. Teachers will begin their training at a level appropriate to their own technical skills and needs.

- Develop a Weebly website as a platform for these training materials, including a discussion forum, blog, and surveys to monitor teacher development.

- Create a Wikispaces site for teachers to collaborate and share best practices for integrating technology in elementary music classes.

- Provide technological support when necessary to teachers.

A survey was created at the onset of the capstone project that was designed to gather diagnostic data about teachers' basic technical skills, frequency and type of technology use in their music classrooms such as technology to foster higher-order thinking vs. lower-order thinking and student-centered vs. student-centered technology use, and teachers' personal views on the importance of incorporating technology in the music classroom and having students specifically use technology in the music classroom. The survey was distributed at the beginning of the 2014-2015 school year and was completed by a total of twenty-nine elementary music teachers in Fulton county (about 40% of the district's elementary music teachers – see Appendix A for a table of survey results).

However, it was only after the proposal was submitted that the initial survey results came in. These results showed that the vast majority of these teachers did not need help with basic technical skills but did need help with using technology for student-centered, higher order thinking tasks. For example, when asked if they were able to import a CD into iTunes, 79% of respondents indicated that they were comfortable doing this without any assistance. Conversely, only 28% of respondents claimed to implement student-

centered technology for higher-order thinking tasks either continually or regularly, whereas 54% rarely or never used technology this way. Additionally, 72% of respondents stated that they rarely or never had their students use technology to communicate with others outside of their school building. Despite these low uses, the survey results did indicate that overall teachers had a positive attitude about the importance of integrating technology in the music classroom: 86% believed technology in general and student technology use in particular were necessary and good whereas 0% thought it was unnecessary and 14% did not respond to the question.

The course of the capstone project was changed as a result of these response data. Because the data showed that teachers had a far greater need for instruction on how to incorporate technology for student-centered, higher order thinking tasks than for the development of basic technology skills, it was decided that the former would become the main focus of the project. The training would now consist of separate pages on the online resource for different technology tools (web tools, apps, software, etc.) instead of different pages for increasingly difficult technical skills. However, because some teachers did indicate room for growth with technical skills, and because learning about any new tool requires some sort of learning curve, it was decided that each page would include *both* the basic skills needed for using that tool as well as ideas and examples of how to utilize that tool for higher-order, student-centered technology use. The project would now also include a section on best practice for technology use as well as a section for actual lesson plans that would demonstrate how to incorporate these technology tools within the context of the content and pedagogy of K-1st, 2nd-3rd, and 4th-5th grade general music. There was no longer a need to have teachers start at different points as all the information

about a particular tool, from basic to advanced, could be found on one of these pages to help teachers as needed. Additionally, instead of creating the two different platforms of Weebly to house the training materials and Wikispaces to house teacher collaboration and discussion, it was decided that all the training materials would be collected on a single wiki. This wiki would now serve as both the home for the information about each of these tools and a platform for the discussion forum that was to take place on the Weebly site as well as a place to collaborate and share best practices about how to use each tool, which was the original intention for the wiki. The wiki's capability for collaboration and contribution is one of its best assets as a website building tool, especially for the context of this project. As Kotter (2012) explains, "In successful transformations, the president, division general manager, or department head plus another five, fifteen, or fifty people with a commitment to improved performance pull together as a team" (p. 6). By affording opportunities for other teachers to contribute to the wiki, it is doing just that.

The initial stages of the project development (March 2015-April 2015) included the creation of the wiki itself (http://fultonmusicedtech.wikispaces.com) as well as research about unfamiliar tools that were to be included in the resource. It was decided that, among tools that were familiar to the candidate, the project would also include tools with which the candidate was previously unfamiliar. By learning about a new tool first-hand, the candidate developed a method for learning about a new tool. This method included spending time using the tool to understand its basic functionality, viewing YouTube videos about the tool, searching for other resources about that tool, and experimenting with ways to use it in music class. All the pages on the wiki were then developed using

this method so that each page could be as useful as possible for anyone using that tool for the first time.

    Beginning May 2015, intensive work began with the development of each page on the wiki. A total of fifty-four pages were created, which included pages for eighteen web tools, seventeen mobile apps, seven software applications, four technology resources, and lesson plans for four instructional units for each of the grade level pairs (K-1st, 2nd-3rd, and 4th-5th). Many of the tools were also cross-referenced on the pages of other tools on the wiki. For example, the page on the wiki that discusses the website and blog builder tool Weebly was mentioned and linked on other pages on the wiki any time there was an opportunity for teachers to post or embed anything on their classroom website, such as a Padlet wall, Twitter feed, audioBoom recording, ShowMe presentation, etc. Depending on the candidate's familiarity with the tool, each page took anywhere between 45 minutes to several hours to complete.

    Additional pages included a "Web Tools Home" page to serve as description of the Web Tools section and as a central repository for web tool resources such as the definition of Web 2.0, methods for evaluating a new web tool, and an easy place to keep a growing list of recommended web tools for music teachers. Some of the web tools on this list had dedicated pages on the wiki and some of the more self-explanatory resources were simply listed with a link to that web tool. A similar "Apps Home" page was created for the mobile apps section. This page included information about the Apps section such as an explanation that some apps included in this section were available for both iOS and Android and some were available for iOS only. The Apps Home page also included separate resources for each of these mobile operating systems as well as general

resources for using any mobile device in the classroom. Like the Web Tools Home page, the Apps Home page also offered an area to include a growing list of recommended apps. This list included both music-specific apps and apps for general use. Also like the Web Tools Home page, some of the apps on this list had dedicated pages on the wiki and some were simply listed with a link to the app's page on either Apple App Store or Google Play, depending on availability. A third "Home" page was created for the Tech Resources section. This page was also created to share information about the Tech Resources section pages as well as a place to provide a list of tech resources, with separate sections for music-specific and general technology use.

For the "Web Tools," "Apps," and "Software" sections, each page within those sections included a brief introduction of the tool, a short video explanation of the tool, a "Getting Started" section that would describe the basics of how to use that tool, and a "Uses for Music Class" section that demonstrated specific ways to implement the tool in music class, including methods for incorporating the tool to foster student-centered, higher-order thinking skills. Many of these pages also included a "Resources" section to give teachers to access to even more helpful materials about that tool. This aligned with the method for becoming familiar with a new tool outlined above. In addition, some of the pages included examples already created by various teachers throughout the district, such as Twitter handles, links to classroom blogs and websites, Kahoot! quizzes, etc. The "Tech Resources" section included pages designed to optimize teachers' technology use, including information about Common Sense Media, copyright law as it pertains to digital resources, ISTE Standards for Students and Teachers, and resources for thinking about and measuring effective technology use such as the

Substitution Augmentation Modification Redefinition (SAMR) Model, Levels of

Teaching Innovation (LoTi) Framework , Technology Integration Matrix (TIM), and

more.

The "Projects and Activities" section was divided into four pages to cover the county-

wide instructional units for elementary general music, including Beat and Rhythm,

Melody and Harmony, Expression and Movement, and Timbre and Form. A fifth page

was added to include lessons that do not fall into a particular unit, such as learning about

composers, music history, world music, etc. For each of these units, a lesson plan was

developed for K-1st, 2nd-3rd, and 4th-5th as these grade level pairs tend to have similar

standards. This section was meant to truly exemplify the intersection of technology,

pedagogy, and content knowledge (TPACK) for successful implementation of technology

in elementary general music. The whole process of researching the tools and developing

the wiki took over one hundred hours (see Appendix B for Capstone Log).

All elementary music teachers in the district were given a link to the wiki near the end

of May 2015. Although the teachers were able to use this link to view the resources on

the wiki, they were not given an invitation code to join and contribute to the wiki at that

time as the site was not yet fully completed. The teachers were also asked to complete a

survey about the usefulness of the wiki and its various sections. The original plan for the

capstone evaluation was to re-use the initial survey to measure teachers' growth in

specific technical skills and the more complex skills of using technology for higher-order

thinking skills and student-centered learning. However, it seemed necessary to create a

new evaluation method to measure the effectiveness of the actual project because the

direction of the project had changed from the implementation of the initial survey.

The Fulton Music Ed Tech Wiki survey was completed by a total of twenty elementary music teachers in Fulton County (about 27% of the district's elementary music teachers – see Appendix B for a table of survey results). The survey specifically did not ask for respondents to submit their name in an effort to keep their responses anonymous and thus help respondents feel more comfortable giving honest, critical feedback. Overall results showed that teachers found the wiki to be very useful for getting new ideas about how to use technology in their classrooms. For example, 100% of respondents found the wiki to be "very helpful" overall for learning about technology implementation in the music classroom. When asked how helpful they found the wiki for learning how to implement student-centered technology use involving higher-order thinking tasks/high rigor in the music classroom, 90% of respondents found the wiki to be "very helpful" and the other 10% said "somewhat helpful." When asked how helpful they found the projects and activities section of the wiki for learning to develop their own technology-rich lessons and projects in the music classroom, 90% of respondents said "very helpful" and the remaining 10% found this section to be "somewhat helpful." In fact, not a single question on the survey resulted in even one response of "not helpful." The lowest rate of "very helpful" responses was 85% for two questions: ways to use the individual tools in music class and the overall effectiveness of the software section.

Moving forward, there is still much work to be done on the wiki. Based on the wiki survey data, the candidate plans to add more information to the software pages as well as more information about ways to use each tools in music class. The wiki will also continue to grow as a result of other teachers' contributions. As of early June 2015, Fulton elementary music teachers were given a join code so that they may contribute to the wiki

by adding more information to the existing pages and even adding additional pages for tools and resources that the candidate may not know about. It is because of this continual addition and improvement of the wiki that it will likely be a constant work in progress and never truly be "completed."

<div align="center">**Discussion and Reflection**</div>

Technology Facilitation and Leadership

The candidate learned many things about technology facilitation and leadership through the process of completing this capstone project. The goal of the project was to enact change in other music teachers from around the district to improve technology use in their classrooms. Therefore, the wiki resource needed to be easy for teachers to use yet in-depth enough to help teachers learn, as this would motivate and empower them to use these strategies in their classrooms. As Kotter (2012) explains, "Without sufficient empowerment, critical information about quality sits unused in workers' minds and energy to implement change lies dormant" (p. 175). As the candidate shouldered the responsibility of developing the materials that would help these teachers achieve this goal, she embraced the role of a district-wide leader in the music department for instructional technology implementation. The candidate took this responsibility seriously by making sure that each page of the wiki was as informational and useful as possible for all music teachers in the district and by assuring that the wiki demonstrated a thorough understanding and fulfilled these teachers' needs when learning about instructional technology. The candidate also learned much about large-scale technology facilitation for a group as sizeable and diverse as the elementary music teachers across the Fulton county school district. The candidate learned that in order to facilitate the learning of a new tool,

she needed to provide as much information as possible so that this diverse group of music teachers with different skill sets, backgrounds, attitudes, and experiences could all benefit from the resource to implement technology in their classrooms, specifically as it relates to music. Reese and Rimington (2000) insist that content-specific technology training is "critical if technology education is to move beyond simple technical training in software and hardware to educating teachers in specific, detailed strategies for integrating technology into the curricula" (p. 27). By designing the wiki with music teachers in mind and including strategies for integrating technology into the music curriculum specifically, the wiki was able to offer professional development that combined the domains of music technology, pedagogy, and content knowledge, otherwise known as TPACK. As such, the candidate saw that Fulton music teachers found this resource to be far more useful for than any technology-related professional development they had previously encountered.

Learning Related to Knowledge, Skills and Dispositions

The completion of the capstone project also helped the candidate improve her knowledge, skills, and dispositions required of a technology facilitator and leader. The candidate's knowledge about several digital tools and resources was greatly increased as a result of the research she conducted in order include in these tools in the wiki. For example, in her research she learned about how these tools could be used in technology-enhanced learning experiences aligned with student content standards in music and student technology standards (PSC 1.1), how to use the tools to engage students in authentic learning experiences (PSC 2.3), how to design technology-enhanced learning experiences using these tools (PSC 2.6), how to use these tools for diagnostic, formative, and summative assessments to measure student learning and technology literacy (PSC

2.7), how to troubleshoot basic software and hardware problems common with these tools

(PSC 3.5), and how these tools could be used to communicate locally and globally with

students, parents, peers, and the larger community (PSC 3.7). All of this knowledge can

be demonstrated in the thorough explanations that were created for each tool, which

included information that pertains to each of these standards. It is absolutely necessary

for a technology leader and facilitator to have this in-depth knowledge about the tools she

is helping others learn to use so that she can be as helpful as possible for other teachers

during the learning process by effectively explaining how the tools work, offering ideas

for using them in the context of specific content and pedagogy, showing how they can be

used to foster differentiation and higher order thinking skills, being able to troubleshoot

any problems associated with using the tool, and answering any questions that others may

have about the tools.

    By carefully selecting and evaluating the tools that would be included in the wiki, the

candidate was able to practice the skills of selecting and evaluating digital tools and

resources for accuracy, suitability, and compatibility with the school technology

infrastructure (PSC 3.6). The process of carefully selecting and evaluating each tool

included checking for compatibility with the resources commonly available to the

teachers around the district, including at least one iPad/tablet in each classroom, a

common or similar Dell computer assigned to each teacher, wireless Internet access in all

music classrooms across the district, etc. The selection and evaluation process also

involved making sure that each tool contained accurate music content information and/or

general technology information and was well suited for the pedagogy and content of an

elementary music classroom. The candidate also had an excellent opportunity to practice

the skills of conducting needs assessments (PSC 5.1) through developing, implementing,

and completing the data analysis of the initial teacher survey that ultimately led to the

development of the wiki. The candidate practiced the skills necessary for designing and

implementing regular and rigorous program evaluations to assess effectiveness and

impact on student learning (PSC 5.3) when she created and implemented the Fulton

Music Ed Tech Wiki survey after the wiki had been created. The skill with which the

candidate got the most practice was developing technology-based professional learning

programs (PSC 5.2), as demonstrated by the process of creating the wiki and its many

pages designed to help music teachers with various technology tools. Specifically, she

learned how to design technology-related professional learning to help these music

teachers with strategies that focused on "the combination of technological pedagogical

content knowledge required to integrate technology most effectively into instruction"

(Roblyer & Doering, 2013, p. 53), as every page on the wiki included information that

brought together each of these knowledge domains. All of these skills are extremely

important for any effective technology leader and facilitator to assure that the tools and

their corresponding training materials address the needs of the teachers and students as

thoroughly and effectively as possible and that they continue to do so as time goes on.

The process of completing the wiki as a resource for other teachers also helped the

candidate reflect on her own dispositions and attitudes as a technology facilitator and

leader. For example, even though this was the culminating project for her entire M.Ed.

program, the candidate was still willing and eager to demonstrate continual growth in her

knowledge and skills of current and emerging technologies and apply them to improve

personal productivity and professional practice (PSC 6.1) as demonstrated by the research

and inclusion of tools with which the candidate was not formerly familiar. A positive attitude for continual growth may be one of the most important qualities of successful technology facilitators and leaders, because they need this attitude to keep up-to-date in a field is characterized by constant innovation and change. As Creighton (2003) explains, "Today's rapidly changing environment requires the…technology leader to become involved in discovering, evaluating, installing, and operating new technologies of all kinds, while keeping teaching and student learning as the guide and driving force behind it all" (p. 3). Additionally, the candidate was tasked with reflecting on her own professional practice (PSC 6.2) when developing the pages meant to help others learn about that tool. She had to consider not only how she would use that tool in her classroom, but also how she would go about learning about the tool itself in order to be able to effectively teach others about it. The candidate tried to reflect on her colleagues' professional practices as well in order to make the training materials as effective as possible for as many different teachers as possible. However, the pages on the wiki may tend to be biased with regards to what information is assumed to be necessary and important to include when helping someone use a new tool. This will be improved over time as others contribute their perspectives to the wiki.

Recommendations

For anyone wishing to attempt to address a similar need in their school or district, the candidate would advise those technology facilitators and leaders to focus their professional development efforts on the combination of technology, content, and pedagogy knowledge domains (TPACK) rather than treating these as separate issues. Learning about technology within the context of one's specific content and pedagogy

knowledge and skills is proven to be a more effective method for professional learning than the traditional "one-size-fits-all" approach for teachers of numerous and diverse content fields and pedagogy strategies. For example, one study by Doering, Veletsianos, Scharber, and Miller (2009) about the effectiveness of professional learning related to TPACK found "All of the [participants] felt that the TPACK approach to professional development and learning environment was 'vital' as it 'empowered' them and didn't make them feel dependent on someone else, thus increasing confidence" (p. 332). The survey results from this project corroborate these findings. The candidate would also advise others to consider a collaborative approach according to the preferred learning styles of adults when planning any training for teachers: "Adult learners do not respond favorably to traditional, behavioral pedagogy and methods of instruction; they respond more favorable [sic] to social constructivist pedagogy and methods" (Potter & Rockinson-Szapkiw, 2012, p. 23). The candidate strongly endorses the wiki platform for those wondering how to provide opportunities for collaboration among teachers in distant and remote locations.

The candidate strongly recommends flexibility when designing training materials. This project took a turn from the proposal to the actual outcome, but the resulting project will likely prove to be much more useful to the district's elementary music teachers than the proposed version would have been. The candidate would also advise others to be willing and open to including tools that are not as familiar or comfortable to them. Through the process of learning about a new tool, one is putting one's self in the place of the trainees for whom the training is meant to help. This is extraordinarily beneficial for creating useful training materials. It also opens possibilities of learning about some

wonderful new technology tools. Finally, this candidate would advise others not to be

intimidated by the time commitment necessary for creating such a resource, because the

end result of having a useful resource for a large group of colleagues is extremely

rewarding and well worth the effort.

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Appendix A: Music Teacher Technology Survey Table of Results

Part 1: Basic Technology Skills		
1. To what extent are you able to download files from a legitimate source?		
I don't know how to do this: **0%**	I sometimes need help to do this: **21%**	I am comfortable doing this without help: **79%**
2. To what extent are you able to import music from a CD into iTunes?		
I don't know how to do this: **18%**	I sometimes need help to do this: **3%**	I am comfortable doing this without help: **79%**
3. To what extent are you able to create and edit playlists for particular lessons and/or grade levels in iTunes?		
I don't know how to do this: **14%**	I sometimes need help to do this: **7%**	I am comfortable doing this without help: **79%**
4. To what extent are you able to upload only selected songs and/or playlists on an iPod?		
I don't know how to do this: **24%**	I sometimes need help to do this: **10%**	I am comfortable doing this without help: **66%**
5. To what extent are you able to burn a new CD from a playlist on iTunes?		
I don't know how to do this: **14%**	I sometimes need help to do this: **7%**	I am comfortable doing this without help: **79%**
6. To what extent are you able to search for and download an app on an iPad?		
I don't know how to do this: **10%**	I sometimes need help to do this: **18%**	I am comfortable doing this without help: **72%**
7. To what extent are you able to create digital audio recordings of your students?		
I don't know how to do this: **31%**	I sometimes need help to do this: **31%**	I am comfortable doing this without help: **38%**
8. To what extent are you able to upload audio, video, and/or pictures from your iPod/iPad/other device onto your computer?		
I don't know how to do this: **14%**	I sometimes need help to do this: **38%**	I am comfortable doing this without help: **48%**

9. To what extent are you able to connect your computer to an LCD projector or interactive white board?		
I don't know how to do this: **3%**	I sometimes need help to do this: **10%**	I am comfortable doing this without help: **87%**

10. To what extent are you able to create bookmarks and bookmark folders in an Internet browser (Internet Explorer, Firefox, Chrome, etc.)?		
I don't know how to do this: **10%**	I sometimes need help to do this: **21%**	I am comfortable doing this without help: **69%**

11. To what extent are you able to create and operate a class website?		
I don't know how to do this: **21%**	I sometimes need help to do this: **31%**	I am comfortable doing this without help: **48%**

12. To what extent are you able to create and operate a class blog?		
I don't know how to do this: **41%**	I sometimes need help to do this: **18%**	I am comfortable doing this without help: **41%**

13. To what extent are you able to backup files onto a secondary source?		
I don't know how to do this: **7%**	I sometimes need help to do this: **27%**	I am comfortable doing this without help: **66%**

14. To what extent are you able to upload and access files on the Cloud?		
I don't know how to do this: **41%**	I sometimes need help to do this: **28%**	I am comfortable doing this without help: **31%**

15. To what extent are you able to troubleshoot basic technical issues (frozen screen, printer jam, etc.)?		
I don't know how to do this: **3%**	I sometimes need help to do this: **41%**	I am comfortable doing this without help: **56%**

Part 2: Classroom Use

16. How often do YOU use technology for lower-cognitive tasks in lessons?				
Never: **7%**	Rarely (1-4 times per year): **0%**	Occasionally (1-2 times per month): **21%**	Regularly (3-4 times per month): **24%**	Continuously (nearly every day): **48%**

17. How often do YOU use technology for higher-cognitive tasks in lessons?				
Never: **3%**	Rarely (1-4 times per year): **13%**	Occasionally (1-2 times per month): **28%**	Regularly (3-4 times per month): **28%**	Continuously (nearly every day): **28%**

18. How often do YOUR STUDENTS use technology for lower-cognitive tasks in lessons?				
Never: **14%**	Rarely (1-4 times per year): **26%**	Occasionally (1-2 times per month): **21%**	Regularly (3-4 times per month): **21%**	Continuously (nearly every day): **18%**

19. How often do YOUR STUDENTS use technology for higher-cognitive tasks in lessons?				
Never: **18%**	Rarely (1-4 times per year): **36%**	Occasionally (1-2 times per month): **18%**	Regularly (3-4 times per month): **14%**	Continuously (nearly every day): **14%**

20. How often do YOUR STUDENTS use technology to communicate with others outside the building?				
Never: **51%**	Rarely (1-4 times per year): **21%**	Occasionally (1-2 times per month): **7%**	Regularly (3-4 times per month): **7%**	Continuously (nearly every day): **14%**

Part 3: Technology Philosophy

21. Do you believe it is important to use technology in music class? Why or why not?		
Yes: **86%**	No: **0%**	No Response: **14%**

22. Do you believe it is important for STUDENTS to use technology in music class? Why or why not?		
Yes: **86%**	No: **0%**	No Response: **14%**

Appendix B: Fulton Music Ed Tech Wiki Survey Table of Results

1. OVERALL, how helpful was this wiki for learning about technology implementation in the music classroom?		
Very helpful: **100%**	Somewhat helpful: **0%**	Not helpful: **0%**
2. How helpful was this Wiki for learning how to implement student-centered technology use involving higher-order thinking tasks/high rigor in the music classroom?		
Very helpful: **90%**	Somewhat helpful: **10%**	Not helpful: **0%**
3. How helpful was this Wiki for learning HOW TO USE individual tools?		
Very helpful: **90%**	Somewhat helpful: **10%**	Not helpful: **0%**
4. How helpful was this Wiki for thinking about WAYS TO USE individual tools in music class?		
Very helpful: **85%**	Somewhat helpful: **15%**	Not helpful: **0%**
5. How helpful were the pages for web tools on this Wiki?		
Very helpful: **95%**	Somewhat helpful: **5%**	Not helpful: **0%**
6. How helpful were the pages for apps on this Wiki?		
Very helpful: **95%**	Somewhat helpful: **5%**	Not helpful: **0%**
7. How helpful were the pages for software programs on this Wiki?		
Very helpful: **85%**	Somewhat helpful: **15%**	Not helpful: **0%**
8. How helpful were the pages for tech resources on this Wiki?		
Very helpful: **95%**	Somewhat helpful: **5%**	Not helpful: **0%**
9. How helpful were the projects and activities for learning to develop your own technology-rich lessons and projects in your classroom?		
Very helpful: **90%**	Somewhat helpful: **10%**	Not helpful: **0%**
10. How likely are you to implement some of the apps, tools, and project ideas you learned about on this wiki with your students?		
Very likely: **90%**	Somewhat likely: **10%**	Not likely: **0%**
11. Please comment on your overall satisfaction with the usefulness of this Wiki.		

- Great job! Love it! Keep up the great work!
- Love it! Great resource.
- I can't wait for you to share the document.
- I am excited about the future of this project.
- Wonderful place for us to collaborate!
- Great idea to have all of this in one central place. It'll be very helpful in planning for future classroom activities.
- Very user-friendly. Thank you for developing this.

- Very well organized. Clean simple interface that allows me to find information quickly. Just enough information on each page for me to get the idea, and find out where I can learn more if I am interested. I like that. I don't think it should be a user manual for each item on the wiki....
- Love the interactive feature of the Wiki. Hopefully this will become an even more information-rich resource in the future as others add to it!
- Some really great resources included here! I use several in my classroom, but I can't wait to try some new ones that I'd never heard of!
- I am very impressed with this Wiki. It is a One-Stop for valuable resources for teachers and students in the music classroom.
- I was extremely impressed by this Wiki. It well organized and very informative. There were so many technological resources for music education that I did not even know existed. The strength of the Wiki is its ability to explain the different resources and provide insight on instructional implementation in the classroom.
- I had no idea that all of these apps and software had "how to" videos on YouTube! I love that you compiled all of this into one place - completely brilliant!
- The lesson plans are great!
- Thank you! This will be so useful when we get back to school!

12. Please comment on ideas to improve the usefulness of this Wiki.

- Very impressive! Add SMARTMUSIC and Finale? They are not apps though...
- Invite more contributors!
- Getting everyone's input and adding to it over time will be great! Can't wait to use it in the future.
- None!
- Can't wait to see the completed pages!
- I think it'll get better and better with use by other teachers! Great feature - not much to add here :-)
- The structure and content of the Wiki is perfect. My only suggestion would be to consider including system requirements somewhere on the homepage. There are many great links, but most require Adobe, flash player, etc.
- Even though this was designed for music teachers, I bet that classroom teachers would get a lot out of it too!
- This will be a great resource when all the pages are done!