

Recording for Musical Growth: Best Practices in the Secondary Instrumental Classroom

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Abstract

The use of technology to record oneself is becoming an ever more popular practice in the digital age we live in. The purpose of this study is to evaluate the pros and cons of asking students to record themselves for musical growth in the secondary instrumental classroom. In this study research, a plan for assessing skills and measuring musical growth, student reflection surveys, and teacher interviews will be implemented. Students will be guided through the use of music technology, asked to evaluate its' effectiveness, and reflect on their personal experience. Use of the technology will be modeled by the teacher. Students will be observed over a three month period to see if their musical skills have improved. At the end of the school year, students will have the option to participate in the reflection survey and teachers will be interviewed to gain their perspectives. All results will be compiled and analyzed to evaluate the implications of making recordings to achieve musical growth at the secondary level.

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Chapter 1: Introduction

Thesis Topic

Recording for Musical Growth: Best Practices for the Secondary Instrumental Classroom

Statement of Purpose

The purpose of this study is to examine the impact that asking students to record themselves for musical growth has on the individual student and the secondary instrumental music classroom. This study will explore the pros and cons of having students record themselves for musical growth. Secondary student musicians at Collegium Charter School will be surveyed to determine what barriers might exist that prevent them from engaging in the recording process. Educators will also be surveyed to determine what best practices and strategies can be implemented that foster student musical growth through the recording process.

Rationale

Individual student musical growth leads to growth of our instrumental music ensembles. Student practice and preparation outside of rehearsal benefits their technical abilities, but some students are reluctant to engage in recording themselves for musical growth. Equity issues exist in instrumental programs as to the accessibility of quality instruments in the home environment, transporting instruments to and from school, and access to the technology needed to record. Our 21st century students also experience mental health issues ranging from anxiety, depression, lack of body positivity, and report higher levels of general stress than previous generations. It is critical now more than ever, that educators establish learning environments that cultivate safety, foster respect, and show compassion.

Expected Findings

The goal of this study is to collect data that impacts future instructional practices and aids in engaging all learners, meeting them where they are, and cultivating musical growth. I expect that I will gain insights into the perceptions of the pros and cons of music technology by today's youth and how its implementation can be best utilized. I anticipate that not all students will find the concept of recording for musical growth to be personally satisfying, but I hope that they can see the educational value in the growth process. I also hope that the research, data, and findings will lead to better instructional practices and the discovery of new ways to challenge students outside of the classroom in their home practice environments.

Chapter 2: The Issue at Hand

Ever Changing World

I can remember very early on when I was in middle school band that our teacher had an AM/FM Radio at the front of the classroom in the mid-late 1990's. This high tech resource at the time had the ability to play cassette tapes which were also common in most automotive vehicles of the time. The teacher at the time would record us using a cassette tape and as an ensemble we would then listen to this recording as a group. We learned early on to be evaluative of ourselves and others in our sections, while also laughing at the inevitable mishaps of middle school band rehearsals. This would be my only recollection of recording myself until asked to do in college.

In today's world, the access to devices that can record oneself are much more readily available. Most students at my school have their own cell phones and due to the Covid-19 pandemic and the need to switch to remote learning on short notice, all students at my school have Google Chromebook devices and use the Schoology Learning Management System. These devices have built-in microphones and Schoology allows the use of microphones in their assignments that educators can customize to the individual needs of their students. My school has also partnered with local resources to establish Wifi hot-spots in homes that can't afford high speed internet.

When the Covid-19 pandemic began in March of 2020, many music educators had to transform their classrooms and rehearsal spaces overnight. As remarked in *General Music Today*:

As many states issued stay-at-home orders to avoid unnecessary travel and potential spread of infection caused by close contact, many schools have closed and migrated

lessons to online platforms. This unexpected surge of digitalization has not only made the technology gap between the rich and the poor even more pronounced but also posed novel challenges for teachers. (Liu, 2020, p.40)

This led to my initial exposure to Sight Reading Factory (SRF), SmartMusic, and Soundtrap which during the early days of the pandemic offered free subscriptions to assist educators in remote learning. I began to learn more about them and even had some older students pilot the programs to gain a sense of their functionality. As I began to plan for the 2020-2021 school year, my colleagues and I invested in all three programs as we did not know how long we would be working remotely due to the on-going pandemic. What I would come to discover through the use of these programs were insights into what my students were truly up against.

Confronting the Issue

As the 2020-2021 school year began, I began to notice students that were normally very highly motivated when it came to music were not completing assignments on these music tech platforms. This problem then became the catalyst for this study. I began to wonder if some of my students might be experiencing Music Performance Anxiety. Music Performance Anxiety (MPA) “has been defined as « the experience of marked and persistent anxious apprehension related to musical performance (...), which is manifested through combinations of affective, cognitive, somatic and behavioral symptoms” (Guyon et al, 2020, p. 2). The majority of student musicians in my band had never been solo performers, but now due to the Covid-19 pandemic, they were alone and had to play their instruments for a grade by themselves. The two main factors that influence the level of MPA in a student are responsibility and difficulty of the task. Secondary students are also at a higher risk to develop MPA because they worry more often about judgement from other people (Moura & Serra, 2021). As a leader of the band program at my

school, I felt like it was my duty to not only be concerned about the musical health of our instrumental ensemble, but the mental health of its' members as well which was now harder to gauge while engaged in remote learning. MPA is known to become more prevalent as students become older and research has shown that if we can teach young people how to manage MPA, their negative experiences with music will decrease (MacAfee & Comeau, 2020). For this reason, many of my assignments that I gave during remote learning were based on completion. For any assignment that I gave to students that was evaluative, I assured them that I listened to the recording with a critical ear and did not just simply use the score that SmartMusic provided to me. I also found other ways to assess their learning through research projects and tools that implored creativity in Soundtrap such as designing backing tracks for jazz improvisation. Unfortunately, during the 2020-2021 school year we were unable to make music together due to our school's health and safety plan which would become relaxed in the following school year due to the availability of Covid-19 vaccines.

Heading into the 2021-2022 school year, the music teachers at my high school and myself, decided not to use SmartMusic again largely due to cost and issues with overall functionality in regards to the accuracy of the program. The issue of musical accuracy in regards to SmartMusic was also reported on in a study by Dr. Michele Henry from Baylor University who stated, "Participants were also concerned with the accuracy of the program. Although there was no basis on which to make this judgment, the perception should be a concern for those interested in implementing this technology in their classroom" (Henry, 2015). Sight Reading Factory or "SRF" became our main vehicle for independent practice through music technology as a high school music department in 2021-2022 school year. Educators should regularly work on refining sight-reading skills from the earliest days of elementary instruction all the way

through to the secondary and collegiate levels (Favj et al, 2019). The better sight readers we cultivate, the more self-reliant our secondary music students will become. Inspiring independence in the next generation of musicians should be of great interest to today's teachers.

Why Avoid It?

I began to speculate why students avoided recording themselves as I prepared for the 2021-2022 school year. What could I do differently this school year to aid students in becoming comfortable with music tech while encouraging their musical growth and development? To answer this question, I felt I needed to dig further into the research and read into what I thought were the factors students might be facing. The factors that I surmised were at play were the setting of realistic expectations for technology use by the teacher, the perceived educational value of the tech by the student, the level of rigor of the assignment, the student-teacher relationship, the students' ability to measure their own musical growth, and the value of the teacher feedback that students ultimately receive. To navigate new technologies and change, teachers can design instruction that is interesting and relevant to the students (Gonida & Lemos, 2019). Sight Reading Factory can generate new exercises instantly. This allows students to stay engaged while working on the same concept and keeps their learning relevant to their personal music goals. Levels can be customized to meet students where they are. The educator can assign Max Attempts which prevents the student from rehearsing the exercise and keeps the experience truly sight reading which adds to the value of the SRF program (Perry, 2019). There is also much discussion about grades in schools today and giving external rewards to preferred activities such as music. For the purposes of this study, I felt it imperative to look at the rigor of what I was asking students to do. Was I creating a barrier within my own educational practices? Research has shown us that when academic tasks are too easy, students may enjoy the good grades, but

they are left feeling unfulfilled since their fullest potential was not realized (Sullo, 2009).

Furthermore, I was fairly certain the student-teacher relationship had to be at play in regards to their willingness to make a recording of themselves. Teachers who can effectively talk to students while appreciating the strengths and realizing the weaknesses of all students, have instructional practices that are more enjoyable and as such illicit more student engagement (Rusu, 2021). Students will buy into using an educational tool if they believe it truly facilitates their educational growth. We can see this often in today's schools from the use of calculators, to metronomes, to audiobooks, and so on. Success for most students is not measured by competition with each other or obsessions over academic egos, but rather by meeting their personal goals, sensing self-improvement, or feeling accomplished (Schmidt, 2005). The final factor that I feel impacts students recording themselves for musical growth is the perceived teacher feedback students would receive after completing the academic task. If as a student, you believe the teacher will authentically critique your work and offer you specific feedback that offers solutions to any errors, then you are more likely to perform at a higher academic level (Wang & Zhang, 2020). Students are in school to learn and if they don't feel like they will gain knowledge, wisdom, or skills from the experience then they are more likely to avoid it. I knew coming from a year of remote learning and being unable to rehearse together that students would need to practice and practice at a high level for us to have successful performances. For students to practice effectively they would need to be reminded, either in large group rehearsals or in small group lessons, of what good practice habits and strategies looked like (Prichard, 2021). In my instruction, I would need to teach on how to effectively practice with music technology.

Chapter 3: Facilitating Musical Growth

Preparation

The first step of this study was first to form relationships with students and get re-acquainted with in-person learning again for all students in the 2021-2022 school year. In the previous school year, students started the year completely engaged in remote learning due to the Covid-19 pandemic and then gradually students could elect to come back for in-person learning 2-4 days each week as vaccines became publically available. I felt that it was necessary to start in August 2021 by getting to know the students and focus on rehearsing again in-person. I then planned to teach specific rhythmic concepts by using SRF with all students in late September/early October. Next, my plan is to use SRF in small group pull-out lessons to check in on the students' rhythmic growth periodically in the second semester of the school year. Finally, in June, students will be surveyed to gauge their perspectives of the growth process. Music teachers will be interviewed as well to understand their views on the use of recording technology in the secondary music classroom.

Growth Process

On September 30th, I gave an assignment to our High School Concert Band Members. First, the assignment asked students to practice 5-10 examples on a custom level that I created entitled "Practice 8th note rhythms". Then, students were to make two audio recordings (one in 4/4 and one in 3/4) of themselves clapping and saying the rhythmic subdivisions aloud. The assignment was not graded and did not affect their Quarter 1 grade in any way. Students were instructed via the directions on Sight Reading Factory to have their speaker volume turned up and headphones unplugged (this allowed the example to sync with the audible metronome for

playback purposes). The rhythmic example was 8 measures at 90 bpm, the metronome was turned on (without the option to not use it), and students were allowed unlimited attempts. The two main purposes of doing this were to gauge the effectiveness of my lesson in rehearsal on 8th note rhythms and to determine which students may need help using the Sight Reading Factory platform due to tech issues or possible confusion with using the website. This ungraded assignment was completed by 64% of students (16/25). This led to future planning on mastering 8th note rhythms and discussions with students who may have experienced technology issues.

As we moved into January 2022, we started the year engaged in remote learning due to concerns from holiday travel and spread of the Covid-19 virus. We taught virtually for two weeks and returned to in-person learning on Wednesday, January 19th. I used this as an opportunity to gauge students' rhythmic competencies while they were engaged in remote learning from home. I designed three assignments on SRF that students were awarded a grade for based on completion of each level of the assignment. The single assignment on Schoology (Collegium's Learning Management Software) asked the High School Concert Band to complete three assignments in SRF. Each assignment had a different level of rhythmic difficulty (Level 2, Level 3, or Level 4). These assignments were assigned on January 6th and due the same day by 11:30 PM. The assignments were 8 measures in duration in 4/4 time, with the metronome turned on at 90 bpm (they could not disable the metronome), and students were allowed a maximum of three attempts per level. Students were encouraged, but not required to practice 3 examples on each level prior to attempting the assignment. This allowed them to have an idea of what rhythmic concepts that would be presented on each level. Level 2 included whole notes, dotted half notes, half notes, dotted quarter notes, quarter notes, 8th notes, whole rest, dotted half rests, half rests, dotted quarter rests, and quarter rests. Level 3 adds 16th notes and 8th note rests to the

Level 2 subdivisions. Level 4 adds in quarter note tripalets and 8th note tripalets. As the final task, students then had to submit this ten point assignment on Schoology and report if they found each level to be easy, average, or hard for them personally. This graded assignment was completed by 69% of students (18/26). The three different recordings they made were evaluated and students were assigned a starting point of Level 2, Level 3, or Level 4 for their first lesson of the 2nd semester. Most students were assigned a starting level on Level 3 or Level 4 with only two students being assigned to Level 2. Both of these students were in 9th grade. Students who did not complete the assignment were evaluated at their first small group lesson in February.

From this point on over the months of February, March and April of 2022, Sight Reading Factory was primarily used as a tool in small group lessons during the academic day. The goal was to work with the students on the rhythmic levels that were appropriate for them and attempt to move all students up one level over the course of three months. I would start the lesson by reviewing their recordings that they submitted in January with the student, working on areas where errors occurred, and then practicing on the level that was appropriate for them. If the student demonstrated mastery with the specific level, I would then challenge them to move on to the next level. At all times, students were encouraged to use a metronome while clapping and saying the rhythmic passages. If this was a student's first year in Concert Band, they did not participate in the use of SRF as instruction in their lessons was more expansive and focused on technique, posture, tone, and reading pitch/rhythm. Over this time period, 26 percent of the band (7 students) successfully moved on to the next difficulty level of rhythmic exercises on the Sight Reading Factory platform. All students then had the option of participating in a reflection survey to gauge their impressions of using music technology from the 2020-2021 school year and/or the 2021-2022 school year.

Reflection Survey

The next step of this study was to survey the music students of Collegium Charter High School. Eleven students elected to participate in a reflection survey to gauge their perspectives on using music technology during their instrumental music rehearsals, lessons, and individual practice. The survey was administered via Google Form and responses were collected from June 2nd through June 9th.

In addition to demographic questions, the following questions were answered by students:

- When recording with music technology platforms did you experience any anxiety?
- On average, when making recordings using music technology tools, how many times would you attempt to re-record this assignment?
- Did you experience any of the following issues when using music technology platforms?
- Did you feel like having music technology platforms available to you encouraged you to practice your instrument more often?
- Did you feel like having music technology platforms available to you lead to a higher level of performance quality in your ensembles?
- Did you feel like your musical growth was measurable? If so, how did your teacher measure it?
- Do you see the educational value in using music technology platforms in the band/orchestra curriculum?
- Was the feedback that your teacher gave to you after using music technology platforms valuable to you?

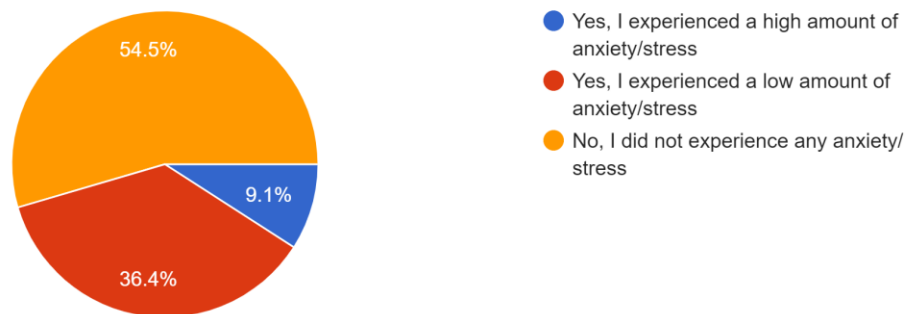
- Did you feel that your teacher created a feeling of mutual respect and comfort with you prior to you using Sight Reading Factory, SmartMusic, or Soundtrap?
- When you made recordings to facilitate musical growth on average how long were these recordings?
- Did you feel like there were realistic expectations for making recordings using Sight Reading Factory, SmartMusic, or Soundtrap?
- When using Sight Reading Factory, SmartMusic, or Soundtrap, how rigorous would you find the tasks to be?
- Was the frequency you were asked to record yourself for musical growth by your teacher appropriate?
- Outside of using music technology platforms to complete a graded assignment for class, how likely were you to use the music technology platform for personal musical growth?

When asked demographic information on the survey, 6 of the respondents reported to be in 11th grade, 3 respondents reported to be in 12th grade, with 1 reporting to be in 10th grade, and 1 reporting to be in 9th grade. 9 respondents reported to identify as male and 2 respondents reported to identify as female. None of the respondents reported to be of Hispanic, Latino, or Spanish origin. 8 respondents described themselves as White, 2 respondents described themselves as Asian, and 1 respondent described himself as Asian, White, and Black. 8 respondents indicated they were members of Concert Band, 2 respondents indicated they were members of Orchestra, and 1 student indicated membership in both Concert Band and Orchestra. 10 out of 11 respondents indicated they had used Sight Reading Factory, 9 out of 11 indicated they had used SmartMusic, 5 out of 11 students indicated they had used Soundtrap in the past.

When we look at the data we can see that even though a slight majority of students reported not feeling any stress or anxiety when being asked to record for musical growth, there was still a large percentage of students that did feel some level of stress or anxiety. We can also see from the data the most students elected to re-record their first recording. Interesting to note, that none of the students recorded themselves more than 6 times and the average was 3-4 times.

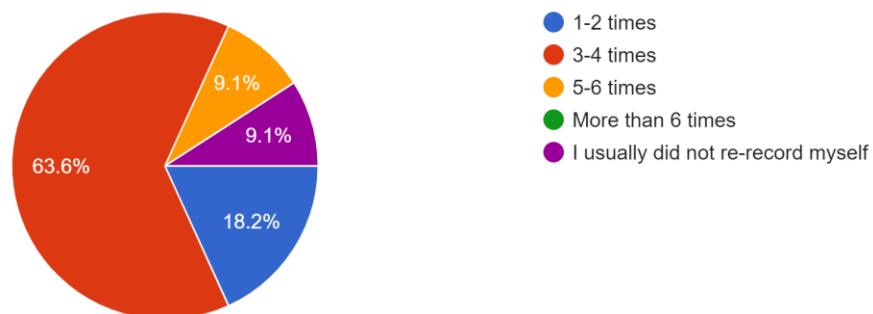
When recording with music technology platforms such as Sight Reading Factory, SmartMusic, or Soundtrap did you experience any anxiety?

11 responses



On average, when making recordings using music technology tools, how many times would you attempt to re-record the assignment?

11 responses

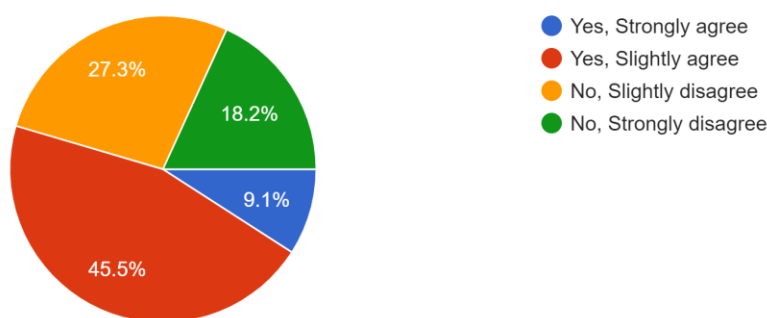


Through the survey, students were allowed to check off boxes of issues they encountered when using music technology platforms such as Sight Reading Factory, SmartMusic, and Soundtrap. 7 out of 11 students reported issues finding a quiet space to record at home, while 6 out of 11 students reported technology issues such as web browser, microphone, or issues with their device, and 4 out of 11 students reported issues finding an appropriate time of day to make their recordings. 1 student reported a lack of education on how to successfully use the platform. None of the students said that the ability to access their instrument was an issue for them in the recording process.

A few questions elicited mixed results via the student survey. The questions mainly asked how the availability of music technology platforms influenced your personal practice habits, the level of performance achievement by your music ensemble, and how rigorous they felt the assignments were when using SRF, SmartMusic, or Soundtrap. This data is shown below:

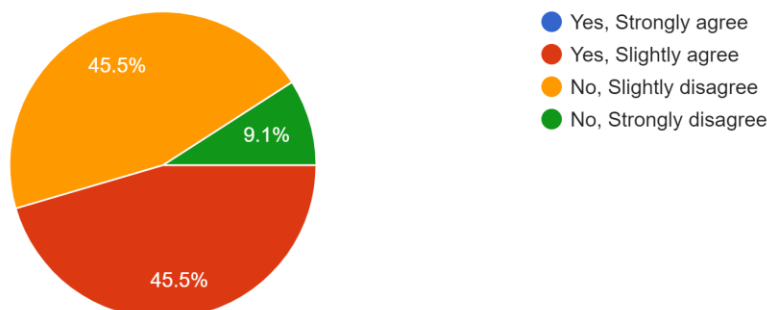
Did you feel like having Sight Reading Factory, SmartMusic, or Soundtrap available to you encouraged you to practice your instrument more often?

11 responses



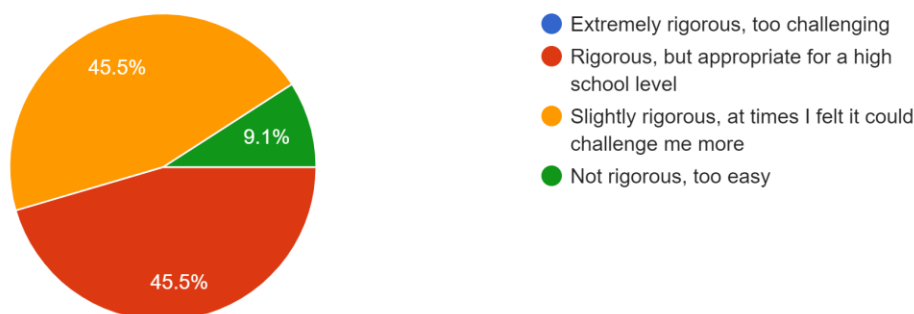
Did you feel like having Sight Reading Factory, SmartMusic, or Soundtrap available to you lead to a higher level of performance quality in your ensembles?

11 responses



When using Sight Reading Factory, SmartMusic, or Soundtrap, how rigorous would you find the tasks to be?

11 responses

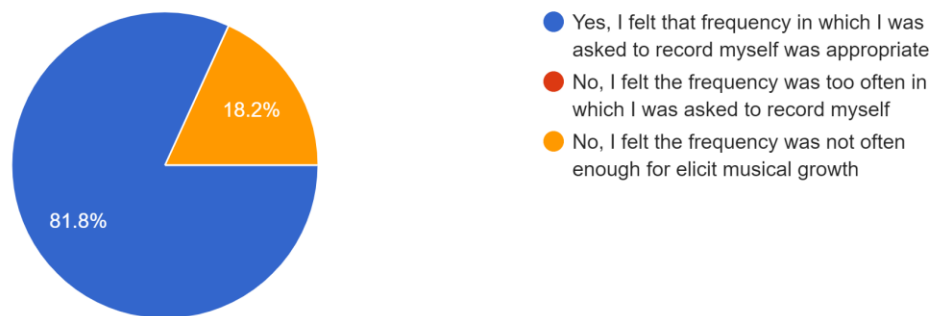


The question asking students if they thought their musical growth was measurable when using SRF, SmartMusic, or Soundtrap was open-ended and also elicited mixed results from respondents. 5 respondents indicated that their growth was measurable indicating how much more complicated the exercises got, noting the length of time the exercise took them when progressing to a harder level, and noting the level they started on vs the level they ended the year on. 5 respondents indicated that their growth as not measurable with one feeling unsure.

Questions surrounding the frequency of recording oneself, the setting of realistic expectations by the teacher, the creating of a feeling of mutual respect and comfort by the teacher, the value of the feedback by the teacher, and the overall educational value of the technology in the band/orchestra curriculum provided responses that had clear majority answers.

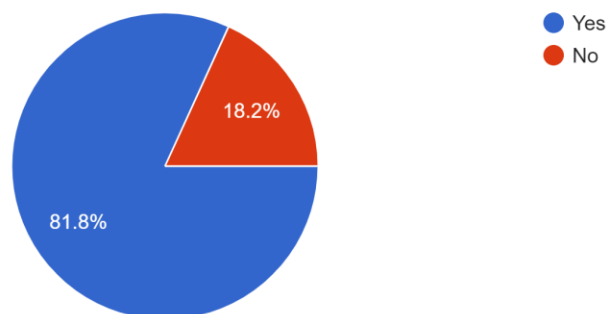
Was the frequency that you were asked to record yourself for musical growth by your teacher appropriate?

11 responses



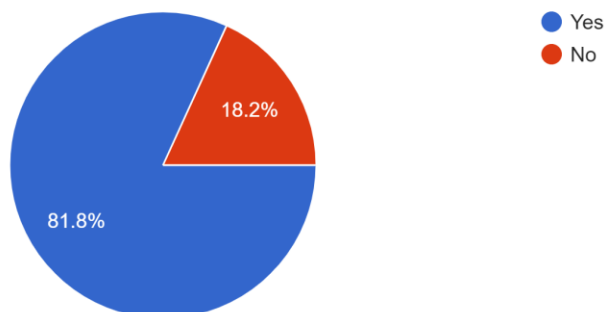
Did you feel like there were realistic expectations for making recordings using Sight Reading Factory, SmartMusic, or Soundtrap?

11 responses



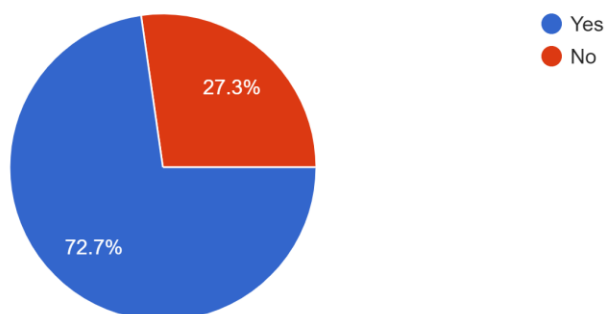
Did you feel that your teacher created a feeling mutual respect and comfort with you prior to you using Sight Reading Factory, SmartMusic, or Soundtrap?

11 responses



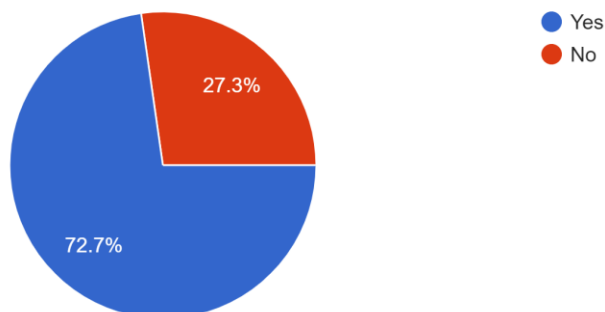
Was the feedback that your teacher gave to you after using Sight Reading Factory, SmartMusic, or Soundtrap valuable to you?

11 responses



Do you see the educational value in using Sight Reading Factory, SmartMusic, or Soundtrap in the band/orchestra curriculum?

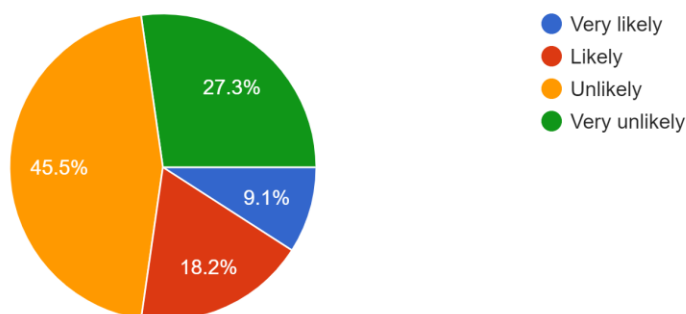
11 responses



Respondents were asked how long on average were the length of the recordings they made to facilitate musical growth via SRF, SmartMusic or Soundtrap. 5 out of 11 respondents noted that on average they were less than 30 seconds, 2 out of 11 respondents reported 30-60 seconds, 2 out of 11 respondents reported 60-90 seconds, and 2 out of 11 respondents reported 90 seconds or more. Respondents were also asked how likely they were to use a music technology platform to facilitate their personal musical growth in a non-graded environment.

Outside of using Sight Reading Factory, SmartMusic, or Soundtrap to complete a graded assignment for class, how likely were you to use t... technology platform for personal musical growth?

11 responses



Interviews

The teacher interviews were held at the conclusion of the school year with two teachers in the school where the study was conducted. The teachers were both female and they are reported to be high school music teachers with experience teaching instrumental music in the past two school years. They have been working as public school educators between 10-15 years. Both teachers acknowledge experience with Sight Reading Factory, SmartMusic, and Soundtrap. Questions were prepared for the interview (see Appendix), that were similar to the questions that students were asked in their survey.

The teachers shared that they did encounter students who experienced stress and anxiety when using music technology platforms such as SRF, SmartMusic, and Soundtrap. They did note that the amount of students who experienced “high levels” of stress and anxiety was minimal and usually only involved 2-3 students. They agreed that if students needed to re-record themselves that they likely did so on average 1-3 times. When asked what they thought the biggest barrier students were up against that prevented them from making a recording, they both acknowledged technology issues due to the device, microphone, or use of headphones. One teacher went further to state that another barrier was internal confidence largely due to learning loss during remote learning. The other teacher went on to state that having a private space to record without interruptions from family members was also prevalent for some of her students. The teachers disagreed with each other when asked if the availability of these music technology platforms encouraged students to practice at home. On the topic of rigor, both teachers felt that the level of rigor was appropriate for their students when using SRF, SmartMusic, and Soundtrap. They also felt that the frequency of assignments given through these music tech platforms was appropriate, with one teacher acknowledging that she listened to her students and gave them time off from

it when she felt the students needed it (examples: Concert Week, Finals Week, Musical Tech Week). Both teachers acknowledged that they felt students would be likely to use Soundtrap outside of school if they were writing their own music, were unlikely to use SRF, and might use SmartMusic if they enjoyed the platform and saw value in it. When it came to SmartMusic, both teachers noted accuracy issues with the platform, noting that it would at times register a wrong pitch even if it was played correctly by the student. For this reason, both teachers felt the need to re-iterate to their students that they would listen to the recordings and not simply give them a score based on SmartMusic's automatic grading feature. One teacher noted, that she felt if students had a less than ideal recording environment or their internet connection speed was slow, that the experience of using SmartMusic was frustrating for her students.

Chapter 4: Conclusions

Results

The goal of this study was to gain a better understanding of the impact of asking students to record themselves for musical growth. To evaluate, both the pros and the cons of having students make recordings in the secondary instrumental music programs. To accomplish this, the topic was researched, students were evaluated rhythmically and assigned levels, their growth was monitored and student reflection surveys were administered. Finally, teachers were interviewed to gain their perspective on the process.

This study revealed several insights as student data and teacher interview responses were compared. Students and teachers are in agreement that around 30-40 % of students in our programs likely feel some level of stress and anxiety when it comes to recording themselves with a small fraction of students showing high levels of stress/anxiety that may need additional supports in place to access the curriculum to its fullest extent. It was confirmed through teacher interviews, research, and students that a level of comfort must be established before students can effectively utilize music technology. This can be done by incorporating music technology into the rehearsal environment, hands on support in small group lessons, and/or through the use of demonstration videos. Most students will inevitably re-record themselves anywhere from one to four times on average and this may be due to tech issue or finding the right space to make a recording. While the teachers felt that they could measure musical growth, the students did not always know how to realize their growth. More can and should be done to educate students on how they can gauge their progression as it will only inspire them to work harder. Students and teachers acknowledge the educational value in the music technologies referenced in this study.

Further Discussion

The data on the topic of having music technology available to students and it raising their motivation to practice more often was inconclusive. Further studies should be implored that gauges student levels of motivation and practice habits and how music technology can be more effectively designed to inspire engagement in the student. The topic of achieving higher levels of performance by using music tech can also be examined further. It would be helpful to assess performances before and after using music technology to understand its' level of importance in the music ensemble curriculum.

Final Thoughts

Recording for Musical Growth is not a concept most educators are familiar with or practice themselves regularly, but it will become increasingly more important for today's music educator to be concerned with. As we shift from various learning environments that sometimes we can anticipate and at other times we cannot, we must continually strive to foster independence in our students. Using new technologies can be stressful, but it is our duty as teachers to minimize that stress as much as we can and make accommodations when appropriate. Through patience, understanding, and compassion we can create a more inclusive classroom for all learners. We should be concerned with the individual student and constantly assess where they are in their musical development. By placing realistic, relevant, and rigorous expectations upon them, musical growth can be facilitated and celebrated. Music Technology and its effectiveness should be continually evaluated and we as educators should partner with the technology developers to improve the functionality, ease of access, and the enjoyment students receive while learning through music tech platforms.

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APPENDICES

Appendix A: Sight Reading Factory (SRF) Levels as of July 1st, 2022

The screenshot displays the Sight Reading Factory (SRF) website interface. The browser address bar shows the URL: sightreadingfactory.com/practice/sr/level?mediumid=rhythmonly. The page title is "Choose Level - Sight Reading Factory". The "Instrument" dropdown is set to "Rhythm-only". The "Level" dropdown is set to "Level".

Under the "Level" section, the "Sight Reading Factory®" levels are shown as buttons: 1, 2, 3, 4, 5, 6. Level 2 is selected. Below this, the "My Levels" section contains three buttons: "Practice 8th Note Rhythms", "Practice ONLY 8th Rests", and "Custom".

On the right side, the "Rhythms" section displays a musical staff with five eighth notes. The "Rests" section displays a musical staff with five eighth rests. Below the rests, a dropdown menu is open, showing "TIES" and "DYNAMICS" with checkmarks.

The Windows taskbar at the bottom shows the system clock as 10:56 AM on 7/1/2022. A "Select a Level" button is visible in the bottom right corner of the page.

Choose Level - Sight Reading Factory

sightreadingfactory.com/practice/sr/level?mediumid=rhythmonly

Instrument: Rhythm-only

Level

Level

Sight Reading Factory®

1 2 3 4 5 6

My Levels

Practice 8th Note Rhythms Practice ONLY 8th Rests

Custom

Rhythms

Rests

TIES

DYNAMICS

Select a Level

Appendix B: Student Progress Google Sheet

SRF Progress 21-22 - Google Sheets

docs.google.com/spreadsheets/d/1QasZuhSxW8JgdlcAL1OCx4Duez6d1suV8OeWhc-acds/edit#gid=0

SRF Progress 21-22

File Edit View Insert Format Data Tools Extensions Help Last edit was seconds ago

100% \$ % .00 123 Default (Arial) 10 B I A

	A	B	C	D	E	F	G	H	I	J	K
	Instrument	Student Initials	Grade	SRF Starting Level	Final Check-in (April)						
1	Flute	T.C.	11	5	6						
2	Flute	J.D.M.	9	3	3						
3	Oboe	T.M.	12	4	4						
4	Clarinet	M.H.	11	5	5						
5	Clarinet	J.C.M.	9	2	3						
6	Bassoon	A.C.	10	4	5						
7	Alto Sax	C.E.	11	3	3						
8	Alto/Bari Sax	P.G.	11	3	3						
9	Tenor Sax	C.P.	12	3	3						
10	Trumpet	A.S.	12	3	3						
11	Trumpet	A.B.	11	4	4						
12	Trumpet	N.C.	11	4	4						
13	Trumpet	F.R.	9	3	3						
14	Trumpet	A.L.M.	10	3	4						
15	French Horn	L.Y.	9	2	3						
16	Trombone	G.K.	10	3	3						
17	Trombone	H.K.	9	4	5						
18	Baritone	B.M.	11	4	5						
19	Tuba	T.B.	12	5	5						
20	Percussion	D.D.	9	3	3	Percussion	R.B.	11	no evaluation	no evaluation	
21	Percussion	D.S.	12	3	3	Percussion	H.S.	10	no evaluation	no evaluation	
22	Percussion	D.G.	10	3	3	Percussion	B.G.	11	no evaluation	no evaluation	
23	Percussion	W.L.	12	5	5	Bass	J.P.	11	no evaluation	no evaluation	

+ Concert Band

Appendix C: Student Survey

Recording for Musical Growth in the Secondary Instrumental Classroom Survey

Please complete each question as honestly as you can. Your answers will be kept completely confidential and your name will not be used in the reporting of data. Reminder there is no reward, nor punishment for participating in this study. I do thank you for your participation. You may reach out to Nick Motter via email at nmotter@ccs.us with any questions.

nmotter@uarts.edu [Switch account](#)

* Required

Email *

Your email

What is your name? *

What is your name? *

Your answer

What grade are you currently in? *

☐ 9th

☐ 10th

☐ 11th

☐ 12th

To which gender identity do you most identify? *

☐ Male

☐ Female

☐ Non-Binary

☐ Prefer not to answer

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Are you of Hispanic, Latino, or of Spanish origin? *

☐ Yes

☐ No

☐ Prefer not to answer

How would you describe yourself? *

☐ American Indian or Alaska Native

☐ Asian

☐ Black or African American

☐ Native Hawaiian or Other Pacific Islander

☐ White

☐ Prefer not to answer

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

In which music ensembles do you participate in? *

☐ Concert Band

☐ String Orchestra

Please check which music technology platforms have been used in your Band or Orchestra music classes. *

☐ Sight Reading Factory

☐ SmartMusic

☐ Soundtrap

When recording with music technology platforms such as Sight Reading Factory, SmartMusic, or Soundtrap did you experience any anxiety? *

☐ Yes, I experienced a high amount of anxiety/stress

☐ Yes, I experienced a low amount of anxiety/stress

☐ No, I did not experience any anxiety/stress

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

On average, when making recordings using music technology tools, how many times would you attempt to re-record the assignment? *

- ☐ 1-2 times
- ☐ 3-4 times
- ☐ 5-6 times
- ☐ More than 6 times
- ☐ I usually did not re-record myself

Did you experience any of the following issues when recording yourself while using Sight Reading Factory, SmartMusic, or Soundtrap? *

- ☐ Technology issues (web browser, microphone, device)
- ☐ Finding a quiet space to record
- ☐ Finding an appropriate time of day to record
- ☐ Ability to access the instrument needed to make the recording
- ☐ Lack of education on how to successfully use the music tech platforms

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Did you feel like having Sight Reading Factory, SmartMusic, or Soundtrap available to you encouraged you to practice your instrument more often? *

- ☐ Yes, Strongly agree
- ☐ Yes, Slightly agree
- ☐ No, Slightly disagree
- ☐ No, Strongly disagree

Did you feel like having Sight Reading Factory, SmartMusic, or Soundtrap available to you lead to a higher level of performance quality in your ensembles? *

- ☐ Yes, Strongly agree
- ☐ Yes, Slightly agree
- ☐ No, Slightly disagree
- ☐ No, Strongly disagree

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMIIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Did you feel like your musical growth was measurable when using Sight Reading Factory, SmartMusic, or Soundtrap? If so, how did you or your teacher measure your progress? *

Your answer

Do you see the educational value in using Sight Reading Factory, SmartMusic, or Soundtrap in the band/orchestra curriculum? *

☐ Yes

☐ No

Was the feedback that your teacher gave to you after using Sight Reading Factory, SmartMusic, or Soundtrap valuable to you? *

☐ Yes

☐ No

!

✎

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMIIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Did you feel that your teacher created a feeling mutual respect and comfort with you prior to you using Sight Reading Factory, SmartMusic, or Soundtrap? *

☐ Yes

☐ No

When you made recordings to facilitate musical growth using Sight Reading Factory, SmartMusic, or Soundtrap, on average how long were these recordings? *

☐ Less than 30 seconds

☐ 30-60 seconds

☐ 60-90 seconds

☐ More than 90 seconds

!

✎

Did you feel like there were realistic expectations for making recordings using *

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Did you feel like there were realistic expectations for making recordings using Sight Reading Factory, SmartMusic, or Soundtrap? *

☐ Yes

☐ No

When using Sight Reading Factory, SmartMusic, or Soundtrap, how rigorous would you find the tasks to be? *

☐ Extremely rigorous, too challenging

☐ Rigorous, but appropriate for a high school level

☐ Slightly rigorous, at times I felt it could challenge me more

☐ Not rigorous, too easy

Was the frequency that you were asked to record yourself for musical growth by your teacher appropriate? *

Recording for Musical Growth in x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

Was the frequency that you were asked to record yourself for musical growth by your teacher appropriate? *

☐ Yes, I felt that frequency in which I was asked to record myself was appropriate

☐ No, I felt the frequency was too often in which I was asked to record myself

☐ No, I felt the frequency was not often enough for elicit musical growth

Outside of using Sight Reading Factory, SmartMusic, or Soundtrap to complete a graded assignment for class, how likely were you to use the music technology platform for personal musical growth? *

☐ Very likely

☐ Likely

☐ Unlikely

☐ Very unlikely

Recording for Musical Growth in: x +

docs.google.com/forms/d/e/1FAIpQLSftextZ0XIRRBbBNMjIXRoyxhdg1_UtEWR-baki2FINzjgqlyg/viewform

☐ Unlikely

☐ Very unlikely

Please feel free to type any further thoughts or feeling on Recording for Musical Growth in the Instrumental Classroom.

Your answer

☐ Send me a copy of my responses.

Submit Clear form

Never submit passwords through Google Forms.

reCAPTCHA Privacy Terms

This form was created inside of COLLEGIUM CHARTER SCHOOL. [Report Abuse](#)

Google Forms

Appendix D: Teacher Interview Questions and Responses

Tell us what grade levels you taught this past school year.

Teacher 1: 7-12th grade

Teacher 2: 9-12th grade

Tell us what your teaching schedule looked like this past school year.

Teacher 1: Choral and Orchestral Music Ensembles, Theatre Studies, Piano 1 & 2

Teacher 2: Orchestral Music Ensembles, Music Theory, Guitar 1 & 2

What music technology platforms have you used in the past 1-2 school years?

Teacher 1: Quaver, SRF, MusicFirst, SmartMusic, Soundtrap (for personal use)

Teacher 2: SmartMusic, Soundtrap, SRF, Noteflight, Flat.io, Hal Leonard's Library

When using SRF or SmartMusic, were there any students that experienced anxiety or stress? What level of stress/anxiety did they experience?

Teacher 1: 30 percent of them were anxious largely due to coming from the pandemic and skills gaps, practicing on their own aids in less anxiety. 2-3 students reporting high levels of stress/anxiety.

Teacher 2: A few (2-3) students experienced stress/anxiety at a high level. 10 percent roughly of the ensemble.

When using SRF or SmartMusic, did students need to re-record and how often on average?

Teacher 1: 100 percent of them did more than one recording, not many did more than five, 1-4 times is typical. 1 student did it 15 times!

Teacher 2: Yes, students did need to re-record. Students needed to re-record 1-2 times.

When using SRF or SmartMusic, was there one big barrier that students were up against?

Teacher 1: Pandemic based lack of skills, not being familiar with the tool and confidence.
External factors: Chromebook issues

Teacher 2: SmartMusic getting a clean recording was challenging. Having a space at home where they could make a private recording and there wasn't sound from other family members. The mic'ing and syncing due to headphone use could be an issue.

Did you feel like having these music tech platforms available encouraged them to practice?

Teacher 1: No

Teacher 2: Using SRF, helped my students rhythmically. SmartMusic - they could hear their parts.

Did you feel like having these music tech platforms available lead to a higher level of performance quality in the ensemble?

Teacher 1: Yes, but only because we were using it as a rehearsal tool.

Teacher 2: It helped provide a basic foundation and encouraged them to play regularly. It didn't necessarily push them to a higher level of performance.

When you used SRF, how did you measure student progress? SmartMusic?

Teacher 1: Assigning levels and if they got a 6/8 they could go to the next level. Could not see the practice log when incorporating it into Schoology. Would you change the decision to integrate with Schoology? No, it saves time in being able to grade in the LMS. Keeping students on one platform is easier for them. Once you integrate, you cannot un-do this decision. Optimistic that tech issues will be fixed for next school year.

Teacher 2: We went through progressive levels in SRF on custom levels that I created. Using the built in grade book in SRF to gauge progress. Can go back and listen to previous recordings.

Do you see the educational value in using technology like this in our school's curriculum?

Teacher 1: Yes

Teacher 2: Yes

Did students find your feedback value?

Teacher 1: No, students have so many other things on their plate that checking their sight-reading feedback was not a priority via the tech. But having a conversation in the future could be more beneficial.

Teacher 2: Some did.

Did you feel like you had to work extra hard getting students to become comfortable by establishing a relationship with them prior to using the platform?

Teacher 1: Yes, we do all together, and then in 4 small groups. Then split it into parts. And then doing it independently by Quarter 3. Divided it up by quarters.

Teacher 2: My students were already comfortable playing for me privately all the time. Yes, there was prep, but I made demo videos for students to watch. It was obvious if they did not watch it. One student performed over Zoom.

Do you feel the expectations placed upon students was realistic?

Teacher 1: Yes, I do. Left wanting to be able to reward them for practice though.

Teacher 2: Yes I do. We expect them to practice regularly.

Did you feel like the level of rigor was appropriate?

Teacher 1: With SmartMusic, I gave them a piece that was of a higher level of rigor but I knew that we would not be performing it. SRF, I liked that I could customize the levels and I could tailor it right to the certain level of difficulty for the specific student.

Teacher 2: It was an appropriate level for the conditions we were under during remote learning.

The frequency of assignments was it appropriate:

Teacher 1: Students did not like it, but they saw the value in it. Progress over time is important in music. No assignments on Concert Week. All about the relationship you build with them, and the students feeling heard.

Teacher 2: Not too frequent. It was manageable and appropriate for them. SRF regular assignments elicited musical growth.

Do you think they will be using this music tech outside of school?

Teacher 1: Maybe Soundtrap if they write their own music. SRF, no. SmartMusic only if they improve the choral library and the amount of repertoire.

Teacher 2: 1-2 liked Soundtrap enough that they might compose something outside of class. Some students shared compositions with me. SRF, I don't think so. If they had SmartMusic memberships they might use it as a practice tool. Some kids enjoy the social aspect and the ensemble experience, they enjoy hearing the other parts with their part.

Did you notice accuracy issues with SmartMusic?

Teacher 1: Yes I have.

Teacher 2: If your recording situation was not ideal, or the internet was slow, it could be a rough experience. It was necessary to assure students that I was listening to everything that they submitted.