the music educator's guide to
classroom data

contents

Few music educators chose this profession because they enjoy working with data in spreadsheets. Nevertheless, data is a huge part of what we do. Data can drive administrative decisions, communicate effectively with parents, and help students develop.

We've compiled tips from educators across the country. Not only do they suggest what data you should collect and share, they even offer tips for managing the data itself (which can be helpful if massaging a database is not your idea of a fun Friday night).

No matter what your current relationship with data is, this ebook was designed to help you, your program and your students.
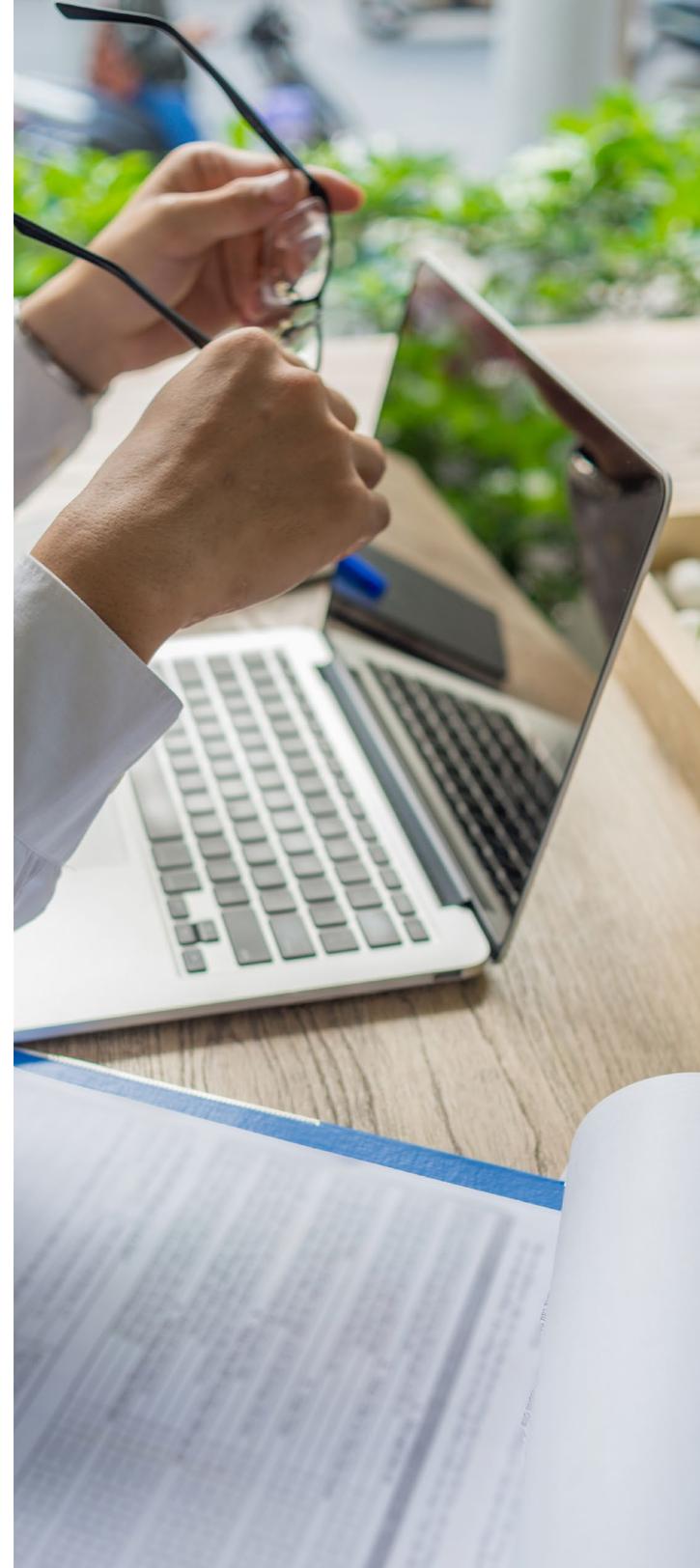
get your music program what it needs by embracing data

Being a school music director involves so much more than teaching, assessing, and managing students. The tasks required to run a music program of any size can be daunting, and often, our preservice training doesn't provide sufficient administrative background needed to navigate some of the biggest challenges of the job.

Bring a group of band, choir, or orchestra directors together and ask them to discuss their frustrations, and you'll often find that the resulting list contains very little that is directly related to music or young people. As a group, we tend to be pretty well equipped in our musical knowledge, pedagogy, and educational best practice. But we don't always know how to fix things when the challenges center around insufficient funding, inadequate staffing, or a master schedule that doesn't work for performing arts. So how do we talk to administrators and bring them on board in addressing these concerns?

Administrators Respond to Data

Love it or hate it, you're going to have to do a little digging into the data in order to get the support you need from most administrators. Superintendents, and even principals, have a lot to juggle. In order to keep everything moving, sometimes our administrators have to make tough choices based on concrete information, rather than on emotional appeal. By providing data, you are able to give your administration a better understanding of what your program needs and why. In short, you are aiding in the decision-making process by taking out the bias and emotion, providing a long-range view, and allowing the administrator to make direct comparisons.

What Kind of Data is Helpful?

What kind of data is best? Well, that depends on the situation. Every school and every administrator is different. Each brings to the table different experiences that shape the way they approach their jobs. So, get to know your administration. Find out what they value and respond to, and use this information to your advantage.

That being said, let's look at three common challenges faced by music directors and some possible data to use.

1. Inadequate Instrument Inventory or Repair Budget

Start by creating an inventory report including age and condition of each instrument, making special note of any instruments that are currently unplayable. Additional helpful data could include:

- Repair history of instruments
- Cost of repairs (historical figures as well as current estimates)
- Average cost for annual maintenance of instruments
- Industry figures on average lifespan of school-owned instruments
- Purchase price of instruments and value after depreciation
- Student enrollment figures (particularly if your program has grown and you do not have enough instruments)
- Repair and replacement budgets of comparable schools in other districts
- If a budget for purchasing new equipment is your goal, you will want to eventually include an itemized list of needs and costs associated with purchase or lease. Be prepared to prioritize this list.

As an additional tip, check with your local music store for help with many of these items. You might also want to explore my related article, a podcast with Elisa Jones, and the wealth of resources available on the Conn-Selmer website.

2. Inadequate Staffing

When making a case to increase staffing, include:

- Enrollment figures over the past several years, particularly if there has been an increase
- Responsibilities of current staff. Include the number of classes, preparations, class sizes and students per teacher.
- Extra-curricular responsibilities and number of contact hours with students spent outside the school day
- Comparison data. What is the student-to-teacher ratio and the number of class preparations in other curricular areas? How does your staffing compare with other similar schools?
- Proposed responsibilities for new staff
- Benefits of hiring additional staff (make this student-centered)

3. The Master Schedule Is Not Conducive to Enrolling in Music Class

Helpful data to include in a discussion of the master schedule could include:

- Attrition data: How many students have you lost from the program due to conflicts with the master schedule?

- Schedules from other schools that work
- Advocacy research and articles that show the benefit of music study
- Anecdotal evidence/ personal testimony from students about the benefits of music class and the challenges they encounter with the current schedule

Making Your Case

Once you have collected and prepared your data, schedule a time to chat with your administrator when neither of you will be rushed. Let your administrator know that you would like to discuss some challenges you are facing as well as possible solutions. Be prepared to provide factual information and answer questions.

This is not the time to let emotion take control. Don't be the director that only complains about problems without offering realistic solutions. Your principal may not know anything about running a music program, but he or she is probably very adept at navigating administrative red tape in your school district. If you can provide sound evidence that backs up your claims, as well as providing possible solutions, you will have made it much easier for your administrator to go to bat for you.

Realize That This May Not Be a "One and Done" Conversation

You may need to start the conversation with just some basic information so that you don't overwhelm your administrator. For example, if you don't have enough working instruments, you might start with just two documents: an inventory report showing which instruments are playable and enrollment figures that justify the need for additional instruments. In some cases, this will be enough. If not, find out what additional information your administrator wants and schedule a follow-up meeting.

Particularly if your request involves a significant financial expenditure, it may take some time to get approval. School budgets are planned and money is earmarked far in advance. You may have to allow time for your district to set aside the funds that your program needs. Be prepared to prioritize, set a reasonable timeline and keep the conversation going.

Coda

Every administrator differs in how they support the arts. However, if you are struggling to get what your program needs, this does not necessarily mean that your administration is unsupportive. It may mean that they are unaware of your challenges, or are trying to balance the needs of many areas. Be patient, yet persistent. Work to educate your administration. Luckily, you are a trained educator! Just as you have to differentiate instruction for your students, you may also have to try multiple approaches with your administration.

I wish you the best of luck as you advocate for the needs of your students!

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You can read her posts and full bio on the SmartMusic blog and learn more on her On and Off the Podium website.

sharing data with parents

Parents are as unique as students – and teachers. Many are very invested. Some won't attend a single concert all year. Much of this depends on the individual, but both the culture of your school and your communication with parents can play a role in shaping the quality and frequency of their interaction.

I have three of my own school-age children. Between them, they see 21 teachers every week. Some teachers email me with every assignment, project, and upcoming assessment. Some I haven't heard from since the beginning of the year. Often it comes down to what data needs to be shared. One thing I can confirm: I read every single thing their teachers send me. But I may not represent the typical parent in your school! When it comes to communication, your best bet is to cover all your bases.

You can set a culture of helpful communication by choosing appropriate course content (rubrics, assignments, tests, performances, etc.) and behavior data for your students and efficiently sharing that data with the parents of your students.

Simplifying Data Collection

As music educators, our biggest challenge with data collection can simply be a numbers problem: we see anywhere from 150-500+ students per week. That's a lot of kids to keep track of. We also need to be aware that behavior reports and assessments are considered confidential and cannot be openly viewed by the entire class.

Keeping these things in mind, here are a few suggestions.

1. Get Organized
Create digital folders for every class or grade, then one for every student. This will take some time to set up at the beginning of each year, but once each student has their own folder, you can simply collect and store their data for every year they are in your program. You'll even be able to move those files to another teacher at another school.

Mine might look something like this:

NOTE: Don't create these files on your computer where they can be lost if your computer breaks. I recommend creating them in a teacher folder on your school server, Google Drive, or Dropbox.

Now you will be all set to collect and file each piece of data you collect for the student: from playing tests to written assessments!

2. Make Digital Copies of Everything
Now that you have all of your student folders ready to go, you need to have digital files to add to them. I recommend using the camera right on your computer. If you don't have one built-in, grab an affordable aftermarket version. Perfectly adequate options are available very inexpensively.

Now you have the ability to take photos of students' written tests, and can even have them perform tests for the camera, and save them right to that student's folder. I also recommend having some kind of word processing file in every student's folder that you can quickly pull up and add notes to. You might make a note if a student was particularly difficult one day, or particularly good. It's these little bits of evidence that can go a very long way when talking to parents.

Using Technology to Share Data
Once your student data is organized and getting backed up on school servers, it's time to share it with parents. There are several ways you can do this.

1. Built-In Systems in Your School
Nearly every school in the country has some type of online grading system. Typically these systems offer an ability for parents to check on their student's progress. If you have access to such a system it's a great place to start. At the school where I teach we use PowerTeacher, and at the schools where my kids attend it's ParentVue/StudentVue.

Simply uploading assignments and grades into the system will provide parents with the opportunity to check them when they choose. You could also consider sending messages out to entire classes with information about upcoming assessments, concerts, or other opportunities.

2. Email
Email is by far the best way to share files and data with parents. The email inbox is a very intimate form of communication. If you don't believe me, just think about how you'd feel if someone else opened your email! Email lets you send things to entire classes, groups of classes, or individual parents.

If you're like me and don't have easy access to an entire class list of emails, just ask whoever sends out your school newsletter if they can send it for you. Of course, for reaching individual parents with single-student concerns, email is a great way to go. The downside here is that if the conversation is of a slightly negative nature, email does tend to lack the tone of your voice, which may be easily misconstrued.

3. Google Classroom

Many classrooms and teachers are opting for using Google Classroom, which is free. Some communication and collaboration benefits Google Classroom offers include the ability to:

- Provide students feedback by viewing and commenting on their work
- Create and manage class discussions
- Share content including links, videos, and images and push this content to students' screens
- Communicate with guardians

It sounds pretty great, but one of the downsides is that each student is required to have their own Google login, which, if not already assigned by the school or school district, could be challenging to obtain. It also requires students and parents to have the ability to understand how it works, which often doesn't work for students younger than 3rd or 4th grade. But for secondary teachers, this could be a great option.

4. Shared Google Drives

Google Drive folders are also free, but they have a storage capacity limit. If you simply need to share word processing files or PDF downloads with students or parents, this can be a great option; just share one link and anyone with that link can access the file or folder. I've found this very useful for sharing practice materials for upcoming programs.

Google Drive folders are less than ideal for individual folder sharing as you'd have to create a unique folder for every student and send a unique link to each parent email. This would be fine if you had five or six students instead of 250.

5. Website or Blog

If you're really tech savvy and have your own classroom or program website or blog, this offers another powerful way to share documents, videos, photos, or any other content. This doesn't work for individual playing tests or behavior reports since it will not be confidential. However, a website or blog can offer a perfect home for classroom materials, updates and announcements, and recordings of performances.

If you use WordPress to create a blog, parents can subscribe to it and be automatically notified when new content is added.

6. Social Media Groups

Social media groups offer another excellent way to push information and data out to parents and students. When you post something into a group that they "follow" or "get notifications" for, they will be sent a "push" when new content is added. This can also be used to share performance videos, student successes, photos of your ensembles, and info for upcoming events. You can livestream rehearsals in which you offer advice or announcements. Facebook will even host documents and files for archival purposes. Again, the challenge here is that not every one of your parents will have a social media account, and even those who do may not check it regularly.

Communication Options You Shouldn't Overlook

Paper

Though it's probably the least reliable way to get information to parents, you can certainly send papers home with your students. Just don't be surprised if the parents never see them and they turn up in the bottom of a backpack two weeks later.

Paper works best when used in combination with email; send the paper home, then follow up with an email that says you sent a paper home. That way the parent will know to look for it. If your school still has a weekly take-home folder for teacher-parent communication you can certainly take advantage of that.

Phone Calls

If you need to make more immediate contact with parents, pick up the phone. While it's an especially good choice for severe issues, a call home sharing kudos for students can be very powerful, too. I suggest you try it, even if you're uncomfortable on the phone.

Phone Applications and Text

Many large-ensemble programs are now using smartphone apps like Remind to give you another option for mass-outreach. The limitation here is that parents have to download the app and send a text to subscribe to your classroom or group. For secondary programs, this could be the best option for reaching parents and especially students.

Direct Mail

Don't forget you still have the option of mailing things home. Most schools get a nonprofit rate for postage so it's not very costly to send postal notifications. If a student did particularly well (or poorly) on an assessment, this could be a great way to get that data home. Because we use direct mail less and less, it's becoming more special when we receive something in the mail addressed to us. If you really want to get a parent's attention, send direct mail and write the address by hand.

Of course, no single route of communication is best, so you should select and utilize several of them. Additionally, you should consider the culture of your school and community when deciding which ones to use.

When and How Often You Should Share

Now that we've explored how to collect data and how to share it with parents, let's discuss how often you should be sharing it.

Quarter, Trimester, or Semester

If you have to submit grades once a quarter, that's a perfect time to send out general updates to parents. You can even send home documents with the printed report card, basically piggybacking on what the school is already doing. The key is that when your grades are due – whether at the quarter, trimester, or semester – it's your cue to send data home to the parents.

Parent Teacher Conferences

If a parent is willing to take the time and effort to meet with you in person, that's a good indication that they want all of the data that you can give them. This is the most important time for you to be in contact with a parent, because the communication can be so thorough; words, context, tone, and body language all help convey the message you want. Have your data ready to go and get it right into the hands of the parents who want it most.

When There Is an Issue

Obviously, if a student is having a major or continual issue in your class, it's time to get in touch with their parents. It should be a step in your classroom management plan: if a student misbehaves the parents will eventually be contacted. Of course, if the behavior is severe enough it should go through the office administration first, but an extra phone call directly to the parent can add context and your understanding to the conversation. It's also the fastest way to come to a resolution that will benefit the student.

When There Is a Success

This is the area where I feel we tend to neglect our parent-communication. If a student is having outstanding success, or has done something particularly well, we should embrace every method of communication we have to reach out to parents and let them know. Do this often.

From My Perspective as a Parent

As a parent myself I can tell you that I value every communication I receive from my childrens' schools. My kids are the most important thing in my life so I value everything teachers send me, regardless of the message. It is only when teachers neglect sharing data on my students that I get frustrated; honestly, they can't share too much. Keep this in mind moving forward: the parents that care want you to share and share and share.

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data and the art of student progress

I have heard the following comment many times, from many judges' recordings, from many festivals:

"I hope my comments were helpful."

In this context, this comment has always made me wonder. Why would anyone ever attend a festival without making changes that benefit their students? As a teacher, do you end your lesson with the same comment? Think about accountability. What impetus do we need to incite change in ourselves and our students?

Using Data to Drive Instruction
"Data! Data! Data! I can't make bricks without clay!" – Sir Arthur Conan Doyle

The quote's expectations might seem obvious, but if you do not know what clay is, how do you know how make a brick? Now substitute some music terms in the quote above:

- I can't make intonation without….
- I can't make a good sound without…
- I can't make a release without…

Think about recent comments you have made to your students. What was the accountability for your comments? Do your students value grades or do they value learning? When students become invested in their learning, the grades will come. In order to encourage students to become invested in their learning, we should provide them with those expected steps.

Examples of how to get data from performances can include rehearsal/concert/festival recordings, playoff tests, and student recordings. There are many ways to evaluate music in and out of your classroom.

Using Analytics

As a teacher, I have spent my life wanting and expecting the most out of students. Collecting data and using it to guide my instruction has been extremely helpful. For example, rather than teach a particular release in a piece of music, I have personally found it more beneficial to work on releases themselves though expectations and practice. The goal would be to work on making them apply to all releases in solo or ensemble work and not just in a particular place. The same can be said for dynamics, phrasing, stylistic interpretation, or any musical skill set.

What I did to achieve a goal for my students and ensemble was to create a collection of data sets and analyze them in all student performances. Each student's performance of a skill set helps me determine student ability and thus the ability of my ensembles.

Rubrics

Rubrics have become an integral part of education. They benefit students by clearly indicating what is expected from them. Below is an example of a rubric designed to help evaluate a student's use of dynamics or an ensemble's use of dynamics for an exercise, passage, or entire work. In Arizona, a rating of Superior is commonly known as a "1". For this reason, the following rubric may appear upside down in its point strategy and can be easily modified to make the Superior be the highest point value.

Dynamics				
Unsatisfactory (5)	Fair (4)	Good (3)	Excellent (2)	Superior (1)
No dynamic range.	Limited dynamic range.	Some successful attempts at basic dynamic variation, though limited in scope and range.	Good use of dynamics throughout, with some lack of dynamic control.	Excellent use of dynamics throughout. Full dynamic range is demonstrated.

Imagine a student submitting a recording or performing for evaluation with a rubric of expectations for them. The expectation would be clear for both the evaluator and the performer. When building expectations, you could use as few or as many sets of criteria for students as you deem helpful. For students, the goal becomes to better learn how and what to practice as opposed to simply playing through the music in isolation.

Standards Based

Recent changes to NAfME and state standards have given local school districts more freedom to define specific learning objectives. Since most evaluators are not musicians, it is important that you map out skills in easy-to-evaluate components. Performance skills are perfect for this. The chart below represents a set of criteria for a student performance:

Use of Vibrato	Rhythmic Accuracy	Intonation	Characteristic Tone	Note Accuracy	Articulation Clarity	Quality of Release	Interpretation	Phrasing	Dynamic Interpretation	Breath
2	2	2	1	2	2	2	1	1	2	2
2	3	3	1	2	2	3	2	2	3	2
2	2	2	1	2	2	2	2	3	3	3

Here you can see three different sets of students and their outcome scores based on a rubric. Much like a festival assigns a rating, a set of standards can help students better understand how to measure their success and give them direction upon what they need to focus on.

Qualitative vs. Quantitative

Music is very much qualitative in nature:

- Tone quality (qualitative)
- Musicality (qualitative)
- Interpretation (qualitative)

Just think about what it would be like if every student knew how, and had the necessary resources, to do everything you expected of them. Data can help us make qualitative judgments by providing learners with quantitative data. When playing music, getting students to own the correct notes and rhythms is key:

- Correct notes in a scale (quantitative)
- Correct rhythms in a passage (quantitative)
- Correct tempo (quantitative)

Going Beyond Notes and Rhythms
When training future musicians, we are asking them to juggle many things. Notes, rhythms, attacks, releases, phrases, dynamics should be the expectation of every student, but what tools can we give them to refine these areas on their own? Creating quantitative tasks for students, and implementing them with a learning management system like Google Classroom or Canvas can be an extremely helpful way to get students to own their learning and their practice.

Benefits of Flipping the Classroom
For the ensemble, rehearsal is the primary way for learning. Balance, blend, and dynamics are examples of skill sets that need to be addressed in rehearsal via instructor feedback. In my opinion, if the students have the notes, rhythms, attacks, releases, and dynamics in place before they arrive, then as a director or an ensemble, I can start to rehearse music as opposed to teach music.

For the individual, if I can find a way to flip my classroom and get students to not only be prepared for rehearsal every day, but also have skill sets in place, then I have to be creative in how I measure these skill sets. One effective method I have found is memorization tests. You can either have students perform a section for you or have them submit a video (or a SmartMusic assignment) of a passage for evaluative feedback. This can focus on simple things such as notes and rhythms, or it can be for concepts such as tone, dynamic contrasts, or phrasing. The important part is to provide the impetus for students to become engaged in their learning.

Who Has the Onus?
"You can teach a student a lesson for a day; but if you can teach them to learn by creating curiosity, they will continue the learning process as long as they live." – Clay P. Bedford

Placing the onus on the students is key. What would your program be like if every student practiced, or had private lessons? While not every student can afford private lessons, if your pedagogy can help encourage students to succeed both in and out of the classroom, then perhaps how we offer opportunity is just as important as the rehearsal itself. Sometimes when students play for me I will create a system to randomly select their evaluation criteria. Correct notes, correct rhythms, articulation, and dynamics are popular when doing this. I want my students to reflect in their practice and to focus on more than just the notes and rhythms as an indicator of their success.

In order to give your students the tools they need, rubrics, data, and expectations can be powerful tools.

Learning Takes Place in the Reflection
Someone once said to me that learning takes place in the reflection. I have lived the statement since the day I heard it. Data is the opportunity to make students reflect on what they need to know.

I hope my comments were helpful.

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data collection and music program fundraising

Fundraising is a necessary "evil," required for most of our programs to survive and flourish. Unfortunately, few music educators were also trained as accountants. Because sloppy accounting often looks very similar to mismanagement of funds, we all need to add careful data collection to the skills we use in the classroom each year.

One solution several of my colleagues have chosen is to buy accounting software. The convenience of these programs is wonderful. But this convenience comes at a cost. And if we're fundraising that often means we don't have money for accounting software.

So, I roll up my sleeves and use what I have access to for free. In many school systems this means Excel, but for this work, Google Sheets is a fine option as well. While it does cost me some time initially to set up, it lets me to track data and funds on many levels. It also allows me to generate reports, statements, invoices, and many more documents essential for clear communication.

Organizing the Spreadsheet
I find that using the rows to list the kids' and parents' names and the columns for each individual entry works the best.

Some basic sample columns might include:

- Student first/last name
- Grade
- Instrument/section
- Parent name
- Contact email

These all help with disaggregating the data or creating lists when needed. I can sort by instrument and by grade levels. I have easy access to "groups" of parent contacts.

Moving further to the right, the next several columns cover financial recording keeping. Our groups travel every three years. So I will create columns for each month of each school year, where we record any deposits students have made towards the trip. At the end of this section is a column that calculates the total of all deposits. Next, I'll create a column for each fundraising event. We typically try to have three fundraisers over the course of two years to help build a scholarship fund and to offset the cost of the trip for all participants. Again, I make a column that totals the fundraising amounts.

Finally, I create a few more columns that automatically add the deposits and fundraising totals together for a "total on account," a column for additional funds needed to fund the trip, and a counting column for total participants.

I add the names of the kids – one per row – and do some adjusting to fill colors, borders, etc. to make the data easy to recognize and read. Then I create a row that totals each column so I can again disaggregate the info by month, fundraiser, etc. This is helpful for determining budget needs and projections.

After Each Event

At the end of any financial project (fundraising, trips) we do a wrap up sheet that shows where all the money came from and where all the money went. The "totals" columns and rows really make this a quick and easy process – usually less than 5 minutes to complete. The totals columns also make it easier to do such tasks as cross-reference deposits for errors, tracking NSF checks, identifying which students are current with funding needs, and determining which students need financial assistance (even those unwilling to ask).

When Sheets Get Too Big

Do you need more info about a particular fundraiser but your spreadsheet is getting too big? While expanding and contracting columns helps make large spreadsheets more manageable, it may be best to create another spreadsheet just for that fundraiser. I usually just create a second or third sheet within the same file or workbook for convenience. Then I link the totals cells for each kid to their cell in the original (what I call "master") spreadsheet. This way, when you change totals in the fundraising spreadsheet, for example, they will automatically update into the master. In the sample below, I illustrate how the "profit for trip" is linked from the trip spreadsheet to the fundraising spreadsheet.

Creating Statements, Invoices, and Other Communications

Sending home a monthly statement to parents is an ideal way to keep financial communications current and transparent. Our statements are generated automatically using the mail merge features within MS Word and MS Excel (other branded software suites will do the same). Using the emails within the spreadsheet allows me to send statements electronically. Linking data cells

to specific locations within the Word document allow me to print and send paper statements home via kids (the old school way). With a column for postal addresses, you can also create mailing envelopes automatically.

Creating the documents will take several minutes each depending how particular you are. However, I would like to offer a word of caution – keep statements simple! Include student's name, parent's name, group name, each deposit, each fundraising credit, total in the account, and total due to be current. You may also wish to have a place at the bottom for announcements. Remember, too many words and people won't read. Use highlight, bold and italic text, underline, color, etc. to draw parents' and kids' eyes to the most important info. And try your best not to include anything else.

I format the letter or statement, then, using Word's Mail Merge (Mailings Menu) features I link cells, columns, and rows to specific points within the document to create individualized monthly statements.

Managing data in this way makes it easy for me to also create a monthly report that auto-fills the data I share with our school bookkeeper. If an error shows up, a monthly accounting will make it much easier to track and correct. This simple task keeps our school's administration in the "loop" so there are no surprises as to "where did the money go?" For the record I do a daily report for myself to make sure I have not "forgotten" to enter something – as you know, the kids come to class whether we're done with the paperwork or not.

Here is an example of a merged statement, where all monetary values, group, grade, and names are merged from a spreadsheet.

Final Thoughts on Music Program Fundraising Data
Using data is crucial for our teaching profession in so many ways. Just as tracking kids' progress is essential to good teaching, so is making sure your finances are in order. This is also crucial to peace of mind and the successful execution of the business side of our profession.
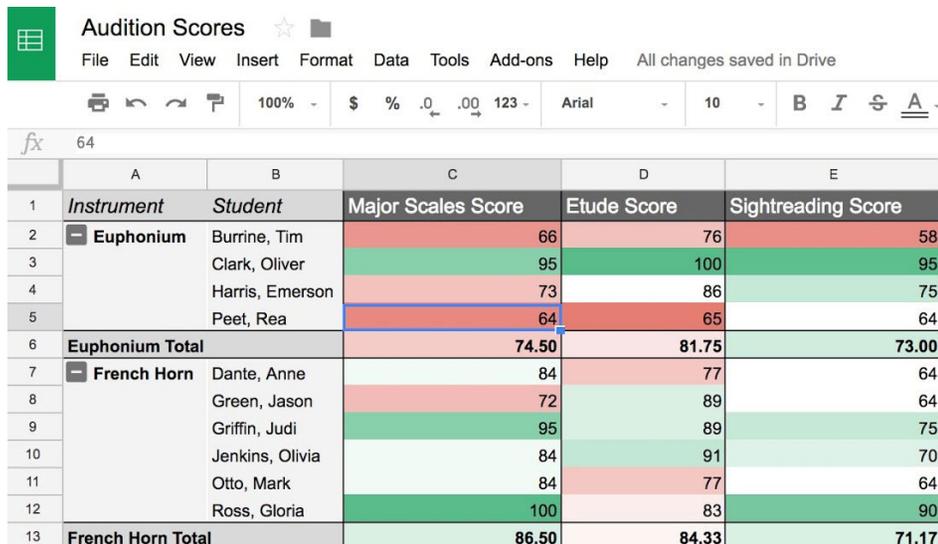
Lastly, save your work with a backup in a different location (Google Drive, Dropbox, flash drive, etc.). Nothing will ruin your perfect system more than a crashed hard drive. I know because I've been there!

Since 1996, Mike Gibson has been the director of bands at Ridgeview Middle School in Sandy Springs, Georgia, where groups consistently receive Superior or Excellent Ratings at GMEA and national events.

Read his bio and other blog posts on the SmartMusic blog.

7 ways to master your music program's data in google sheets

You teach because you love music. Not because you love keeping detailed budgets, organizing your repertoire library, or monitoring instrument rentals. As tedious as that work can be, it's vital to the success of your program. Fortunately, with the right knowledge, you don't have to spend all your time on it.

Google Sheets (Google's version of Microsoft Excel) makes mastering and managing all of that data easy. Plus, you never have to worry about losing valuable information should your computer crash because it's all hosted safely online.

Using Google Sheets effectively means you'll never have to put data in more than one place again or waste hours sorting through your repertoire library for just the right piece.

Become a Google Sheets power user – and master your music program's data – with these seven tips.

Note: If you've never used Google Sheets before, that's okay! Chances are you've used Excel, and Sheets is nearly identical in many ways. If you're brand new to using spreadsheets, you'll catch on quickly! You may want to learn the very basics with this tutorial from SmartSheet before you begin.

1. Good Organization

If you're working with a lot of information and you have to sum it up in multiple ways, you need to keep that information organized. (Hats off to those educators managing 300+ students, 40-year-old-repertoire libraries, and seemingly endless gift-wrap fundraisers. You're doing good work.)

Google Sheets allows you to create documents with multiple tabs. It also gives you the flexibility to work with one data set across all of them. Put all of the numbers in one tab, then use formulas, charts, graphs – all the fun stuff – in others.

You should never need multiple spreadsheets for the same data. Google Sheets will do all the hard work for you, I promise.

In most cases, I like to use a dedicated tab in every worksheet for raw data. This is the only tab of a spreadsheet where I input information, and also the only one I almost never reference; it simply serves as a data dump zone.

Then, when I want at-a-glance summaries, I'll create new tabs to reference the raw data using cross-tab formulas, pivot tables, and charts. That way I'm only seeing the information I need at any given time–and nothing more.

2. Keyboard Shortcuts

Keyboard shortcuts are likely the most underrated tools in Google Sheets. Instead of moving your mouse to the toolbar to perform every function, save yourself time by learning the faster key commands. From copying and pasting to navigating to the beginning and end of columns, there's a shortcut for just about everything.

Action	Mac	PC
Select Column	Ctrl + Space	Ctrl + Space
Select Row	Shift + Space	Shift + Space
Select All	⌘ + A	Ctrl + A
Paste Values	Ctrl + Shift + V	Ctrl + Shift + V
Insert/Edit Note	Shift + F2	Shift + F2
Insert Link	⌘ + K	Ctrl + K
Move to End of Row/Column	⌘ + (Arrow in Desired Direction)	Ctrl + (Arrow in Desired Direction)
Select to End of Row/Column	⌘ + Shift + (Arrow in Desired Direction)	Ctrl + Shift +(arrow in Desired Direction)
Show All Formulas	Ctrl + ~	Ctrl + ~
Find & Replace	⌘ + Shift + H	Ctrl + H

Most of the above commands are navigational and they do take some time to learn, but you'll use them frequently.

My favorite function and key command, though, is the little-known "Paste Values." When you're copying and pasting data into an existing spreadsheet with its own formatting, it's easy to get frustrated with the time it takes to go back and reformat with the right fonts, colors, etc. That's where "Paste Values" comes in. Pressing Ctrl + Shift + V allows you to import the information without having to redo the sheet's existing formatting.

(This is also helpful when you want only the resulting values of a formula. Simply copy the range, paste values, and the formula will disappear leaving only the remaining values behind.)

3. Conditional Formatting

Conditional formatting can help you instantaneously identify cells that match almost any criteria. For example, you could tell it to color any cells that show a grade of 80+ green, 70-80 yellow, and 70 and below red. This helps draw your eye to any students who may be struggling.

In the example at the beginning of this article we've used conditional formatting to call out audition scores below the average with a red-to-green color scale.

But conditional formatting isn't limited to single color or single cell criteria. It can do so much more! If you want to keep track of instrument rentals by date, you could use conditional formatting to automatically highlight dates that are more than 30 days in the past.

Do you have to check out uniforms or concert dresses? Use conditional formatting in tandem with formulas (we'll talk about those later) to sum the numbers of each size checked out, tell you how many remain, and highlight the sizes that may be running low.

To use conditional formatting, select the range to which you want it to apply, select "Format" from the menu, then "Conditional Formatting" and "add a new rule." You'll have the option to change colors and color ranges, and you can totally customize the criteria on which a cell is formatted.

4. Format Painter

I like to keep my spreadsheets as clean as possible, and the easiest way to do this is using consistent formatting. Beyond using the "Paste Values" function, you can also use format painter. See that little paint roller at the top left of your screen? That's it.

The format painter button allows you to take existing formatting from any cell or range of cells and apply it anywhere else within the same spreadsheet (even across multiple tabs).

To use it, select the cell or cells whose formatting you want to use elsewhere and click your format painter button. Then, select the cell or cells you want to be formatted the same way. Voila! There's no faster way to get clean and consistent formatting across multiple cells and sheets.

5. Formulas

Formulas do the real heavy lifting in spreadsheets and they're not terribly difficult to use. A good rule of thumb: if you can imagine it, formulas can do it. They function across worksheets, workbooks, and can reference data both relatively and absolutely; they can be combined and stretched and manipulated. There's almost always a formula to solve any data problem you may have.

Here are a few of my most frequently used formulas:

Formula	Function	Use Case
=Sheet2!A2:B4	Pulls in range of data from another sheet (in this case, Sheet2) using an exclamation mark.	Pull in names of pieces from a repertoire library to a new tab every year where you can make comments about performance challenges and successes.
=CONCATENATE()	Combines text/numbers from multiple cells (Note: Cells do not have to be in order)	Create a "full name" or "piece and composer" column based on separate first and last name columns or title and composer columns.
=(A-B)/(A)	Calculates percentage change	Determine how much your instrument expenses have changed year over year
=COUNT()	Counts numeric values in a range	Identify how many total students raised money for a fundraiser
=COUNTA()	Counts total values (numeric or not) in a range	Get a total headcount of parent volunteers for different stations at events or number of students in any ensemble.
=IF()	Determines how to populate a cell based on your criteria	Use a formula that says, "If STUDENT scored XX on her last audition, mark her as eligible to perform with the top ensemble."
=AVERAGE()	Surprise! This one calculates an average of the given range	Average festival performance scores across ensembles.
=VLOOKUP()	Finds any value in a range and returns a coordinating value in an adjacent column	If you have a spreadsheet with instrument numbers and needed repairs for each instrument as well as list that shows which students are renting which instrument number, you could use VLOOKUP to create a list showing which students are responsible for which repairs.

Some formulas can seem overwhelming at first, but Google has excellent documentation for learning to use them. Plus, most formulas work the same across MS Excel and Google Sheets, so if you know how to make something work in one, you can likely make it work in both.

Note: If you ever need a quick average, count, sum, or any similar simple calculation, highlight the range in which you're interested. In the bottom right corner, you'll see the sum of any highlighted numbers. When you click on that button, Google Sheets will display the count, average, minimum, maximum, and more.

6. Absolute vs Relative References

Have you ever tried clicking and dragging a formula across multiple cells? You may have noticed that the formula automatically changes to reference the relative cell. That can be frustrating in scenarios when you're trying to compare all student grades to one class average or calculate the percent contribution of each student for a fundraiser.

Knowing how to use absolute and relative references in formulas will save that headache every time. Just put a dollar sign before any row/column reference that you never want to move, no matter where you drag or paste the formula.

For example:

=A2 will always reference cell A2

=$A2 will always reference column A, but will change the cell row relatively

=A$2 will change the cell column relatively but always reference row 2

=A2 will change cell row and column as you drag/paste

7. Pivot Tables

Pivot Tables may be the trickiest thing in this list to learn, but they are by far the most powerful. They allow you to take raw data from one tab and interactively summarize it, reorganize it, and determine the significance of it. They grant you the opportunity to present your data in a clearer, more understandable way.

For example, if you have every piece from your repertoire library in one spreadsheet, you could use a Pivot Table to determine how many pieces you already own for each difficulty level.

The example at the beginning of this article shows audition scores that have been organized by section. Because we pulled that raw data into a pivot table, we can now quickly identify which sections need help with scales, etudes, and sightreading.

To create your first pivot table, select all of the data that you want to summarize or analyze. Under "Data," on the menu bar, select "Pivot Table." This will create a new tab and your report editor will appear on the right side.

The easiest way to start using Pivot Tables is to first add your desired row fields (students, ensemble, instrument, and vocal part could all work well here). Then, add whatever values you want to see for each of those rows. (For example, audition scores, total students on that part, etc.). This will give you a good idea of how Pivot Tables can work, and will hopefully inspire you to experiment until you find your best use case!

Like formulas, Pivot Tables can feel rather overwhelming the first time you dive in, the few minutes it takes to learn how to create them can save you weeks of work in the end. AbleBits has a great tutorial to help you get comfortable with them if it feels like too much.

Quick Tips Bonus Round
Automatically Adjust Column Width:
1. Select all cells in spreadsheet
2. Double click the line between column headers

Autofill a Column with Values or a Formula:
1. Select the cell with the desired values or formula
2. Double click on the bottom right corner of that cell
3. Note: this only works when there are values in the column to the left

If You Can Dream It, Sheets Can Do It
Google Sheets is an advanced tool with a lot of functionality. If ever you're in Sheets and you're feeling frustrated by work that seems tedious, there's likely a better way. It pays to Google questions you may have about it; there are lots of resources available!

Take the time now to learn how Google can do the heavy lifting for you, and you'll be happy to spend more time making music and less time managing your music program's data down the road.

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Read her bio and other blog posts on the SmartMusic blog.

mastering student data with smartmusic

Managing data can be incredibly useful for your program. You can successfully manage fundraisers, demonstrate value (and progress) to administrators, and improve your communication with parents.

But your students have to come first.

Dealing with student data has come a long way since pencils, paper, and a sheet of graph paper. Now it's expected that classroom technology will offer you student data and ways to manage it. SmartMusic is no different. Here are three ways to use SmartMusic's data to help your students improve.

Motivate Students to Practice

SmartMusic's practice analytics tool gives you all sorts of data on what your students are doing outside of class. You can, for example, see how many minutes the average student practices each day across a week. Putting this data to use is easy. In addition to having students complete assignments, you can also tell students that keeping the class average minutes per day above a certain threshold gets them a reward – the ability to redo an assignment, programming a piece of their choice on the year-end concert, etc.

Making this a team effort rather than an individual one will develop accountability throughout your ensemble and help foster a cooperative learning environment.

Students with PLAY Plus subscriptions can also use this time to explore new pieces in the SmartMusic library.

Assessing practice time as a group is also an opportunity for self-assessment. After a rough rehearsal, you can point to this data and ask students what needs to change next week. They'll be able to track the way more practice time leads to more successful performances.

Turn Parents and Administrators Into Allies

SmartMusic's data tools can also help you show parents and administrators how students are progressing. Sure, the gradebook is useful, but the practice analytics provide hard data that isn't about assessment. You can tell a parent, "I know that Johnny spent a lot of time on the material for this concert and it made a big difference." You can show an administrator how students who spend time practicing are more likely to stay enrolled in your class.

SmartMusic's instant feedback also helps you show administrators that you're dedicated to formative assessment. Rather than awkward end-of-term grading, you can adapt every assignment based on the data SmartMusic gives you. If your class is struggling to bring a piece up to tempo, you can demonstrate how each assignment changed the required tempo for submission.

Parents and administrators love knowing that you're considering student needs as you work toward a successful concert.

Use Recordings As Data Too

Numbers are great markers of student progress, but the proof is in the performance. Because SmartMusic makes student recordings available to you, you're able to give more specific feedback, and you can confirm that students are making progress away from school.

Individualized feedback is a key part of improving your ensemble and can help you create differentiated instruction strategies for your rehearsals.

You may also want to use recordings as the basis for more quantitative feedback. The easiest way to convert recording data back into a number you can share with students is by including custom criteria in your grading rubrics. You can give different point values to each grading criterion, and assign them to

multiple assignments. This will keep assessment consistent across assignments. Students will know that their articulation, for example, improved across the course of a unit from a 6/10 to a 9/10.

Over To You

Now it's your turn to access your students' data in SmartMusic and use it to make your next concert sound better than ever. If you aren't using the new SmartMusic yet, remember that you can access all the analytics and assessment tools by getting started with SmartMusic for free.

One final tip: Explore the new SmartMusic. It's free to use and compatible with the devices your students are using, including iPads and Chromebooks. Learn more today at <u>smartmusic.com</u>.

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