

PART 2: Making Effective Data Requests

Gaining access to the data you need, knowing what to request and knowing how to request it are important steps in your arts education data initiative. Part 2 of the toolkit walks you through the process of working with your project partners to develop, refine and submit data requests to the organizations in your state responsible for arts education data.

The overriding objective in any data request is to make it clear and specific enough to ensure that you get the data you need. Vague or confusing data requests will lead to dead ends, waste valuable time and try the patience of organizations that maintain the data.

By being clear and specific, you can help the people who oversee education data in your state find the information you need in the data they have. The data you need may have been gathered for reasons that have little to do with your project. Goals quite different from your own may have determined how the data has been defined, collected, compiled into files, formatted, labeled and structured for analysis.

Your data request may require the organization that maintains the data — often the state education agency (SEA) — to translate data from their native state into something you can use. That organization will have to determine if its data systems really have the data you need and whether the data are in a manageable format. A vague or confusing data request can derail this process.

Part 2 of this toolkit covers three broad actions that are important to any data request:

1. [Determine What Data You Will Request.](#)
2. [Define Your Questions as Specifically as Possible.](#)
3. [Determine How Data Privacy Concerns Can Affect Your Request.](#)

In addition, it offers tools to help you dig deeper into these actions:

- [Tool F: Worksheet: Planning the Questions You Want to Ask of Your State's Data System](#)
- [Tool G: The Anatomy of a Data Request](#)
- [Tool H: Worksheet: Defining Terms for Data Requests and Analyses](#)

1. Determine What Data You Will Request

You will need to understand what specific questions you want the data to answer and which data systems are likely to contain data relevant to those questions.

Align your request to clear goals for your arts education data initiative.

Part 1 advises you to work with project partners and advisors early in the process to define your goals for the initiative. Why do you need data? What information do you need to inform or strengthen your



arts education efforts? What questions do you want your state data systems to answer? By defining the data you and your partners need, you can avoid frivolous requests that could waste time or strain your relationships with organizations providing the data. (See Part 1 of this toolkit for more guidance on defining your goals and questions.)

Scan your arts data landscape.

Start with your SEA, which is likely to be the best source of the core data for your arts initiative. As noted in Part 1, most SEAs provide data dictionaries either on their websites or on request. These dictionaries provide an overview of what is in their state's data archives. (To explore what arts education data your state collects or publishes, see this [50-State Comparison of Arts Education Data Collection and Reporting](#), published by the National Endowment for the Arts and Education Commission of the States.)

Don't hesitate to contact data managers in education agencies for more information or context before you make a formal request. (Most state education agencies publish contact information of staff under staff directories organized by department. Some states publish contact information of staff who oversee their education data systems on the web pages describing those systems.) Most data managers can describe the files they manage, and they may appreciate your efforts to define what data you need before you make a formal request.

You may also explore other possible sources of information on arts education in your state. In some states, arts councils and other arts stakeholder groups provide arts programming in or out of school and may collect useful information on those activities.

Identify the systems from which you need to request data.

As the [50-State Comparison](#) demonstrates, most state data systems include arts information within three main structures:

- Student information systems (including information on course-taking).
- Course information systems (including course offerings and enrollments by school).
- Teacher information systems (including teaching certifications/endorsements).

These systems may not contain all the data you hope to use, but they can offer data on important indicators such as access to arts courses, enrollment in arts courses, access to arts teachers, and arts teachers' certification status as well as education background.

In some states the data in these systems may reside in state agencies other than the SEA. In that case, you may need to consult with each of these agencies and submit separate data requests to each agency.



TIMELY TIP

Ensure that any data files follow common standards for uniquely identifying individual teachers, schools or students, so that the information from one set of files (for example, a file on arts enrollments) can be linked to another (for example, a file on arts teachers). The unique school identifiers in both files must be exactly the same, or data software programs will not be able to match them. Fortunately, most state data systems follow uniform ID conventions to avoid this problem. (For more information, see Part 3 of this toolkit.)

Carefully consider what specific information you want to report – and in what format you want to report it.

For example, do you want to report on percentages of students enrolled in arts classes as a whole? In music classes? In dance classes? Do you want to report on racial or ethnic gaps? Gender gaps? Geographic gaps? Do you want to report at the state, district and school levels? Do you want to report on counts as well as percentages? You need to settle these questions before you formulate a data request. (For help in formulating such questions, see [Tool F.](#))

If you don't think through your reporting objectives, you may forget to ask for some of the data you need. For example, you may want to present percentages of students enrolled in arts courses so that you can meaningfully compare enrollments among schools of different sizes. If you ask for raw numbers of students enrolled in arts courses but forget to ask for raw numbers of students enrolled in all courses, you will not be able to calculate a percentage.



TIMELY TIP

Some state agencies already publish data sets with arts education information on their websites. (To explore which states have done so, see the National Endowment for the Arts' and Education Commission of the States' [50-State Comparison of Arts Education Data Collection and Reporting](#), which contains links to such sets). Some agencies also maintain unpublished aggregated data sets that don't require any special data sharing agreement to access. Ask the state agency providing the data if they maintain such data sets. Finding such resources can save you time.

You must also decide in advance how detailed you want your analysis to be. In most cases, you can aggregate data from more specific to more general categories. For example, if you get data about individual schools, you can combine those data to get the data you need about school districts or the state as a whole. You generally can't go the other way: General district-level data will tell you little or nothing about individual schools within the district.

**TIMELY TIP**

If you're asking the state to provide percentages of students enrolled in arts courses at the school level, also ask for student enrollment counts you would need to calculate those percentages. (For example, 100 students enrolled in music, divided by a total school enrollment of 200, yields the percentage of the school's students enrolled in music). Without these counts, you will not be able to calculate enrollment percentages at the district or state levels.

Getting specific may seem tedious, but it will pay off. You will have much more to analyze if you have disaggregated data — that is, data broken out by school, grade level, gender, race/ethnicity and eligibility for free or reduced-price lunch, among other categories. If you want to promote equitable access to arts education in your state, or if you want to address grade levels in greatest need of attention, for example, you will need disaggregated data.

2. Define Your Questions as Specifically as Possible

After you have determined what kinds of information you want to report, you can start defining the specific questions you want to include in your data request. Begin by describing the broad question you would like to explore. Then specify more detailed questions until you reach the level of detail you will need to answer your questions most fully.

**TIMELY TIP**

When you communicate with data professionals in SEAs, be clear about why you want the data you are requesting. If you establish a relationship with these professionals and help them understand the goals of your request, they are much less likely to resist extensive data requests. Otherwise, they might think you're asking for everything — including the kitchen sink.

FOR EXAMPLE:

Define specific questions about arts enrollment.

Seemingly straightforward questions are often too vague for a data request. If you would like to explore participation in arts courses, you might ask: How widespread is student participation in arts courses in the state?

On its own, this question won't tell a data professional what data you really want. You must create more specific questions within your broad area of interest. Here's how you might move from the broad to the specific:

THE BROAD QUESTION: How widespread is student participation in arts courses in the state?

THE SPECIFIC QUESTION: What percentage of K-12 students participate in arts courses in the state? It's more meaningful to know that 60% of students participated in arts course than it is to know that 100 students did — 100 out of how many?

STILL MORE SPECIFIC QUESTIONS: Do you want your data:

- Reported to the individual school level, the district level or the state level?
- Broken out by different arts disciplines?
- Broken out by race/ethnicity, gender, eligibility for free or reduced-price lunch or other student subgroups?
- Broken out type of school (elementary, middle, secondary) or even grade level?
- Broken out by a combination of the above (i.e., by school, arts discipline and race)?



STUMBLING BLOCK

Data files can be bigger than you expect.

Adding levels of specificity may quickly increase the size of the data file. For example, if you're requesting total arts enrollment in 500 schools, you could receive a file with 500 data points. But if you also need to include grade-level arts enrollments (assuming schools with grades K-5), that becomes 3,500 data points (arts enrollment in all 6 grades plus arts enrollment in the school as a whole). If you also want to break out enrollments by categories of arts classes (total arts, visual arts, dance, theatre, music, media arts), your file would swell to 21,000 data points.

This doesn't have to be a problem, because most file management software can easily handle this volume of data points. (A personal computer's processing speed could slow down analysis, however). Just be aware that, as you become more specific, the size of your file will grow dramatically.

Define specific questions about arts teachers.

A question about access to arts teachers follows a similar pattern:

THE BROAD QUESTION: How widespread is student access to qualified arts teachers?

SOME POSSIBLE SPECIFIC QUESTIONS:

- What percentage of K-12 schools employs arts teachers who are certified in the arts subjects they teach?
- What percentage of K-12 students attends schools that employ arts teachers who are certified in the arts subjects they teach?
- What percentage of K-12 students are enrolled in courses taught by arts teachers who are certified in the arts subjects they teach?



STILL MORE SPECIFIC QUESTIONS: Again, you may want to consider whether you want schoollevel data broken out by arts disciplines, student subgroups, type of school or grade level, or by a combination of the above.



TIMELY TIP

It often pays to start small when you make data requests.

Consider speaking with data professionals about making data requests in multiple phases. For example, you might first request only statewide data and then study those results for data quality problems, key insights or interesting patterns that can help you refine your request for district- and school-level data.

It pays to spend time defining exactly what data you need and why. For an annotated data request based on an actual example, see [Tool G](#).



STUMBLING BLOCK

Be prepared to define the terms in your questions in ways that make sense for your state's data system. How, for example, would you define enrollment? Was a student enrolled in a course if she was attending a course at a specified point in the term? Alternatively, does she need to have received a grade for the course?

To consider another example, will you count only full-time-equivalent (FTE) teachers in your analysis of arts teachers? Or will you also count part-time teachers, or teachers who have appointments at more than one school?

You should confer with data managers to ensure that you're defining terms in ways that best suit your goals. Most important, you should use these definitions consistently throughout your initiative, or your analysis will produce unreliable findings. (For more information, see [Tool H](#).)

3. Determine How Data Privacy Concerns Can Affect Your Request

Strict federal and state laws govern data privacy and prohibit even accidental disclosure of students' personal information. (For more information on data privacy constraints, see Part 3 of this toolkit.) These laws will have a profound impact on what information you will be able to report. They may also affect what data you will receive from state agencies.

The sample data request in [Tool G](#) avoids some of these challenges by asking for aggregate or group data rather than individual student records. If you and your partners feel your initiative needs data on individual students, your data provider will require you to sign strict data-sharing agreements and follow rigorous procedures for securing the data.

Even if you do not request individual group records, be prepared for questions about privacy, and explain clearly that you are requesting aggregate data only.



TIMELY TIP

Get to know FERPA as well as the data privacy laws in your state. Education data managers are more likely to embrace requests that demonstrate sensitivity to privacy concerns. Education Commission of the States' tracks [recent state legislation on student data privacy](#). Data Quality Campaign has summarized data privacy legislation states passed in [2015](#), [2016](#) and [2017](#).

Understand the impact of data suppression rules.

Data privacy laws can affect your initiative, even if you decide to work with aggregate data alone. Your data provider might redact some of the specific information you've taken pains to request.

Most organizations that handle sensitive data have data suppression rules that require users to redact data when the numbers get small enough that they might unintentionally expose the identity of individual students.

If you are examining a school or class that enrolls only two black students, for example, then revealing information by race might expose private information about those students. Federal regulations prohibit displaying cell counts showing fewer than 10 students. States may apply more stringent rules, redacting results when the counts dip below 20 or even 25. As you examine some student subgroups at the individual school, grade or classroom level, you will probably encounter many such redactions.



STUMBLING BLOCK

Ask for both aggregate and detailed data.

If you ask for data broken down by school, for example, also ask for aggregate data for the entire district and the entire state. Aggregate data are much less likely to be redacted and are therefore better suited for analysis. If you use school-by-school data to perform district- or even state-level analyses, data suppressions at the school level may skew your results. Your data analysis software may interpret data points that have been suppressed as zeroes, which would distort your aggregate analysis.

Summary

Clear and specific data requests are an essential part of any carefully executed arts data initiative. A toolkit like this one cannot prepare you for every eventuality, of course, because every state and partner organization collects, stores, organizes and controls access to data in different ways. Still, only a well-designed data request will yield data worth analyzing.

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