



The Arts

Education

Data Toolkit

INTRODUCTORY LETTER TO THE ARTS EDUCATION DATA TOOLKIT

When the [National Endowment for the Arts](#) and [Education Commission of the States](#) conceived of this toolkit on arts education data more than two years ago, we never dreamed that it would come to fruition amid events that could shape the nation's future so profoundly. As we write this, a global pandemic is exacting a grievous toll on human life, the economy and education. At the same time, hundreds of thousands of protesters have taken to the streets to call out the systemic racism in our society.

Yet this toolkit could hardly be timelier. Policymakers and communities urgently need data to address the pandemic's impact on students' participation in arts education. Data can also expose structural inequities that [deny](#) students of color and students from low-income households access to the fortifying power of the arts in their schools. The toolkit will help you find, analyze and report on such data, **which most states already collect**.

The impact of recent events may be enormous. School leaders have had to shutter buildings where students come together to dance, paint, sculpt, create music or perform theatre. Plunging revenues and competing priorities in school districts may threaten arts classes even after health risks dissipate. The fallout from those problems may persist longest in low-income communities and communities of color, where schools often [bear the brunt](#) of state budget cuts.

Yet information on how many American children lack access to arts education has long been scarce. For every story of how a class in the arts transformed someone's life, there are untold stories of children and youth who have never had the opportunity to make or study arts in their schools. The research we do have suggests that a disproportionate share of those untold stories are about students of color and students from low-income households, who are the [most likely](#) to attend schools lacking arts teachers or facilities. Better data can bring all their stories to light and thus help address critical gaps in opportunity.

Such opportunity gaps deny students the powerful benefits of arts education. [Studies](#) have found that it can boost students' communications and critical thinking skills, support their social and emotional development, nourish their creativity and improve their performance in school. Arts education can nurture the next generation of creative and innovative thinkers who will make a profound impact on the world. And, crucially, the arts can help children and youth cope with the trauma that recent events will continue to leave in their wake.



Data are not only for economists or statisticians. Rather, data systems are for everyone. They can offer critical information that should motivate every policymaker, educator and parent. Better data can help policymakers study the impact of state policies, help parents identify schools whose arts offerings best suit their children's interests, or help educators bring the arts to all children and youth, regardless of what they look like or where they live.

And now, advances in state data systems have toppled barriers to finding and analyzing data on arts education. This toolkit will help you take advantage of those new systems. It will help you plan an arts education data initiative, make data requests, analyze data, report on the results and use those results to inform action.

The sculptor and [National Medal of Arts](#) recipient Louise Bourgeois [famously declared](#) that “art is restoration: The idea is to repair the damages that are inflicted in life, to make something that is fragmented ... into something whole.” Every school and community will need arts education as it joins the nation's work to make itself whole. Data will help light the way.

Mary Anne Carter

Chairman

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PREFACE

Since 2017, the National Endowment for the Arts has collaborated with Education Commission of the States to promote more and better information on young people's access to, and participation in, arts education. Research demonstrates that the arts are important to students' success in school, life and work. Data about arts education are critical to ensuring that all American students, regardless of where they attend school, have the opportunity to excel in and through the arts.

Such data can give decisionmakers, from state policymakers to educators to parents, information they need to answer critical questions: How many students have access to arts instruction? How many receive it? Do students' gender, race, zip code or family income affect their opportunities in the arts? Getting answers to questions like those is an indispensable step to expanding opportunity.

Yet in most states, answers to such questions are elusive. The National Endowment for the Arts and Education Commission of the States have addressed this challenge through the State Data Infrastructure Project for Arts Education (SDIP), an effort to create tools and technical assistance that help states extract, analyze and report on data about arts education.

This toolkit is a central outcome of that effort.

Why Do This Work Now?

The past two decades have witnessed a revolution in state education data that is creating new opportunities for arts education. Most states' education data systems now contain up-to-date arts education data on every school district, school and student, making it feasible to examine students' access to, and participation in, arts education. These data systems have the potential to inform the public about what arts courses schools offer, how many students take those courses and who teaches them.

Recent years have also seen the growth of cheaper and more powerful data analysis and visualization platforms that make it easier than ever to report publicly on education data at the state, district and school levels. These developments in data collection, analysis and reporting have laid important groundwork for state-level initiatives to report on the condition of arts education.

What Is In This Toolkit?

This toolkit provides information to help state arts education stakeholders work with agencies that oversee state education data systems to report on arts education data. It presents sequential instructions for:

Understanding what data you need to answer key questions about arts education in your state;

- Requesting data from the agencies that house them;
- Analyzing those data in light of your key questions;



- Reporting publicly on the results of your analysis; and
- Using the information you report to support better decision-making.

The toolkit also offers resources including worksheets, tip sheets and sample documents to help you roll up your sleeves as you work with partners to plan and implement your effort.

Who Is This Toolkit For?

Many barriers to analyzing and reporting on education data have fallen in recent decades, putting the work described in this toolkit within reach of arts stakeholders who couldn't have dreamed of doing anything like it just 20 years ago. Even so, this toolkit may not be for everyone. It has been written for:

People who can bring on partners. This toolkit is for anyone who can assemble a robust network of state, regional or local partners to pursue an arts education data initiative. Such a network could include representatives of state arts agencies, state education agencies, arts or education nonprofits, state policymakers or influential parent and community organizations. The network could also include representatives of regional or local nonprofits, school districts or community groups. A successful effort need not involve all these agencies and organizations, but it will probably falter if few or none of them are engaged. You can't do this alone.

People who lack expertise in data. This toolkit is written for people who are not experts in state education data systems, data analysis or data reporting. If you are an expert in these areas, you may find parts I and V useful, but Parts II through IV may cover information you already know. (The detailed Table of Contents can help you understand what each part of the toolkit contains.)

This toolkit cannot teach a non-expert how to analyze large datasets, employ sophisticated statistical models, create the computer code behind leading-edge education data dashboards or draft legal documents to guide data sharing. It can help you understand when you need to bring on help.

This toolkit can help you determine who can provide that help — data analysts, programmers or lawyers, for example. Sometimes, help will be close at hand; some state agencies may be able to analyze data for you, or a tech-savvy intern could help you create data dashboards. In other cases, you may have to hire help. This toolkit aims to give you the information you need to choose strong partners, ask informed questions and anticipate key challenges and opportunities along the way.

What Kinds of Arts Education Data Does This Toolkit Focus on?

This toolkit focuses primarily on education data that are collected at the state level, because such data can help you gain an overview of the condition of arts education across your state while offering insights on individual schools and districts. State-level data can inform discussions of state policies. It can also support standard metrics for comparing schools and districts from across the state.

Yet even the most sophisticated state arts education data initiative may not produce all the arts education information you want. Important data about such subjects as the quality of arts education, the extent of arts integration into other subjects or young people's access to arts experiences outside of school remain elusive in almost every state. That may well change in coming years, but you would be hard pressed to tackle those areas now.

This toolkit focuses primarily on data most states already collect as a matter of course: data on access to the arts, enrollment in the arts and arts teachers. To learn more about metrics in these areas, see the 2018 SDIP report, "Using State Data Systems to Report Information on Arts Education."

Many schools and districts collect additional data that they do not send to state education agencies. Such data are valuable, and some of the lessons in this toolkit may help you engage in local arts education data initiatives. Even so, this toolkit does not focus on data that exist only at the local level.

How Can You Use This Toolkit?

Pick and choose — to an extent.

If you understand how to create a data visualization website, for example, you may choose to skim Part 4 or skip it altogether. If you need to get started on a data request, you can jump to Part 2. Even so, it is a good idea to read all five parts to have an overview of what a complete initiative entails.

Plan ahead.

It's a good idea to have a sense of all the steps before you get started. If you make a data request (see Part 2) before you have any plans for how to analyze large spreadsheets full of data once you receive them (see Part 3), you may find yourself in a pickle. You may also have an easier time analyzing your data (see Part 3) if you have at least some idea of how you plan to present the results of that analysis (See Part 4).

Use the worksheets and related resources.

The toolkit's worksheets, tip sheets, sample documents and wireframes offer opportunities to adapt the toolkit to your state's specific context and learn from concrete examples of work you must do along the way.

What Can You Accomplish?

Your work to shed light on the condition of arts education could be critical to boosting access to, and participation in, arts classes that enrich every child's education. SDIP case studies of successful state arts education data initiatives in [California](#), [New Jersey](#) and [Texas](#) demonstrate that information fuels better opportunities for children and youth. This toolkit aims to make such efforts easier in states across the country.



TABLE OF CONTENTS

This detailed table of contents offers an overview of each part of this toolkit, along with links to different subsections and tools. It aims to give you a bird's-eye view of the entire document and the resources it offers. As noted above, you can jump right to the section you feel is most relevant to your needs, but seeing all the steps in advance can help you plan your efforts and anticipate challenges.

PART 1: Getting Started

1. Define Your Goals.
2. Identify the Data You Need.
3. Understand Your Policy Environment.
4. Understand Your Capacity.
5. Identify Your Partners.
6. Make the Case for Your Work.
7. Plan Ahead.

PART 1 TOOLS

- **Tool A:** Finding State and Local Arts Education Organizations
 - **Tool B:** Worksheet: Project Planning and Self-Assessment
 - **Tool C:** Key Audiences
 - **Tool D:** Suggested Arts Data Talking Points
 - **Tool E:** Tips for Speaking With Leaders About Arts Education Data
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PART 2: Making Effective Data Requests

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.

PART 2 TOOLS

- **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

PART 3: Processing the Data

1. The Easiest Path

- Understand the Spreadsheet and Make Simple Calculations.
- Anticipate the Challenges of Data That Have Already Been Analyzed.
- Ensure the Quality of Your Data.

2. The More Challenging Path

- Get Access to the Data. Understand the legal and technical requirements for receiving large datasets with information on individual students.
- Organize the Data. Understand the format of the data you receive — and prepare for the challenges of formatting data from multiple sources.
- Process the Data. Select the right data analysis software.

PART 3 TOOLS

- **Tool I:** Sample Record Layout
- **Tool J:** Common Components of a Data-Sharing Agreement
- **Tool K:** Common Means of Getting Access to Large Data Files
- **Tool L:** Analyzing Data From Multiple Sources

PART 4: Reporting on the Data

1. Review Your Arts Education Information Against the Original Goals of Your Initiative.
2. Confirm the Audiences for Your Information.
3. Choose What Information You Want to Convey.
4. Choose a Mechanism for Reporting on Data.
5. If You Choose to Create an Interactive Website or Webpages, Create a Blueprint.
6. Design Your Visualizations.
7. Prepare Your Data for Your Website or Webpages.
8. Troubleshoot and Adjust.
9. Promote Your Website or Webpages.

PART 4 TOOLS

- **Tool M:** Sample Wireframes



PART 5: Using the Data to Promote Better Decision-Making

1. Make Sense of the Data.
2. Set Measurable Goals.
3. Create Communications Tools Specific to Your State's Conditions.
4. Use Data to Recruit New Champions and Allies.
5. Troubleshoot Along the Way.

PART 5 TOOLS

- **Tool N:** Data Questions to Consider
- **Tool O:** Goal Setting
- **Tool P:** Sample Message Map for State X
- **Tool Q:** Sample Copy for a Two-Pager on Arts Education in State X
- **Tool R:** Sample Email Blast Copy for State X
- **Tool S:** Recommendations for In-Person Meetings in State X
- **Tool T:** Sample Social Media Toolkit for State X

GLOSSARY OF KEY TERMS

- **BENCHMARKING.** The process of evaluating something against an external standard.
- **DATA CLEANING.** The process of identifying and removing or correcting inaccurate, incomplete or corrupt records from a dataset.
- **DATA DICTIONARY.** A resource that describes the structure, format and contents of a database. Data dictionaries typically list every data element in the database — for example, Student ID, Student Grade Level, Teacher ID, Course ID or Course Grade. Some data dictionaries define the relationships between separate elements.
- **DATA SUPPRESSION.** The process of withholding information in public datasets to protect personal information of individual students or educators.
- **DATA VISUALIZATION.** The process of representing information in the form of a diagram, chart, image or series of diagrams, charts or images.
- **DATA WAREHOUSE.** A system for storing data from multiple sources for the purposes of analysis and reporting.
- **DATAMART.** A subset of a data warehouse that contains data specific to one section or unit of an organization.
- **DATA-SHARING AGREEMENT.** A formal agreement between a data provider and the user of the data that specifically spells out what data are being shared and how those data can be used.
- **DELIMITED FILE.** A text file for storing data, in which each line represents a record. Delimiting characters — such as commas, tabs or colons — separate each field within each line. Fields may contain such data elements as Student IDs, School IDs or Teacher IDs.
- **DISAGGREGATED DATA.** Data that have been broken out by such sub-categories as race, ethnicity, gender, special education status or geographic location.
- **FEDERAL EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA).** A federal law that protects the privacy of student education records.
- **INFOGRAPHIC.** A graphical representation of information that aims to make the information easily and quickly understood. Infographics can include charts, icons, images and numbers; and most use minimal text to convey messages.



- **KEY FIELD.** A field or column in a data record containing unique data that distinguishes that record from any other record in the dataset. In a database of individual student information, for example, the Student ID field might be the key field, ensuring that no duplicate and possibly inconsistent records exist for any individual student.
- **RECORD LAYOUT.** The layout of how any record is displayed in a dataset. The record layout describes the format of each field in a data record — for example, whether the content in a field is numeric, text, alphanumeric (consisting of both letters and numbers), a date (MM/DD/CCYY) or binary (Y/N), among other possibilities.
- **SECTION 508.** A section of the federal Rehabilitation Act that requires federal agencies to make their electronic and information technology accessible to people with disabilities.
- **STUDENT INFORMATION SYSTEM.** An information system for managing student education data, such as student demographic data, courses taken, attendance, grades and assessment results. Student information systems require strict measures to protect the privacy of the information they contain, because they contain personally identifiable information, which federal law defines as “information that can be used to distinguish or trace an individual’s identity, either alone or when combined with other personal or identifying information that is linked or linkable to a specific individual.”
- **STUDENT SUBGROUPS.** Any group of students who share common characteristics, such as race, ethnicity, eligibility for the federal school lunch program, special education status or status as English language learners.
- **URBANICITY.** The degree to which a geographical area is urban. For example, if you wish to report the percentage of students enrolling in music classes by urbanicity, you could separately report results for urban, suburban, town and rural students.
- **VERSION CONTROL.** The management of changes to files, documents or spreadsheets to ensure that different versions of the same document do not become confused with one another. For example, each version of a document can be separately timestamped to ensure that all users know which version is most recent.
- **WIREFRAME.** A simplified blueprint of a website that guides its design and development. Wireframes focus on what content takes priority, how the site will function, how space will be allocated on webpages and how users are intended to navigate through the website. Wireframes typically lack color, branding, images or other elements that determine the final site’s visual style.

PART 1: Getting Started

Before you begin an initiative to report on arts education data your state's education data systems already contain, you need to plan carefully. You won't know what data you need before you've carefully defined your goals for the initiative. Even if you have well-defined goals, it will do you little good to request data if you aren't prepared to analyze them.

Part 1 of the toolkit will help you consider all the steps of a state education data initiative in advance and then marshal the capacity, partners and resources to do the work. This section presents seven steps you should carefully consider as you get started:

1. [Define Your Goals](#)
2. [Identify the Data You Need](#)
3. [Understand Your Policy Environment](#)
4. [Understand Your Capacity](#)
5. [Identify Your Partners](#)
6. [Make the Case for Your Work](#)
7. [Plan Ahead](#)

You don't need to follow the steps in this exact order, but you should not give any of them short shrift, because the success of your initiative will depend on the strength of your plans.

These tools will help you in your work:

- [Tool A: Finding State and Local Arts Education Organizations](#)
- [Tool B: Worksheet: Project Planning and Self-Assessment](#)
- [Tool C: Key Audiences](#)
- [Tool D: Suggested Arts Data Talking Points](#)
- [Tool E: Tips for Speaking With Leaders About Arts Education Data](#)

1. Define Your Goals

Before you begin looking for data, work with other key stakeholders in your state to define the goals that data will help you achieve. Specifically, what questions can data help you answer to reach those goals? Only then can you start understanding what data you need.

Gather stakeholders to discuss common goals.

Consider inviting diverse audiences, including parent leaders, arts education advocates, educators and state policy leaders, among others. Broad goals for discussion may include:



- Ensuring access to arts classes in schools.
- Promoting robust participation in arts classes.
- Ensuring that schools have enough qualified arts teachers.
- Ensuring that students have strong arts education pathways from early education through high school and beyond.
- Fostering investment in arts education.
- Supporting the quality of arts education.

You and your fellow stakeholders may of course identify other goals. The process of arriving at common goals is a critical first step in your effort, because it will help you ensure that your data initiative addresses priorities that are widely shared across your state.

Consider what questions you need to answer to pursue your goals.

Goals should raise questions: How far are you from achieving them? What stands in the way? Which shortcomings require the most attention? By considering such questions, you can begin to identify what answers you lack, and therefore what data you need to collect. Your questions should focus on identifying the information you need to take action toward realizing your goals.

Here are some examples of questions that accompany the goals above:

ENSURING ACCESS TO ARTS CLASSES IN SCHOOLS: Who has access to arts education? To which arts disciplines? Are there gaps in access by race, geography, socioeconomic status or other factors?

PROMOTING ROBUST PARTICIPATION IN ARTS CLASSES: Who takes arts classes? In which arts disciplines? Are there gender, racial, geographic, socioeconomic or other gaps in participation?

ENSURING ADEQUATE SUPPLY OF ARTS TEACHERS: How many arts teachers are there in schools? In what disciplines? Are there gaps in access to those teachers by location or type of school? By race, ethnicity or socioeconomic status? What percentage of arts teachers are certified? What qualifications do they have?

ENSURING STRONG PATHWAYS FROM EARLY EDUCATION TO HIGH SCHOOL AND BEYOND: Do school districts offer arts courses throughout the K-12 continuum, so that students who take arts courses in elementary school can continue in middle and high school? To what extent are these pathways available in all disciplines? Are there differences by race, geography, socioeconomic status or other factors?

FOSTERING INVESTMENT IN ARTS EDUCATION: How much state or local money is invested in school arts programs? Do schools have adequate arts facilities? Is there enough investment to support arts facilities, arts equipment and materials, arts educators or performances?

SUPPORTING QUALITY IN ARTS EDUCATION: Does arts instruction measure up to accepted standards for quality?



TIMELY TIP

For a helpful explanation of arts education metrics see “[Using State Data Systems to Report Information on Arts Education](#),” a report by Education Commission of the States and the National Endowment for the Arts.

Spend time with stakeholders to formulate the questions you need to answer. (For a more detailed list of possible questions, see [Tool E](#) in Part 2.)

2. Identify the Data You Need

It is now time to determine which sources of data can help you answer your questions. All states have systems to collect and report on education data, including data on K-12 arts education. As you consider your goals and questions, begin to identify data sources that can help you find answers. Bear in mind that your state might not yet collect all the data to answer your questions.

List what data you think you will need.

For example, you can identify what data you need to address the goals listed earlier:

ENSURING ACCESS TO ARTS COURSES. You will need data on arts courses offered in each district and school.

PROMOTING PARTICIPATION IN ARTS EDUCATION. You will need data on students enrolled in arts courses in each district and school, compared to total enrollments in all courses.

ENSURING ADEQUATE SUPPLY OF ARTS TEACHERS. You will need data on teachers and the subjects they are assigned to teach, by district and school. You may also need data on the courses they teach and other factors, like their education background or certification status.

ENSURING STRONG PATHWAYS IN ARTS EDUCATION. You will need data on arts courses offered by school and district, as well as data on district feeder patterns, or the sequence of schools students typically attend as they move from elementary to middle to high schools within set school attendance boundaries.

FOSTERING INVESTMENT IN ARTS EDUCATION. You will need data on school and district budgets broken out by program area. You may also need school facilities data that specify arts facilities.

SUPPORTING QUALITY IN ARTS EDUCATION. You will need data describing the quality of arts instruction. You may also need data on students’ performance in arts courses.

Explore your state’s data system.

To figure out what data are available in your state:

REVIEW INFORMATION ON THE AVAILABILITY OF ARTS EDUCATION DATA IN YOUR STATE.

According to a [50-State Comparison of Arts Education Data Collection and Reporting](#) released by the National Endowment for the Arts and Education Commission of the States, 44 states appear to collect



data on enrollment in arts courses, but only 13 states report on those data. All but three states appear to collect data on numbers of teachers assigned to arts courses, but only 15 states publish that information.

REVIEW YOUR STATE'S DATA DICTIONARIES. Most states provide data dictionaries with detailed information on each respective collection system they operate or for all their data systems taken together. (Education Commission of the States' 50-State Comparison of Statewide Longitudinal Data Systems includes [links](#) to each state's data dictionary.) The dictionaries are inventories of specific education data elements housed in their systems and often include information on the offices responsible for collecting and maintaining the data. Consult your state education agency website to check for information on education data and file locations.

TALK TO DATA MANAGERS IN YOUR STATE AGENCIES TO EXPLORE WHAT DATA THEY COLLECT.

Begin with data managers in your state education agency, because they are most likely to work with the data systems you need. They may direct you to other agencies that have oversight over data systems or responsibility for conducting data analysis.

CONSIDER SOURCES OF DATA BEYOND STATE EDUCATION DATA SYSTEMS. For example, some arts education happens outside of school programs, in programs such as the 21st Century Community Learning Centers. Key personnel in such programs might know about data sources that fly under the radar.



**STUMBLING
BLOCK**

State education agencies often collect data to respond to regulatory or administrative reporting requirements or local policy initiatives. As a result, they may never have intended much of the data they collect for public release. Moreover, even data they routinely collect may be housed in disparate offices or agency divisions. In such cases, it is not unusual for data files managed by one office to be formatted differently from files in the other, causing challenges in merging data sources. Data managers in the state education agency often have strategies for addressing this challenge, such as using unique identifiers for schools, teachers or students that can help them link different data sets.

Be realistic about the data you probably won't find.

Prepare yourself and your allies for at least some disappointment. You will have trouble finding sources of data to answer some of your most pressing questions. As the [50-State Comparison of Arts Education Data Collection and Reporting](#) notes, most states collect data on access, participation and arts teachers. More sophisticated analysis of existing data can reveal information about arts education pathways.

By contrast, statewide data on arts investments can be scarce, and statewide data on the quality of arts instruction will probably be even more elusive.

AS YOU CONSIDER YOUR DATA SOURCES:

Keep a running task list of metrics for which data are available, metrics for which they aren't, and still others for which data are available but imperfect. Keeping tabs on these data observations can be essential for updating your goals and organizing your questions.

Look for proxy measures. Data on teacher certification and university training can be a stand-in for the quality of instruction, for example — far from perfect, but better than nothing.

Keep your eyes and ears open for new sources of data. For example, [new federal requirements affecting collection and reporting of financial data](#) may promote better information on arts investments in coming years.

As you dig deeper into your project, you may find yourself uncovering new data resources. Remember to keep a disciplined focus on the specific goals of the project to avoid pursuing data for their own sake. Data are useful only insofar as they support wise decision-making.

3. Understand Your Policy Environment

Gauge the education policy environment in your state to identify factors that could advance or impede an arts education data initiative. You may be able to take advantage of a favorable environment or anticipate challenges.

FOR EXAMPLE:

- Are there other statewide arts education initiatives that can advance your work? Describing how arts education data can inform or support these other initiatives can help you gain allies. [Tool A](#) offers a list of arts education organizations whose state affiliates may have connections to such initiatives.
- Are there influential champions who can help — like governors, governors' spouses or their staff, chief state school officers, parent leaders, teacher or administrator associations or state arts agencies?
- Is there interest in your state in [expanded measures of school quality](#) as required by the federal Every Student Succeeds Act? If so, arts data can provide alternative measures of school improvement to balance attention to high stakes assessments.
- Are there state policies, such as those requiring universal access to arts education, that arts education data could support? Public reporting on such data could confirm if schools and districts are meeting the goals set in those policies and raise public awareness of where they fall short.



TIMELY TIP

Check out the Arts Education Partnership's [ArtScan](#), a policy clearinghouse that offers information about arts education policies in every U.S. state and the District of Columbia.

To ensure that your arts data initiative responds to your state's policy environment:

Make a list of your state's arts education initiatives, arts education champions and relevant state arts education policies.

Document the specific issues in your state's policy environment that could advance or impede arts education data initiatives.



TIMELY TIP (CONT'D)

Consult “[Artscan at a Glance](#),” a two-page summary of state arts education policies in all 50 states and the District of Columbia, compiled by the Arts Education Partnership.

Visit [Part 5](#) of this toolkit for guidance on strategies and resources for engaging the public in arts data projects.

4. Understand Your Capacity

State arts education data initiatives are within reach even for small organizations with small budgets. That said, anyone who wishes to undertake one should start with a clear sense of the resources, knowledge, skills and time it takes to finish the work. If you are not skilled or experienced in data analysis or reporting, you will probably need partners or vendors who are.

You don’t need to identify every specific skill and resource you need at the very outset of your initiative, because your data analysis and reporting needs will become clearer as you pursue the project. That said, you should not begin a project without a broad sense of the expertise and skills the project will demand. These include:

PROJECT MANAGEMENT. Data projects require sustained attention and management. In rare cases, the complete project timeline might span just a few weeks, but it’s far more likely to take months or years. You will need a point person who can establish and oversee project budgets, establish timelines, assign tasks, coordinate meetings and other communications among cooperating offices, and raise funding, if necessary.

The person leading the project will also need to navigate regulatory and bureaucratic challenges that often arise in partnerships with state agencies. It is critical, for example, that the project manager study data privacy regulations including FERPA and state-level privacy laws. Every education data initiative will have to navigate privacy issues. (For more on data privacy, see Parts 2 and 3 of this toolkit.)

TECHNICAL WRITING. Even if your project staff have substantial experience writing reports and proposals, they may lack the technical writing skills required to write about data and research. Different stages of the effort will require clear, precise and compelling writing about data or research methodologies for project narratives, funding requests, data requests, summary reports for sponsoring organizations or public release, clear and accurate chart titles, or descriptions of data visualizations that make information accessible to the public.

DATA LITERACY. Most arts education data initiatives do not require very sophisticated statistical analysis, and they often don’t require mathematical skills beyond arithmetic. Still, you will need people with the skills to manage data files, use large spreadsheets or statistical software, analyze data and interpret results as accurately as possible. The initiative will also require people with the skills and expertise to determine if data from state agencies are complete, accurate and consistent in how variables are reported and formatted for analysis and reporting.

DATA VISUALIZATION/DESIGN. Data visualization platforms like Tableau, Power BI and Domo have made it much easier and cheaper to visualize large amounts of data in an online interactive format. Even so, an arts education data initiative will require the capacity to present a large amount of information to the public in a clear and compelling manner — whether through interactive websites, reports, white papers, public presentations or static infographics.

Planning for this stage should start early, because decisions about how to report the data will affect what data you need and how you analyze it. If you feel that interactive maps are an effective way to help your audiences make comparisons among school districts or schools, for example, you will need to ask your state education agency whether it can supply geographic information on school district boundaries. You will need people with visual design skills to work with data analysts on presenting information as effectively as possible. (For more about reporting on arts education data, see Part 4 of this toolkit.)

WEB DEVELOPMENT. Custom websites offer more flexibility to tailor the user interface and visualizations to your and your audience’s needs — and to tell the story you most want to tell. Yet they are much more expensive and require much more expertise than standard data visualization platforms. If you aim to create a custom website, you will probably need to contract for web development and hosting services.

Vendors typically charge a one-time set-up fee to program and implement a site, then a lower ongoing service fee to maintain and update the data as needed. You may also need someone with expertise on how to prepare data files for websites and data visualization platforms.

Using the planning worksheet ([Tool B](#)), conduct a self-assessment of your organization’s capacity to undertake this project.

5. Identify Your Partners

Partners can bring useful background experience, new constituencies and fresh perspectives, along with networking contacts and useful skills and resources. The types of partners will likely vary from one state to another, but you may find yourself working with a combination of these partners:

STATE EDUCATION AGENCIES. Your SEA may be the most useful organization to approach first, given its role in collecting and managing state education data. You may explore if the SEA is open to officially leading the project. Some agencies might consider including the results of an arts education data initiative in school report cards or elsewhere on their websites. In that case, you and other project partners can serve as an advisory task force to guide the agency’s decisions.

Be aware, however, that SEAs are typically bound by extensive responsibilities, including mandated reporting and compliance requirements, that consume their staff time and budgets. If so, consider seeking the agency’s endorsement of the project rather than expecting it to contribute extensive time or resources. You will probably need them to provide the necessary arts education data files, if they house them, or to help you secure files from other agencies. (See Part 2 of this toolkit for more information.)



STATE ARTS AGENCIES. Every state and U.S. jurisdiction has a [state arts agency](#) that aims to foster the arts and cultural participation. These agencies typically include arts education among their areas of focus, and most employ at least one staff member who oversees arts education efforts. Agency staff who are eager for data to inform their efforts could be willing partners in a state arts education data initiative. Some work closely with staff at their state's education agency to advance arts education.

State arts agency staff seldom have direct access to education data. Most have to make formal data requests to review state education data, and few have in-house capacity for rigorous data analysis. State arts agencies may have some funds to support data analysis, but most reserve the lion's share of their funding for [grants](#) that support artists, arts education projects, nonprofit organizations and community efforts.

NONPROFIT PARTNERS. Establishing partnerships with nonprofit organizations can lend your project credibility, expertise and public recognition. Such partners may also help you deepen your ties with your SEA. Some, such as Parent Teacher Associations or state affiliates of professional associations for arts educators, may help share information with their own public constituencies. Others may have inhouse expertise they can lend the project.

Be aware, however, that many nonprofits have small budgets and may lack staff with the time and expertise your project demands. You may be able to engage several nonprofits in your arts education data initiative, defining roles that take advantage of each organization's specific capacities.

UNIVERSITY PARTNERS. Universities often employ people with expertise in analyzing and presenting data, including faculty, graduate students and technical staff, some of whom may be eager to participate. Often, these faculty, students or staff have access to statistical software and other tools for data analysis and reporting. Your partner organizations may have contacts at universities, and some universities already collaborate with state agencies on education data and research — see, for example, [Tennessee](#).

Of course, universities typically expect external funding to support staff time for external projects. One alternative to a formal university partnership is to invite university experts to join an advisory task force or technical review committee to guide the project. Some universities encourage faculty to take such public service roles.

FOR-PROFIT PARTNERS/VENDORS. For-profit vendors can often serve as the most straightforward vehicle to gain the capacity to do the work, if you can pay for them. It is generally easier to hold a paid vendor than a volunteer partner accountable for results. You can have significant control over the timeline and approach to the work, and you can demand quality as defined in the scope of your contract.

Also, be aware that even the best vendors will require management and support. You may have to run interference with state agencies or ensure that your vendor receives the data and support it needs to be effective and meet deadlines.

As you consider your partners:

- Discuss the data project with your SEA early on to explore a collaboration — will the SEA provide analysis as well as data files? (See Part 2 of this toolkit to learn about data requests. See Part 3 to learn about what data analysis entails.)

- Undertake informal inquiries by phone or email to seek out possible partners or interested stakeholders. (See Tool A for a partial directory of state arts education organizations you could consider as partners in your effort.)
- Review your list of partners to identify what capacity they bring to the table. Be honest in your assessments. It's better to acknowledge — and attempt to fill — gaps in capacity early, before they stop your project cold. (The worksheet in Tool B includes questions to help you review your and your partners' capacity.)

6. Make the Case for Your Work

As you make your case, there are key communications aspects to consider.

First, let's begin with your audience. It will be worthwhile to understand how much your potential partners or other stakeholders know about arts education data in the state, and where they stand on issues such as arts education and data.

For example, a state superintendent might be interested in how reporting on arts education data might support the state's broader education goals, while a chief information officer might be more interested in whether the state has the capacity to process the data request, or where that request might fit in the hierarchy of other needs. (The table in [Tool C](#) provides an overview of the role of key audiences and their possible areas of interest.)

Once you know who you will be meeting with and what their priorities are, you can map out the key points to discuss. ([Tool D](#) includes key messages you can use in these meetings.)

As you speak with these potential partners, consider making the case for the power of data to support better decision-making.

FOR EXAMPLE:

- Policymakers can use this information to track the impact of state policies to boost access to arts education. (For an overview of those policies, see ArtScan, a searchable, up-to-date clearinghouse of state arts education policies maintained by the Arts Education Partnership.)
- District and school leaders can use this information to explore the ways in which resources can be directed to schools that lack robust arts education programs to address inequities in access to or participation in arts courses.
- Parents and students can use arts education data to find schools or programs whose arts offerings best suit their interests.

After you select your audiences and complete your talking points, please review [Tool E](#), which includes additional tips for speaking effectively with leaders about arts education data.



TIMELY TIP

For more ideas on how to make the case for data, see the Data Quality Campaign's [infographics and videos](#) describing the benefits of education data. For another resource outlining the importance of education data, explore the "[Guide to Taking Action with Education Data](#)," a publication of the [National Forum on Education Statistics](#).

7. Plan Ahead

As you plan your initiative, it's helpful to review the major project milestones in advance. It won't do you much good to get data from a state agency, for example, if you haven't planned for how to analyze and visualize them.

This toolkit addresses major stages of an arts education data initiative. In addition to this planning guide, it offers sections on:

- Making Effective Data Requests (Part 2)
- Processing the Data (Part 3)
- Reporting on the Data (Part 4)
- Using the Data to Promote Better Decision-Making (Part 5)

Take some time before you start your initiative to review these sections and understand the full scope of your effort. In addition, complete the worksheet in [Tool B](#), which will help you assess your capacity to tackle each of the milestones.

Summary

Deliberate goal-setting, outreach to partners, self-assessment and planning will pay off in the long run. If you skip these steps, you may find yourself halfway through the project without the partners or capacity to keep going.

Tool A: Finding State and Local Arts Education Organizations

Use this resource to identify partners for your state arts education data initiative. The organizations below, which focus on arts and arts education, maintain directories of state affiliates.

- [Americans for the Arts – Local Arts Agencies](#)
- [Americans for the Arts – State Arts Action Network](#)
- [Arts Education Partnership – Partner Organizations](#)
- [Educational Theatre Association – State Chapters](#)
- [National Art Education Association – State Associations](#)
- [National Assembly of State Arts Agencies – State Arts Agency Directory](#)
- [National Association for Music Education – Federated States Associations](#)
- [National Dance Education Association – State Affiliates](#)
- [National Endowment for the Arts – Recent Grantees](#)
- [State Education Agency Directors of Arts Education](#)
- [Young Audiences: Arts for Learning – State and Local Affiliate Network](#)



Tool B: Worksheet: Project Planning and Self-Assessment

Project Planning and Self-Assessment Worksheet

Use this worksheet to review:

- Your project mission.
- What goals you want education data to support.
- What questions you need answered.
- What data you need to answer those questions.
- What capacity you need to do the work.

TASK	DESCRIPTION	SELF-ASSESSMENT
• GETTING STARTED		
CREATE A MISSION STATEMENT.	Capture overall project description in a brief summary statement.	What is the mission of our initiative?
IDENTIFY GOALS AND QUESTIONS.	Identify goals arts education data would support and common questions stakeholders want answered.	What goals would education data support? What questions do we need to answer to pursue these goals? (See Tool F for guidance on common questions.)
INVESTIGATE YOUR STATE'S DATA SYSTEMS.	Determine whether there are data available to answer your questions.	What data are available in state education data systems? (See the 50-State Comparison of Arts Education Data Collection and Reporting .) Are statewide data available from other sources?

• **GETTING STARTED (CONT'D)**

ENSURE THAT YOUR PROJECT WILL HAVE CAPACITY TO DO THE WORK.		WHAT IS OUR CAPACITY?	WHAT (IF ANY) CAPACITY SHOULD WE ADD? WHAT PARTNERS CAN PROVIDE THAT CAPACITY?
	PROJECT MANAGEMENT		
	TECHNICAL WRITING		
	DATA LITERACY		
	DATA VISUALIZATION/ DESIGN		
	WEB DEVELOPMENT		
	OTHER		



• GETTING STARTED (CONT'D)

CREATE YOUR PROJECT TEAM.	IDENTIFY YOUR TEAM AND OTHER PARTNER ORGANIZATIONS. BE SURE TO SPECIFY THE ROLE OF THE SEA, IF ANY.	WHO WILL WORK WITH US? WHAT ROLES WILL THEY PLAY?
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TASK	DESCRIPTION	SELF-ASSESSMENT
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• PLANNING AHEAD

TAKE SOME TIME TO FAMILIARIZE YOURSELF WITH MAJOR PROJECT MILESTONES. NOTE ANY CHALLENGES YOU MIGHT ENCOUNTER IN ADDRESSING THOSE MILESTONES.	Preparing and submitting clear data requests.	SEE PART 2.
	Understanding what stories you want to tell with the information you discover.	SEE PART 4.
	Processing, validating, and analyzing data files for reliability and consistency.	SEE PART 3.
	Designing data visualizations.	SEE PART 4.
	Promoting the results and inspiring action.	SEE PART 5.

Tool C: Key Audiences

As you plan to make the case for an arts education data initiative in your state, use this resource to plan how you would approach key audiences in your state. Before you begin any of these conversations, review your state's arts education policies. The Arts Education Partnership's [ArtScan](#) offers a searchable clearinghouse of such policies.

AUDIENCE	AUDIENCE'S PRIORITY	KEY INTERESTS/VALUES
STATE SUPERINTENDENT	Enacting the vision and goals for the state education agency.	Interested in the big picture. Use your meeting to build the case for how the arts education data initiative supports state's explicit vision and goals. Interested in how to achieve the state's vision and goals amidst budget limitations. Ask if the state has resources to support data requests. If appropriate and feasible, signal your readiness to help identify outside funding sources. Committed to meeting federal and state mandates. Review state education policies and plans, such as your state's plan for complying with the Every Student Succeeds Act, which may include strategies for supporting a wellrounded education, including the arts. Dedicated to protecting individual students' privacy and upholding federal and state privacy laws. Underscore your commitment to sharing only information that does not violate individual students' privacy
STATE SCHOOL BOARD MEMBERS	Ensuring that school districts are responsive to the values, beliefs and priorities of their communities.	Interested in the big picture. As with the state superintendent, make the case for the arts education data initiative in terms that support the state's explicit vision and goals. Committed to supporting public priorities for education. Highlight evidence that parents see the value in arts education. Concerned about state budgets. Make the business case for arts education data: How can data support greater efficiency and better use of resources, for example?



ARTS EDUCATION DIRECTOR IN A STATE EDUCATION AGENCY	Supporting arts education in your state.	Understands the importance of arts education data but might not know much about state data systems. Identify for them what their state currently measures, and what information is currently not reported. May not feel empowered to promote an arts education data initiative
CHIEF INFORMATION OFFICER/DATA MANAGER	Overseeing data and technology endeavors in the state education agency.	May not know much about arts education. Make the case why arts education is important in the context of the state's broader education priorities. Interested in whether the work is within their agency's capacity or priorities established by leadership. They may not be in the position to make those decisions. Be very clear about what questions you would like to answer with data. May be able to share insights about the kinds of data analysis feasible in your state. Come prepared to confirm with them whether the system can support your priorities for information. (See Part 2.) Dedicated to protecting individual students' privacy and upholding federal and state privacy laws. Underscore your commitment to sharing only information that does not violate individual students' privacy. (See Part 3.)
GOVERNORS/ GOVERNORS' DOMESTIC POLICY STAFF	Setting the agenda and budget priorities for the state.	Interested in economic impact and the strength of your state's future workforce. Make the connection between arts and creative industries in the state.

Tool D: Suggested Arts Data Talking Points

Why quality arts education is important for all students.

- All students deserve a high-quality arts education to support their success in school, work and life.
- Research confirms that arts education is valuable to students' future success in school, work and life. (To explore recent research on the impact of arts education, see the Arts Education Partnership's [ArtsEdSearch](#), a searchable database of reviewed research studies on arts education.)
- Americans understand the value of arts education. In [a recent poll](#), 71% of Americans rated classes in the arts as very or extremely important to school quality.
- Participation in arts classes improves students' attendance and graduation rates, boosts their empathy and tolerance, and sharpens their critical thinking skills. Studies have also found potential correlations between participation in arts education and academic performance.

Importance of making arts education data publicly accessible.

- With public data, people can understand how successful their schools are at providing students with access to quality arts education.
- While almost every state requires all schools to offer instruction in at least one arts discipline, most do not publicly report any information on arts enrollment. Policymakers can use this information to track the impact of state policies to boost access to arts education.
- While some states have developed data systems to help track and improve access and quality in education, these data are not fully used to assess student access to and participation in courses like music, theater, dance and visual arts. State and local leaders, educators, parents, funders and communities can use this information to see how to direct resources to schools that lack robust arts education programs and address inequities in access to or participation in arts courses.
- Parents and students can use arts education data to find schools or programs whose arts offerings best suit their interests.

The value of a statewide system.

- We understand the data challenges states face and believe that systematic information-sharing is the key to achieving enduring advancements in our education system.
- Ensuring that students in all districts and areas receive equitable education programs requires consistent data collection and reporting across states.



Concerns that making arts education data publicly available will invite misinterpretation, criticism or questions about privacy.

- Data is a tool to inform stakeholders on how to support students.
- By using arts education data to inform decision-making, policymakers, school and district leaders, parents and community members can shine a light on what is working and identify opportunities for improvement so more students can have access to a well-rounded education.
- Data should be used to support improvement, rather than punishment. Without data, it is hard to identify where schools need help to address gaps in access to or enrollment in the arts.
- Student data is firmly protected under the law. Federal laws — including FERPA, the Protection of Pupil Rights Amendment and the Children’s Online Privacy Protection Rule — protect student information.
- While many states have implemented safeguards to ensure student data privacy, it is crucial that all states make it a priority to protect students’ privacy while ensuring that key stakeholders have access to the data they need to make decisions in support of student success.

Concerns that making arts education data publicly available will be too difficult or time-consuming.

- More than 40 states are already collecting a robust set of arts education data indicators that could be used to help states measure progress toward equity and inform stakeholder advocacy and decision-making. The state arts education data initiative is here to help states lay the groundwork for turning their raw data into meaningful information that can inform policy.
- The initiative has identified key arts education metrics in such areas as course access, participation and instruction that many states could provide with data they already collect at the state, district and school levels.

Concerns that some data will probably be inaccurate.

- Quality data takes time to collect and report accurately, but giving users access is also critical to improving the data itself — enabling them to see it, use it and correct it. The first time states release data can be an opportunity to call for improving existing data and make a plan to collect better data.
- Making data public — without violating individual students’ privacy — is a vital step in ensuring that the data get reported accurately. Otherwise, inaccuracies won’t come to light and be corrected.
- Providing more accurate data can ensure that resources are going where they are most needed, and students get the help they need.

Tool E: Tips for Speaking With Leaders About Arts Education Data

As you plan your outreach to state leaders or other potential partners in your arts education data initiative, consider the following recommendations for making the most of your conversations.

Be brief. Aim for concise language focused on the main point you want to make. Consider that you will likely have five minutes or fewer to make your case.

Be prepared to give state leaders or other potential partners brief documents that summarize your case. Use text sparingly, and use graphics and visuals when possible. The human brain decodes visuals [60,000 times faster](#) than text. For example, consider including:

- A visual representation of audiences/groups who would benefit from the system.
- A data graphic of the number of parents who support arts education.
- A data graphic of the possible outcomes resulting from collecting data.

Tie arts education data to current priorities in your state. Most states also have more specific priorities, such as expanding opportunities for STEAM education. Seize the opportunity to highlight how effective arts education data can support efforts like these.

Your governor's most recent State of the State Address could be a source for understanding your state's priorities. Look for keywords like innovation, creativity, equity, economic growth, workforce, next generation and problem solvers. Education Commission of the States provides an [analysis](#) of these addresses that can be helpful.

Cite existing examples of arts education data projects and the impact they've had. People are more likely to support an idea if they know another region or state has applied it successfully. Be ready to highlight where the work has been implemented elsewhere. Point to concrete examples. If possible, get a testimonial.

Most likely, the person you are speaking with will have to secure agreement from others for your effort. Make his or her life easy by highlighting results. Make the best case you can for what the potential results of your work will be.

The National Endowment for the Arts and Education Commission of the States have produced three case studies of states that have created arts education data dashboards that support better decision-making on arts education:

- [Getting to 100 Percent](#)
- [Mapping the Arts](#)
- [Data to Action](#)



Here are some other examples of state and local arts education data dashboards:

- Because of, in part, [New Jersey's](#) reporting and advocacy efforts, the state has achieved universal access to arts education.
- Chicago developed an [ArtLook Map](#), which provides data on schools' arts offerings. This tool helped increase access to arts education in the district.

Include a specific request. Both in your materials and before you end the meeting, include what you want your potential partners to do as a next step from your communications. Some specific next steps may include:

- Requesting a follow-up meeting to discuss key points further.
- Requesting that they reach out to a specific partner to gain their support.
- Asking them whether they can assist in making a data request on behalf of your organization.

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.



Tool F: Worksheet: Planning the Questions You Want to Ask of Your State's Data System

Most state education data systems contain data on at least three arts education metrics:

ACCESS

- What percentage of schools offer arts courses?
- What percentage of students have access to arts courses?

PARTICIPATION

- What percentage of students participate in arts courses?

TEACHERS

- How many teachers teach arts courses?
- What is their background?
- What students have access to those teachers?

USE THIS TOOL TO PLAN YOUR APPROACH TO THESE QUESTIONS:

- Which of these broad questions would you like to explore?
- What kinds of answers would state data systems make possible?
- What data do you need to answer these questions?

Before you begin, please note that you will probably not be able to tackle all, or even half, of the questions below in any single data request. It pays to start with a few of the most important questions and see what results are available. You can explore deeper questions in successive phases of your arts education data initiative.

ACCESS: What percentage of schools offer arts courses?

WHAT SPECIFIC QUESTION DO YOU WANT TO ASK?	WHAT'S AN EXAMPLE OF AN ANSWER TO THAT QUESTION?	WHAT TYPES OF DATA ARE REQUIRED?	TIPS
What percentage of schools offered arts courses in <i>any</i> arts discipline?	"In 2017/2018, 93% of State X's schools offered at least one course in the arts."	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs.	"Teacher assignment data" describe what disciplines teachers teach. "Course data" can describe what courses are offered. Note that in many states, course data by school describe courses schools are authorized to teach rather than courses they actually teach. In those cases, better (though imperfect) measures of whether a school offers arts courses may be: • The school employs teachers assigned to teach arts courses. • The school has at least some students enrolled in arts courses.
What percentage of schools offered courses in <i>specific</i> arts disciplines?	"In 2017/2018, 25% of State X's schools offered at least one course in dance."	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs.	See the tip above.
What percentage of schools offered arts courses in <i>multiple</i> arts disciplines?	"In 2017/2018, 14% of schools in state X offered courses in four arts disciplines; 72% offered courses in visual arts and music alone; 43% offered courses in only one arts discipline."	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs.	See the tip above.



ANALYZING YOUR RESULTS BY KEY SUBGROUPS

You can conduct a more detailed analysis of your data to determine where there are differences in access among different types of school.

WHAT KINDS OF SCHOOLS DO YOU WANT TO ANALYZE OR COMPARE?	WHAT'S AN EXAMPLE OF HOW THE OUTCOME OF THAT ANALYSIS WOULD LOOK?	WHAT ADDITIONAL DATA ARE REQUIRED?	TIPS
By <i>demographic makeup</i> of school – e.g., racial/ethnic composition	“In 2017/2018, 92% of high-income schools and 86% of low-income schools offered at least one course in the arts.”	Demographic data describing student enrollments in every school.	Be clear and consistent in how you define your terms. For example, “low-income schools” could mean schools where more than 75% of students are eligible for free or reduced-price lunch. Your state might use standard definitions of schools’ demographics characteristics.
By <i>location</i> of school – e.g., urban, suburban or rural	“In 2017/2018, 57% of urban schools, 59% of suburban schools and 38% of rural schools offered at least one course in theatre.”	Information about every school’s “urbanicity” – for example, urban, suburban, town or rural.	This analysis is most appropriate at the state level. Also, some states lack reliable definitions of urban, suburban and rural schools. You may have to create your own or just forgo the analysis.
By type of school – e.g., charter, traditional public, alternative school, etc.	“In 2017/2018, 77% of traditional public schools and 76% of charter schools offered at least one course in music.”	Clear designations of school type.	This analysis is most appropriate at the state level or in large districts.
By school level – e.g., elementary, middle, high	“In 2017/2018, 89% of middle schools offered at least one visual arts course.”	Clear designations of school level.	Designations like “elementary school,” “middle school” or “high school” can present challenges when some schools break the typical mold (e.g., K-7 schools or 7-12 schools). The people overseeing your state’s data systems may have strategies for addressing this challenge.

ADDITIONAL NOTES

Trend data can be more useful than data for a single year. Consider analyzing multiple years of data, if possible. Trend data can help stakeholders judge the impact of policies over time. It can also help stakeholders track the trajectory to goals such as 100% access.

Consider presenting data for individual schools. If you plan to produce an interactive school-by-school report, each school's results could indicate which arts disciplines they include in their course offerings. (See Part 4 for more information about interactive arts education data reports.)

ACCESS: What percentage of students have access to arts courses? (For state- and district-level analyses only.)

These questions differ from the questions above in that they take students rather than schools as their unit of analysis. This student-level analysis can present a clearer picture of students' access to arts courses. For example, it may be less helpful to know that 50% of schools offer theatre than that 75% of students attend those schools.

WHAT SPECIFIC QUESTION DO YOU WANT TO ASK?	WHAT'S AN EXAMPLE OF AN ANSWER TO THAT QUESTION?	WHAT DATA ARE REQUIRED?	TIPS
What percentage of students have access to arts courses in any arts discipline?	"In 2017/2018, 96% of students in XYZ School District attended schools that offered at least one course in the arts."	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs. Total enrollment data, by school.	To perform this analysis, you need to divide the total number of students attending schools that offered at least one arts course by the total number of students attending all schools.
What percentage of students have access to arts courses in specific arts disciplines?	"In 2017/2018, 20% of State X's students attended schools that offered at least one course in dance."	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs. Total enrollment data, by school.	See the tip above.



What percentage of students have access to arts courses in multiple arts disciplines?	“In 2017/2018, 19% of students in Acme District Schools attended schools that offered courses in four arts disciplines; 72% attended schools that offered courses in visual arts and music alone; 32% attended schools that offered courses in only one arts discipline.”	Teacher assignment data by school and/or course data by school. Where possible, data linking student IDs to course IDs. Total enrollment data, by school.	See the tip above.
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ANALYZING YOUR RESULTS BY KEY SUBGROUPS

WHAT KINDS OF SCHOOLS DO YOU WANT TO ANALYZE OR COMPARE?	WHAT'S AN EXAMPLE OF HOW THE OUTCOME OF THAT ANALYSIS WOULD LOOK?	WHAT ADDITIONAL DATA ARE REQUIRED?	TIPS
By <i>demographic makeup</i> of school – e.g., racial/ethnic composition	“In 2017/2018, 97% of students in high-income schools and 82% of students in low-income schools had access to at least one course in the arts.”	Data on every school’s demographic composition, keyed to unique school IDs.	Be clear and consistent in how you define your terms. For example, “low-income” could mean schools where more than 75% of students are eligible for free or reduced-price lunch. Your state might use standard definitions of schools’ demographics characteristics.
By <i>location</i> of school – e.g., urban, suburban or rural	“In 2017/2018, 62% of students in urban schools, 64% in suburban schools, and 44% in rural schools had access to at least one course in theatre.”	Information about the “urbanicity” of every school.	This analysis is most appropriate at the state level. Also, some states do not have reliable definitions of urban, suburban and rural schools. You may have to create your own definitions or forgo the analysis.

By type of school – e.g., charter school, traditional public school, alternative school, etc.	“In 2017/2018, 82% of students in traditional public schools and 84% of students in charter schools had access to at least one course in music.”	Clear designations of school type.	This analysis is most appropriate at the state level or in large districts.
By school level – e.g., elementary, middle, high	“In 2017/2018, 93% of middle school students had access to at least one visual arts course.”	Clear designations of school level.	Designations like “elementary school,” “middle school,” or “high school” can present challenges when some schools break the typical mold (e.g., K-7 schools or 7-12 schools). The people overseeing your state’s data systems may have strategies for addressing this challenge.

ADDITIONAL NOTES

Trend data can be more useful than data for a single year. Consider analyzing multiple years of data, if possible. Trend data can help stakeholders judge the impact of policies over time. It can also help stakeholders track the trajectory to goals such as 100% access.

Don’t expect to calculate percentages for individual schools. According to this analysis, students at any given school either have access to arts classes or they don’t. It is much more complex to analyze other factors that determine students’ access to courses – such as prerequisite courses or challenges with schools’ course schedules.

PARTICIPATION: What percentage of students participate in arts courses?

Information on enrollment in arts courses can be harder to come by than information on access to arts courses. Not every state collects data on which arts courses students have taken, especially if arts courses are not required for graduation. Your state’s data manager can offer insight on what is possible.



WHAT SPECIFIC QUESTION DO YOU WANT TO ASK?	WHAT'S AN EXAMPLE OF AN ANSWER TO THAT QUESTION?	WHAT DATA ARE REQUIRED?	TIPS
What percentage of students take arts courses in <i>any</i> arts discipline?	"In 2017/2018, 46% of Acme High School students took at least one course in the arts."	Data linking student IDs to course IDs.	Double check that you asked for "unduplicated" data in your data request. You don't want to double or triple count students who took two or three arts courses in one year.
What percentage of students take arts courses in <i>specific</i> arts disciplines?	"In 2017/2018, 7% of State X's students took at least one course in dance."	Data linking student IDs to course IDs.	See note above.
What percentage of students take arts courses in <i>multiple</i> arts disciplines?	"In 2017/2018, 1% of XYZ School District students took courses in four arts disciplines; 25% took courses in visual arts and music."	Data linking student IDs to course IDs.	This analysis is more complex than the analyses above.

ANALYZING YOUR RESULTS BY KEY SUBGROUPS

WHAT KINDS OF STUDENTS DO YOU WANT TO ANALYZE OR COMPARE?	WHAT'S AN EXAMPLE OF HOW THE OUTCOME OF THAT ANALYSIS WOULD LOOK?	WHAT ADDITIONAL DATA ARE REQUIRED?	TIPS
By student <i>demographic group</i> - e.g., gender, race/ethnicity, eligibility for free/reduced lunch, disability status, English language learner status.	"In 2017/2018, 44% of XYZ School District's female students and 37% of their male peers took at least one course in the arts."	Demographic breakdowns of student enrollment data in arts courses. Demographic breakdowns of overall enrollment in the school, district or state.	Do not forget to request overall student enrollments. You will need those data to calculate the percentage of students who participate in arts classes.

By student <i>location</i> – e.g., urban, suburban rural.	“Statewide, 57% of students in urban schools and 46% of students in rural schools took at least one course in music.”	Information about the “urbanicity” of every school.	This analysis is most appropriate at the state level. Also, some states do not have reliable definitions of urban, suburban and rural schools. You may have to create your own definitions or forgo the analysis.
By type of school students attend – e.g., charter school, traditional public school, alternative school, etc.	“Statewide, 55% of students in charter schools and 57% of students in traditional public schools took at least one course in music.”	Clear designations of each school’s type.	This analysis is most appropriate at the state level or in large districts.
By <i>school level</i> (e.g., high, middle, elementary), or by student <i>grade band</i> (e.g., grades 6–8), or <i>individual grade level</i> (e.g., 10th grade).	“17% of XYZ Middle School’s students took at least one course in theatre.”	Enrollment data broken out by grade level.	You can add enrollment numbers at consecutive grade levels together without duplicating students. Also, designations like “elementary school,” “middle school,” or “high school” can present challenges when some schools break the typical mold (e.g., K–7 schools or 7–12 schools)

ADDITIONAL NOTES

Trend data can be more useful than data for a single year. Consider analyzing multiple years of data, if possible. Trend data can help stakeholders judge the impact of policies over time. It can also help stakeholders track the trajectory to goals such as 100% access.

Data privacy concerns may limit your results. You will probably encounter student privacy challenges if you investigate subgroups of subgroups of students — for example, *African Americans* in *ninth grade* at *Acme High School* who took a *music class*. The numbers of students contained in such subgroups can become so small as to make those students easily identifiable. In such cases, states typically suppress those data.



TEACHERS: How many teachers teach arts courses, what is their background and what students have access to them?

WHAT SPECIFIC QUESTION DO YOU WANT TO ASK?	WHAT'S AN EXAMPLE OF AN ANSWER TO THAT QUESTION?	WHAT DATA ARE REQUIRED?	TIPS
How many arts teachers are there, overall and by specific arts discipline?	"In 2017/2018, there were four arts teachers at XYZ Middle School: two music teachers, one visual arts teacher and one theatre teacher."	Teacher assignment data by district and/or school.	Analysis of elementary schools may be unconvincing, because most or all elementary teachers may be certified to teach multiple arts disciplines, even if they have limited training in these disciplines. A more fruitful approach in elementary grades could be to examine data on teachers who fill teaching positions explicitly funded as arts teaching positions. These data may allow you to count the number of arts teachers dedicated to teaching primarily the arts. (Note that not every state collects such data.)
What is the student/teacher ratio for arts subjects, overall and by specific arts discipline?	"In the XYZ School District in the 2017/2018 school year, there were 227 students for every certified arts teacher overall, 369 students for every music teacher, 492 students for every visual arts teacher and 886 students for every theatre teacher."	Teacher assignment data by district and/or school. Total student enrollment data by district and/or school.	This ratio would not indicate class size. Rather, it would be the ratio of arts teachers in a school, district or state to total student enrollments in that school, district or state, regardless of whether they take arts courses. Calculating average class sizes in arts classes requires data on all the arts courses taught as well as student enrollment data by course.
What percentage of arts teachers is certified to teach arts, overall and by specific arts discipline?	"In 2017/2018, 96% of XYZ High School teachers assigned to music courses met state certification requirements for teaching music."	Teacher assignment data by district and/or school. Teacher certification or endorsement data.	Check your state's certification requirements so that you can clearly understand the significance of your data. If you feel the state's certification requirements are too lax, consider looking for other proxies for teacher quality in state data systems, such as teachers' college majors.

What percentage of students taking arts classes has certified arts teachers?	"In 2017/2018, 96% of XYZ middle school students in music classes had teachers certified in music."	Teacher assignment data. Teacher certification data. Data linking student IDs to course IDs and teacher IDs.	This analysis is more complex than the analyses above, because it requires analysts to link individual students to individual course sections and the individual teachers who taught those course sections.
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ANALYZING YOUR RESULTS BY KEY SUBGROUPS

WHAT KINDS OF STUDENTS OR SCHOOLS DO YOU WANT TO ANALYZE OR COMPARE?	WHAT'S AN EXAMPLE OF HOW THE OUTCOME OF THAT ANALYSIS WOULD LOOK?	WHAT ADDITIONAL DATA ARE REQUIRED?	TIPS
By <i>demographic makeup of the school</i> – e.g., race/ethnicity or eligibility for free/reduced lunch.	"In State X in the 2017/2018 school year, the ratio of students to certified arts teachers in high poverty schools was 334-to-1. In low-poverty schools, it was 312-to-1." "In State X in the 2017/2018 school year, 95% of arts teachers were certified in schools serving predominantly students of color, as compared to 98% of arts teachers in schools serving predominantly white students."	Data on every school's demographic composition.	Be clear and consistent in how you define your terms. For example, "low-income" could mean schools where more than 75% of students are eligible for free or reduced-price lunch. Your state might use standard definitions of schools' demographics characteristics.



By <i>student demographic group</i> – e.g., race/ethnicity, eligibility for free/reduced lunch, disability status, English language learner status.	“In 2017/2018, 89% of African American students and 93% of white students in the XYZ School District attended schools with certified arts instructors.” “In 2017/2018, 89% of African American students and 93% of white students enrolled in arts courses in the XYZ School District were taught by certified arts instructors.”	Student demographic data.	To analyze the percentage of students enrolled in arts courses whose teachers are certified in the arts, you would need to link individual students to individual course sections and the individual teachers who taught those course sections.
By location of school (e.g., rural or urban schools), type of school (e.g., charter or traditional public schools) or school level (e.g., elementary or middle schools).	“In State X in 2017/2018, 91% of students in rural schools and 93% of students in urban schools attended schools with certified arts instructors.”	Information about the urbanicity of every school. Clear designations of each school’s type. Clear designations of school level.	Analysis of “urbanicity” is most appropriate at the state level. Some states lack reliable definitions of urban, suburban and rural schools. Designations like “elementary school,” “middle school,” or “high school” can present challenges when some schools break the typical mold (e.g., K-7 schools or 7-12 schools).

ADDITIONAL NOTES

Trend data can be more useful than data for a single year. Consider analyzing multiple years of data, if possible. Trend data can help stakeholders judge the impact of policies over time. It can also help stakeholders track the trajectory to goals such as 100% access.

Data privacy concerns may limit your results. You will probably encounter student privacy challenges if you investigate subgroups of subgroups of students — for example, *African Americans in ninth grade at Acme High School who took a music class*. The numbers of students contained in such subgroups can become so small as to make those students easily identifiable. In such cases, states typically suppress those data.

Tool G: The Anatomy of a Data Request

- Once you have identified the specific questions you want to ask in your data request, you must compile those questions in the data request itself.
- The heavily annotated data request below is loosely based on an actual data request made to a state in 2018. It aims to offer a more detailed sense of what to ask for and what to avoid. This data request is extensive and ambitious. Consider beginning with a much more limited request. You can submit more detailed requests after you examine the results of your first request.

1. SCHOOL DETAILS: *This request will give you critical information about districts and schools that can help you add context to data you receive through other requests.*

One row per school per year in 2013-18 with the following columns (if available):¹

- A.** Year
- B.** School name
- C.** Unique district ID
- D.** Unique school ID²
- E.** School address
- F.** School latitude
- G.** School longitude³

Other school details to consider: *By asking for more details on schools' characteristics, you may be able to identify disparities in access and participation from one type of school to the next.⁴*

FOR EXAMPLE:

- Urbanicity. Does your state's data system indicate which schools are urban, suburban or rural?
- School type. Does the data system indicate which schools are charter schools? Magnet schools? Alternative schools?
- High-poverty schools. Does the data system indicate which schools have high concentrations of poverty — e.g., where more than half of students are eligible for free or reduced-price lunch?
- High-minority schools. Does the data system indicate which schools have high concentrations of students of color?

1. By requesting data for as many years as possible, you can examine trends in your state. NOTE: Your state's data system may not have data available for this many years.

2. Include these unique identifiers in every data request. Doing so will allow you to analyze data at the district and school level. These unique IDs can also allow you to link different datasets.

3. This geographic information can allow you to display schools on an interactive or static online map.

4. States often track and publish this kind of data on publicly available websites.



2. TOTAL NUMBER OF CLASSES/COURSES OFFERED IN THE ARTS AND IN ALL SUBJECTS:

This request will allow you to examine availability of arts classes by discipline.

One row per school per year in 2013-18 with the following columns (as available):

- A.** Year
- B.** School name
- C.** Unique district ID
- D.** Unique school ID⁵
- E.** Total courses offered in any course (arts or otherwise)⁶
- F.** Total number of courses in which any student received a grade in any of the available art forms⁷
- G.** Total courses offered in music
- H.** Total courses offered in visual arts
- I.** Total courses offered in dance
- J.** Total courses offered in theatre
- K.** Total courses offered in media arts

3. TOTAL NUMBER OF STUDENTS RECEIVING GRADES IN THE ARTS: *This request will allow you to examine participation in arts classes, by discipline.*

One row per school per grade per year in 2013-18 with the following columns (as available):

- A.** Year
- B.** School name
- C.** Unique district ID
- D.** Unique school ID
- E.** Grade level
- F.** Number of students enrolled⁸

5. By knowing which district or school offered courses in what disciplines, you can calculate the percentage of students who attend schools that offer arts courses, by discipline area. This can be an important marker of access.

6. By requesting the total number of courses offered, regardless of discipline, you can calculate what percentage of courses were offered in the arts.

7. Some data systems define a course as having been offered if any students received a grade in it. Such data would not be available until the end of the school year. Before making a request, clarify with state data professionals how they determine if a school has offered a course.

8. Don't forget to ask for total enrollment in any course, arts or otherwise, in each school and district. That will allow you to calculate percentages of students enrolled in arts courses (e.g., "46% of Lincoln Middle School seventh-graders completed a music course in 2017.")

- G.** *Number of students that received a credit/completion mark in at least one arts course during that year⁹*
- H.** *Number of students that received a credit/completion mark in at least one arts course during that year – music¹⁰*
- I.** *Number of students that received a credit/completion mark in at least one arts course during that year – visual arts*
- J.** *Number of students that received a credit/completion mark in at least one arts course during that year – dance*
- K.** *Number of students that received a credit/completion mark in at least one arts course during that year -- theatre*
- L.** *Number of students that received a credit/completion mark in at least one arts course during that year – media arts*

Other categories of students to consider: *If you would like to examine differences in enrollments by different groups of students, consider asking for the data broken out by student group as well as data for all students. For example, consider requesting extra columns of data for each of the following subgroups:*

- Gender
- Race/ethnicity
- Eligibility for free or reduced-price lunch
- English language learner status
- Disability status

For each subgroup, you must request total school enrollments and total enrollments in arts classes — broken out by grade level, if appropriate. For example, ask for the total number of African American ninth-graders in the school as well as the total number of African American ninth-graders who received a credit/completion mark in an arts course. This will allow you to calculate the percentage of African Americans who enrolled in arts classes and compare it to percentages for other races or ethnicities.

Please note that state may suppress some data to avoid violating student privacy. If the numbers for any group in any district or school get too small, states typically do not share them.

- 4. TOTAL CREDITS EARNED/COURSES COMPLETED IN THE ARTS:** *This request will help you determine the intensity of arts course-taking by district or school.*

One row per school per grade per year in 2013-18 with the following columns (as available):

9. By asking for numbers of students who completed “at least one arts course” in a year, you will get unduplicated counts of students. In other words, no student would be counted twice for taking two different arts courses in one year.

10. You will need to define what it means to have taken a course in terms that correspond to how your state collects the data. This request defines it as having received a credit or a completion mark.



- A.** *Year*
- B.** *School name*
- C.** *Unique district ID*
- D.** *Unique school ID*
- E.** *Grade level*
- F.** *Number of credits earned/courses completed in any course in any subject during that school year*
- G.** *Number of credits earned/courses completed in any available arts course during that year¹¹*
- H.** *Number of credits earned/courses completed in any available arts course during that year – music*
- I.** *Number of credits earned/courses completed in any available arts course during that year – visual arts*
- J.** *Number of credits earned/courses completed in any available arts course during that year – dance*
- K.** *Number of credits earned/courses completed in any available arts course during that year – theatre*
- L.** *Number of credits earned/courses completed in any available arts course during that year – media arts*

5. ENROLLMENTS IN EVERY FINE ARTS COURSE TAUGHT FROM 2013-18: *This request will give you more granular data on enrollments in every arts course offered in a school, such as concert band (rather than just music), or theatre – stagecraft (rather than just theatre).*

One row per school year/school/fine arts course/teacher/grade with the following fields:

- A.** *School year*
- B.** *Unique district ID*
- C.** *Unique school ID*
- D.** *School name*
- E.** *Fine arts course number*
- F.** *Unique teacher ID assigned to fine arts course number*
- G.** *Grade level*
- H.** *Number of students that completed the course¹²*

11. The number of credits earned will probably be larger than the number of students taking them, because some students take more than one arts course per year. Together with data on student enrollment, these data can allow you to examine how many arts classes students typically take.

12. While this request will produce enrollments by course, you must not add these enrollment data together to calculate total enrollments in a more general arts discipline or in the arts overall. If you do so, you will double-count students who take more than one arts course per year.

6. NUMBER OF ARTS TEACHERS: *This request will allow you to examine access to arts teachers by district and school.*

One row per school per year in 2013-18 with the following columns (as available):

- A.** *Year*
- B.** *Unique district ID*
- C.** *Unique school ID*
- D.** *Total number of full time equivalent teachers (effective the 20th day of school) with certifications or endorsements in the arts¹³*
- E.** *Total number of full time equivalent teachers (effective the 20th day of school) listed as the teacher of record for an arts course*
- F.** *Total number of full time equivalent teachers (effective the 20th day of school) filling an arts teaching position on the school budget (i.e., dedicated arts teacher)¹⁴*

13. Teacher assignments can be unstable in the opening weeks of school. Many state data systems will have data on teachers recorded after those first transitional weeks. Note: Not all teachers with arts certification or endorsement may be teaching an arts course. Also, when you present data on the number of certified teachers, consider spelling out your state's requirements for certification and endorsement to provide better context for the data

14. Some, though not all, data systems may record which teachers fill a teaching position explicitly funded as an arts teaching position. This information may allow you to count the number of arts teachers dedicated to teaching primarily the arts. This information can be helpful in elementary schools, for example, where teachers often hold general certifications that include the arts even though they are not dedicated arts teachers.



Tool H: Worksheet: Defining Terms for Data Requests and Analyses

Defining Terms for Data Requests and Analyses Worksheet

The worksheet presents common challenges you might encounter in defining key terms like “access” or “enrollment” precisely enough for data analysis. Unclear definitions of these terms can skew your results or upend your data analysis. This is by no means an exhaustive list. Speak with your state’s data managers to anticipate these and other potential challenges, and work through them.

INDICATOR	CHALLENGES TO DEFINING KEY TERMS IN WAYS THAT SUPPORT SOUND ANALYSIS	POSSIBLE SOLUTIONS	WHAT DEFINITIONS WILL WORK IN YOUR STATE?
ACCESS TO ARTS EDUCATION	- Many state data systems lack data elements that indicate whether a course was offered. - Some courses are offered for only one semester or term out of the year – for example, dance may be offered only in the second half of the school year.	- Define a course as having been offered if: - A teacher was assigned to it as of a fixed date in the calendar. - At least one student earned a grade or some other mark of completion. - Confer with partners about whether to give semester-long and yearlong arts offerings the same weight.	
ENROLLMENT IN ARTS EDUCATION	- Students enroll in arts courses at neighboring schools, skewing school enrollment counts. - Students switch out of arts courses in mid-semester, creating unstable enrollment counts.	- Confer with partners about whether to remove those students from the analysis – assuming such cases are rare. - Select a single, consistent point for defining enrollment. For example: - Students who were enrolled as of X date. - Students who received a course grade or some other mark of completion.	

INDICATOR	CHALLENGES TO DEFINING KEY TERMS IN WAYS THAT SUPPORT SOUND ANALYSIS	POSSIBLE SOLUTIONS	WHAT DEFINITIONS WILL WORK IN YOUR STATE?
ARTS TEACHERS	• In many states, all elementary teachers have general certifications that include arts among many other disciplines, obscuring differences among instructional quality in schools. • Some art teachers travel from school to school, limiting their time at individual schools and making it possible to double count them in district- or state-level analyses.	• Explore possibilities for identifying elementary arts specialists who fill a dedicated arts teaching position in the school budget. • Confer with partners about what weight you should assign to teachers who do not teach full time at a single school. Also, take care to collect individual teacher IDs to avoid double counting teachers. Many privacy protections for students do not typically cover teachers.	

Working with your state’s data managers or other data partners, consider other key terms that you need.

INDICATOR	CHALLENGES TO DEFINING KEY TERMS IN WAYS THAT SUPPORT SOUND ANALYSIS	POSSIBLE SOLUTIONS	WHAT DEFINITIONS WILL WORK IN YOUR STATE?



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PART 3: Processing the Data

After you receive the data you requested, you may find the next step most challenging of all: You must analyze it. As was clear in Part 2, many data requests can result in very large datasets that can be challenging to analyze.

This toolkit can't teach you how to conduct statistical data analysis, but it can help you understand, in broad terms, what data analysis entails. You should prepare for possible technical and legal hurdles in gaining access to the data, the challenges of organizing the data, and the implications of working with a partner to analyze the data or analyzing the data yourself.

This part of the toolkit takes you through two scenarios:

1. [The Easiest Path:](#) The good news is that the agency that provides the data can sometimes do most of the analysis for you. In this scenario, for example, the agency may send you a spreadsheet containing the percentage of students enrolled in arts courses, broken out by every school and district in the state. The agency has done most of the analytical work, yet you still need to:

- Understand the spreadsheet and make simple calculations.
- Anticipate the challenges of data that have already been analyzed.
- Ensure the quality of your data.

2. [The More Challenging Path:](#) You receive a raw, unanalyzed data set that contains individual student records. Unless you, or one of the partners you identified in Part 1, are an experienced data analyst with access to powerful statistical software, you need a professional with the expertise to help you:

- Get access to the data.
- Organize the data.
- Process the data.

If you are not an expert in data analysis, you may need help to pursue scenario one, and you will certainly need help to pursue scenario two. If you even need to ask whether you can do this work alone, then you probably can't. This part of the toolkit will help you understand what kind of help you need.

If you would like to explore data analysis in greater depth, see the following tools:

- [Tool I: Sample Record Layout](#)
- [Tool J: Common Components of a Data-Sharing Agreement](#)
- [Tool K: Common Means of Getting Access to Large Data Files](#)
- [Tool L: Analyzing Data From Multiple Sources](#)



1. The Easiest Path

In this scenario, the agency will probably send you the data in a widely used format like an Excel spreadsheet, and you may need to conduct only minimal additional analysis on your own.

Understand the spreadsheet and make simple calculations.

Let's say the data provider provided a spreadsheet with data on arts course enrollments at every school in the state, broken out by grade level. Below is a small portion of that spreadsheet showing arts course enrollments in the (fictitious) Acme High School, which bears the (equally fictitious) state ID# 03476. In this case, each row (or "record" in data speak) gives enrollment counts and percentages for students in the school for each grade.

	A	B	C	D	E	F	G	H	I
1	SCHOOL NAME/ ID # (1,2)	GRADE (3)	TOTAL GRADE ENROLLMENT (4)	TOTAL ARTS ENROLLMENT (5)	VISUAL ARTS ENROLLMENT (6)	MUSIC ENROLLMENT (7)	DANCE ENROLLMENT (8)	THEATRE ENROLLMENT (9)	% ENROLLED IN ARTS (10)
2	ACME HIGH SCHOOL/03476	9	75	51	20	15	13	11	68.00
3	ACME HIGH SCHOOL/03476	10	66	61	39	19	15	0	92.42
4	ACME HIGH SCHOOL/03476	11	72	67	37	20	0	18	93.05
5	ACME HIGH SCHOOL/03476	12	88	64	35	23	14	2	72.73
6	ACME HIGH SCHOOL/03476	ALL	301	243	131	62	42	31	80.73

Most of the analysis is already done. Row 6, Column I tells you that roughly 81% of Acme High School students are enrolled in arts courses, for example. Using the spreadsheet's formula functions, you could perform simple additional analyses, such as calculating the percentage of Acme High School 10th graders enrolled in different disciplines. Moving across Row 3, you can determine the percentage of all 10th graders enrolled in any arts class ($61/66 = 92.42\%$), visual arts classes ($39/66 = 59.09\%$), music classes ($19/66 = 28.79\%$) and so on.



TIMELY TIP

If the number of metrics you can report on seems limited, you may be able to perform simple calculations to develop additional metrics. For example, divide total school or district enrollments by the number of arts teachers to calculate average student/teacher ratios in the arts. Or divide the total number of students who take arts courses by the total number of students who have access to those courses to calculate a rough measure of what share of students embrace their schools' arts offerings.

To get percentages of students enrolled in the arts for an entire school district, simply add up enrollment numbers for each school in the district and divide the sum of arts enrollments by the sum of total enrollments. Spreadsheet programs like Microsoft Excel typically allow you to make such calculations in bulk.



STUMBLING BLOCK

Beware of subtotals when you add up enrollment numbers for all grades or all schools. In the example here, Rows 2 through 5 each contain data for one high school grade. Add them together, and you will get total enrollments for all grades in the school, which is already contained in Row 6. If you were to add Rows 2 through 6 together in this example, you would get twice the total enrollments. Repeat this mistake across hundreds or thousands of schools, and you will seriously skew your results.

Spreadsheet programs allow you to filter and sort your data quite easily to isolate the rows you need. If you are unsure of how to do this, ask someone who is proficient in Excel to help you.

Anticipate the challenges of data that have already been analyzed.

Even if most of the analysis has been done, your spreadsheet may present challenges:

THE COLUMN HEADINGS MAY CONFUSE YOU. The headings of columns can often seem cryptic, because data systems often abbreviate them to save space. For example, “cbkaat” may mean the total count [or number] of black or African American students, and “caspit” may mean the total count of students who are Asian or Pacific Islanders.

Look for a spreadsheet or tab in your spreadsheet that contains a glossary or “record layout” that translates the column headings into standard English. This record layout will also define the type of data in each column — e.g., alphanumeric (which means text or numbers), numeric (which means numbers only), percentage, etc. If you can’t find a spreadsheet or tab like that, ask the data provider to supply one. You have no room for error in interpreting your column headings. (To see a sample glossary or record layout for the spreadsheet above, see [Tool J.](#))



IF YOU HAVE LARGE DATASETS, YOU ARE MORE LIKELY TO MAKE MISTAKES. Even in a small state like Rhode Island, which has roughly 300 schools, simply breaking data out by grade level will yield thousands of rows. In Illinois, with its more than 4,200 schools, breaking out the data in that way would yield tens of thousands of rows.

DEVELOP A CLEAR PICTURE OF THE SPREADSHEET'S FORMAT AND ORGANIZATION BEFORE YOU BEGIN WORKING ON IT. Before you can perform bulk calculations, you may have to sort the spreadsheet by grade bands, filter by key characteristics or add together certain rows while excluding others. Again, if you are uncomfortable manipulating spreadsheets, you should bring in someone with more expertise.

DATA SUPPRESSIONS CAN LIMIT YOUR REPORTING OPTIONS AND THROW OFF YOUR ANALYSES.

In Part 2, we learned that state agencies suppress data in cells where the numbers are so small that publishing them could reveal private information about individual students. Examine your spreadsheet for evidence of such suppressions. In cells where data have been suppressed, you will see symbols like --, *, or † in place of numbers.

You may find, for example, that much of the arts enrollment data for students of color at the school level are missing, which would make it impractical to report on individual schools' arts enrollment data by race or ethnicity. In addition, your calculations cannot include cells that contain suppression symbols, because the program will either misread them as zeros or simply refuse to perform the calculation.

VERSION CONTROL IS CRITICAL. Always keep original master copies of all your spreadsheets so that you can return to them in case you accidentally delete or corrupt any data during your calculations. Also, carefully label any spreadsheets that contain any of your own calculations, and keep clear notes of what analyses you've conducted. It is all too easy to forget what calculations you have already made, and all too difficult to reconstruct them.



STUMBLING BLOCK

Many datasets have fields that can be confused for one another if you are not careful in processing the file. For example, many state education agencies (SEAs) maintain at least two fields recording school IDs in their student file structures, because students often have a school that qualifies as their neighborhood school (their "home" school) and another school they actually attend (their "serving" school). If you do not distinguish these fields at the outset and determine how to include them in your analysis, you may get inaccurate results. (For more information on potential problems defining your research terms, see [Tool H](#), defining terms for data requests and analyses.)

Ensure the quality of your data.

The data set you receive may contain errors. Data providers can make mistakes in their analyses, technological glitches can corrupt data or school districts can enter the data incorrectly, among other challenges. Some errors are unavoidable, but there are simple steps you can take to test the reliability of your data before you begin any analysis.

To do so, look for these signs of trouble:

ARE THERE ANY DUPLICATE RECORDS? Every database should have a “key,” a field or combination of fields that identify each record uniquely. No two records can have the same value in the key column. For a spreadsheet that primarily identifies characteristics of all schools in a state, for example, the key column would contain each school’s unique ID. No two records should have the same ID. It is simple to check for this error. Software programs like Microsoft Excel allow you to sort by fields and check for duplications that can corrupt your analyses.

IS THE DATA FILE COMPLETE? An incomplete data file can seriously undermine your analysis. There are fields where the absence of a value will cause problems. For example, you should not have blank values in your key fields. Missing rows or columns can skew your results. Test the contents of the data file against what you know about education in your state. For example, does the number of school records in the file closely match the number of schools in your state? Do state, district or school enrollment counts line up with enrollment counts reported elsewhere? Does the number of teachers in your data file line up with the number of teachers the state publicly reports? If data are missing, contact your data provider.

DO THE DATA APPEAR TO FOLLOW THE RULES SET FORTH IN THE DATA DICTIONARY OR GLOSSARY? As noted above, you should have a record layout describing the format of what’s in each field; do the data comply with what’s in that record layout? If the record layout says the data in a field should be a number, for example, but the field contains text, you will have a problem.

MOST IMPORTANT, DO THE DATA PASS THE “SMELL TEST”? Some problems might be glaringly obvious — elementary school enrollments in the tens of thousands, percentages that far exceed 100% or ninth grade enrollments that exceed total school enrollments, for example.

Other problems may be subtler – not impossible, but in defiance of what you know about arts education. For example, is the percentage of teachers who are certified much lower than you expect? Are rural students much more likely than suburban students to have access to dance courses? Do the data for schools or districts you’re familiar with contradict what you know about them? These could be startling new findings, but they could also be mistakes – the result of column headings that accidentally changed places, for example.

If you encounter such problems, check the record layout again to see if you are misreading the columns. If you aren’t, then don’t hesitate to contact your data provider to check the accuracy of the data.

You may introduce new errors if you conduct additional analysis of the data in the spreadsheets. After you finish your analysis, take some time to perform the quality tests above a second time.



STUMBLING BLOCK

Chances are, your data set will include some problems you cannot easily correct, because people have entered data incorrectly at the school or district level. Clerical staff in a school or district may enter incorrect course titles in the arts, for example, recording “chorus” as “music – general” or “jazz dance” as “social dance.”

In most cases, you will still be able to produce useful findings about access to, and participation in, courses in the broad arts education disciplines, even if information about individual courses within those disciplines proves unreliable. In other words, your findings about participation in music classes could be mostly reliable, even if the data on “chorus” classes are wrong.

By publishing the results of your analysis, you may provide schools and districts an incentive to enter the data more accurately. In most states, data on arts education have never seen the light of day, so that incentive didn’t exist. As information becomes public, schools and districts don’t want to have their efforts misrepresented.

2. The More Challenging Path

If the agency providing the data does not conduct any analysis for you but provides raw data instead, your task will be much more complex. For example, if you receive data with records on individual students, your data set will probably contain millions of data points, require you to observe very strict privacy protocols, require complex statistical software and demand more sophisticated analysis.

Even if you plan to retain an outside vendor or partner to do this more detailed analysis, you should understand in general terms what it takes to get access to, organize and process the data. These steps will have an important impact on your timeline and project plan.

Get access to the data.

Organizations conducting research with education data gain access to those data only after satisfying strict requirements to protect students’ privacy. This is especially true if those data contain unit records, or records containing information about individual students. The privacy of minors is protected by the federal FERPA law and additional state laws.

If your data request is approved, then you’ve demonstrated to the data collector that your organization meets the legal requirements for gaining access to student information protected under that law. Only organizations that conduct research to improve education and thereby benefit schools can gain access to such data.

Privacy protections will have a profound impact on the data-sharing agreements you or your partner organizations must sign to receive the data, how the data will be transferred to you and how you must manage the data after you receive them.

To receive data containing private student records, you must:

FINALIZE A DATA-SHARING AGREEMENT.

Data-sharing agreements are legally binding agreements between the organization that maintains the data and the organization or organizations requesting access to them. Typically, the organizations that maintain the data draft data-sharing agreements.

If a partner or vendor is conducting your data analysis, it will probably also manage the process of executing a data-sharing agreement. Still, you should be aware of what a data-sharing agreement is and what impact it might have on your plans and timeline. (For an overview of what a data sharing agreement commonly includes, see [Tool J.](#))

Legal representatives from the data provider will have reviewed and approved the language of the agreement before you receive it. If you can, ask a lawyer representing your interest to review the document as well. You will have to confirm that the descriptions of data use, access and disclosure reflect your understanding of the agreement.



STUMBLING BLOCK

Allot substantial time for the data-sharing agreement and data acquisition phase of your project. It can be tricky to predict how long it will take, so discuss these phases of the work with your data collection partners early. The legal review and data acquisition processes in some states takes as little as two to three weeks, and in others it can extend to six months or even a year!

Stay connected to this process. Follow up with your team and the agency regularly. Don't be demanding, but do be persistent. Sometimes a data provider will expedite the process just because they know the project matters to you and because you've taken time to build a relationship with them.

Data-sharing agreements don't need to present an extraordinary obstacle to your arts education research project. Established data collection organizations usually have protocols in place for creating agreements, and your most experienced research partners know how to handle them.



TIMELY TIP

Some SEAs post their standard data-sharing agreements online. For example, the Ohio Department of Education has made an [annotated example](#) available on its website. You can find other templates for data-sharing agreements on state education agency websites for [Arkansas](#), [Colorado](#) (Word document), [Kansas](#), [Louisiana](#), [Minnesota](#), [Rhode Island](#) (Word document), [South Dakota](#) and [Utah](#).

DETERMINE HOW YOU WILL RECEIVE THE DATA.

After you execute a data-sharing agreement, you will need a mechanism for receiving the data. If a partner or vendor is conducting analysis for you, it will handle this process as well. Organizations with



experience analyzing large government data sets should be comfortable with data-sharing protocols. Still, it pays to have a general sense of these protocols, which could affect the timeline and legal standing of your project.

The data files can be very large, and data security will be critical. There are several means of receiving the data:

- The agency with responsibility for the data transfers a file into your possession. Transfers like this can happen via email, a secure drop box or through a data warehouse or datamart.
- You gain direct access to the data. In this scenario, you would access and work with the data within systems established by the agency that houses the data.

For more information about these options for receiving the data, see [Tool K](#).

Organize the data.

After you receive the data, you should understand its format, prepare for formatting data challenges and check for errors. Your vendor or partner will probably take on these challenges, but it can help you to have a general sense of what it takes to ensure that the work proceeds smoothly and reliably.

UNDERSTANDING THE FORMAT OF YOUR DATA

You may receive your data in different formats. The traditional standard for constructing data files, particularly those of moderate size, is in delimited format. Delimited files are files where each row contains a separate record and the fields in each record are each separated by a delimiting character. The delimiting character is most typically a comma or tab, but it could also be parentheses, brackets or other characters. Take the following example:

Header row → Ent_name, ttl_enr, enr_a, enr_b, enr_c, enr_d

Line 1 → School A, 254, 32, 75, 56, 27

Line 2 → School B, 1217, 456, 342, 176, 97

Lines 1 and 2 of the file contain records for individual schools, and commas separate different values. Above Line 1 is the header row, which contains labels for each of those values. Those labels are usually exported directly from the fields in the warehouse data storage system, so they might be difficult to interpret. The agency providing the data can explain the contents of each column.

When this file is imported into a data analysis software package, the analysis software will recognize this structure and import the data accordingly. Your data analyst or data analysis software will need to understand the structure of the data, so the record layout that defines the nature of the data in each field will be important.

The record layout will also identify which field or fields in the file represent the key, the field or fields that identify each record uniquely. If you have individual student record data, for example, the key would be unique student IDs, which could be social security numbers or other unique identifiers assigned by the state. Data analysis software cannot function without such unique identifiers.



STUMBLING BLOCK

A small mistake, like a missing delimiting character or a foreign character, can wreak havoc with your analysis. Data files must be handled with care.

You may receive data from multiple sources, which may complicate the process of formatting and analyzing the data. [Tool L](#) offers information on how data analysts confront that challenge.

ASSESSING THE QUALITY OF YOUR DATA

The major principles for assessing the quality of data are the same whether you are examining a massive file of students' unit records or a much smaller Excel spreadsheet of aggregate data. That said, it is much more difficult to assess data quality in a massive file of student unit data — unless you have the right software and other statistical tools. If a partner or vendor is analyzing data for you, it will probably “clean” your dataset by using automated methods to detect errors in the data, such as missing data points, stray characters or statistical anomalies.

Analyze the data.

Step-by-step instructions on how to analyze a large and complex data set are beyond the scope of this toolkit. Still, you should have a general understanding of the tools researchers use to conduct their analyses.

COMMONLY AVAILABLE SPREADSHEET APPLICATIONS

Common spreadsheet applications like Microsoft Excel, Google Sheets and OpenOffice Calc have robust capacities — Excel can accommodate roughly 1,000,000 rows and 16,000 columns. Most also include essential statistical algorithms and charting features. If your data file is small and your calculations remain simple, these tools may serve you well. (See “The Easiest Path,” above.)

MORE SOPHISTICATED DATA ANALYSIS SOFTWARE

Although the calculations may be simple, the scope of your analysis or size of the data files may require more sophisticated software that can handle larger data sets, conduct more complex analysis and offer more options for data output.

There are many tools in the market that can support such analysis, including Stata, SPSS (which once stood for “Statistical Package for the Social Sciences”) and SAS (formerly known as “Statistical Analysis System”). These programs are common in education research, but they are far from the only ones that can analyze large and complicated datasets. To use such programs, you need a solid background in statistical analysis.



SOFTWARE PACKAGES THAT ALLOW YOU TO VISUALIZE DATA

Tableau and Power BI are examples of a recent trend in data analysis software that generates visual representations of data in the form of interactive maps or charts. Such software can make it much easier than ever before to create web-based data dashboards directly from your data set. Note that you may use Stata, SPSS or SAS to analyze your data before turning to Tableau or Power BI to present the data visually.

Even software like Tableau or Power BI, which are more intuitive than most statistical software, require some technical savvy and skill with data visualization. You may not have to hire a statistician or computer programmer to do this work, but you will need someone who is comfortable with technology.

Summary

Analyzing large education datasets can demand substantial expertise and may require you to find partners or vendors who can do the work for you. No brief toolkit can supply the expertise you need if you don't have it already. Still, you will have an easier time planning your arts education data initiative if you understand what such data analysis typically entails. You should understand the impact of data privacy laws on your project and plan for the time and effort involved in analyzing large data files.

Tool I: Sample Record Layout

The following Sample Record Layout corresponds to the sample spreadsheet in the beginning of Part 3. The record layout is an index or listing of all the variables in a dataset. It lists variables in sequential order and describes the fixed width and data structure of each variable. Record layouts are helpful in understanding the data definitions in a dataset or spreadsheet.

	A	B	C	D	E
1	VARIABLE #	VARIABLE NAME	VARIABLE DEFINITION	VARIABLE FORMAT	VARIABLE TYPE
2	1	SCHOOL NAME	STATE SYSTEM SCHOOL NAME	A60	ALPHANUMERIC
3	2	SCHOOL ID	STATE SYSTEM SCHOOL ID # WHERE FIRST TWO DIGITS ARE: 01=ELEMENTARY 02=MIDDLE 03=SECONDARY	F5.0	NUMERIC
4	3	GRADE	K THROUGH 12; ALL	A3	ALPHANUMERIC
5	4	TOTAL GRADE ENROLLMENT	TOTAL ENROLLMENT IN GRADE AS OF 20TH DAY	F5.0	NUMERIC
6	5	TOTAL ARTS ENROLLMENT	TOTAL ENROLLMENT ALL ARTS COURSES AS OF 20TH DAY	F5.0	NUMERIC
7	6	VISUAL ARTS ENROLLMENT	ENROLLMENT IN VISUAL ARTS COURSES AS OF 20TH DAY	F5.0	NUMERIC
8	7	MUSIC ARTS ENROLLMENT	ENROLLMENT IN MUSIC ARTS COURSES AS OF 20TH DAY	F5.0	NUMERIC
9	8	DANCE ARTS ENROLLMENT	ENROLLMENT IN DANCE ARTS COURSES AS OF 20TH DAY	F5.0	NUMERIC



10	9	THEATRE ARTS ENROLLMENT	ENROLLMENT IN THEATRE ARTS COURSES AS OF 20TH DAY	F.5.0	NUMERIC
11	10	PERCENTAGE OF STUDENTS ENROLLED IN ARTS COURSES	PERCENTAGE OF STUDENTS TAKING ANY ARTS COURSES	F5.2	PERCENT

How to Read This Table

The rows above describe variables in your dataset. These variables often appear as column headings in that dataset.

VARIABLE NAMES AND VARIABLE DESCRIPTIONS.

In this example, the Variable Names are easy to understand, but state agencies commonly abbreviate variable names. For example, “Total Arts Enrollment” might appear as “TArEnroll,” or something similar. In that case, you would have to refer to the Variable Description to understand what those abbreviations mean.

VARIABLE FORMAT

In the Variable Format column, “A60” in Row 2, above, indicates two things:

- The “A” tells you that it’s an alphanumeric variable, which means a variable that can be either letters, numbers or both. Alphanumeric variables typically identify labels or names.
- The “60” tells you that these variables can’t be any longer than 60 characters.

Row 4, whose Variable Format is “A3,” follows the same rule: As an indicator of grade level – for example, 9, 10, 11, 12 or all – it’s an alphanumeric variable that cannot exceed three characters.

In the Variable format column (Rows 3 and 5 through 11), “F5.0” and “F5.2” tell us different things. The “F” tells us that this variable is quantitative. The numbers following the “F” tell us more about the format of the quantitative variable:

- “F5.0” (in Rows 3 and 5 through 10) tells us that the variable is no more than five characters long and contains no decimals — for example, 66.
- “F5.2” (in row 11) tells us that the variable is no more than five characters long, and that the last two characters are decimals. In this case, the variable describes a percentage — for example, 80.73.

VARIABLE TYPE

The Variable Type column offers more information about the kind of variables in the dataset. Like the Variable Format column, it indicates whether variables are quantitative or alphanumeric. More precisely, it distinguishes between two different kinds of quantitative variables: numbers and percentages. Datasets typically don't use the percentage sign (%) in their quantitative variables, because it can confuse data analysis software.

Many data analysts are familiar with these data formats, so you don't have to commit many of these details to memory.



Tool J: Common Components of a Data-Sharing Agreement

Data sharing agreements explicitly address all or many the following components:

THE PARTNERS TO THE AGREEMENT. Their legal entity names, which may not be the same as the operating names of the entities you see reflected on their business cards.

THE PURPOSE OF THE AGREEMENT. The agency with responsibility for the data needs to understand your intent, which will ensure that you have a legitimate reason to gain access to the data. This is usually a broad statement of the purpose for which you will use the data.

A DETAILED DESCRIPTION OF THE DATA BEING SHARED. Sometimes the agreement provides a brief description in the early sections and an extended description in the tools.

A GRANT OF LICENSE. Here, the agency with responsibility for the data is authorizing you to use the data in certain ways and prohibiting you from using them in others. (Think of a movie rental license, which allows you to view the movie privately, rather than showing it in public for a fee.) The consequences of violating this license can be severe.

THE LENGTH OF THE TERM OF THE LICENSE to hold and use the data.

A DESCRIPTION OF WHAT YOU WILL DO WITH THE DATA. This description can be many sections long. It should include statements about how you will protect the data, with whom and under what circumstances you may share the data, etc.

A DESCRIPTION OF THE CONDITIONS UNDER WHICH THE AGREEMENT CAN BE TERMINATED, AND WHAT MUST HAPPEN WHEN THE CONTRACT IS TERMINATED. Agreements will specify policies for termination before the planned end of the agreement or after the agreement expires. Agreements that include unit records with private student information will almost always include requirements the data be destroyed within a certain period after termination.

OTHER INFORMATION. Most agreements include other information, like definitions of terms used in the agreement and additional boilerplate legal details.

Tool K: Common Means of Getting Access to Large Data Files

File Transfers

If the state agency responsible for housing and sharing education data plans to send you large data files containing data on individual students, that agency must choose a means of transferring very large data files while ensuring the security of the data. Their methods of transfer could include:

EMAIL. Although less popular than a few years ago, email is still an option for transferring data files, particularly if those files are of moderate size. Every working professional has an account, and transferring files this way is almost free.

Yet many data files exceed data storage or transmission limits, and traditional email accounts are typically not secure. If your agreement stipulates that you destroy all data after your agreement expires, email will leave many loose ends to resolve. Files with protected information about individual students could remain in your inbox, sent email, mailbox backups and other places. You can contract with a secure email system if you find yourself working with a partner that can only email their data files.

SECURE DROP BOX. Drop boxes are external file storage spaces people can access if they have proper credentials. The files would be deposited there by one partner and retrieved by another. Many working professionals already have access to one or more drop boxes, and they are easy to use. It is very important to restrict access to the drop box to approved personnel and to destroy all files after they have been used.

WAREHOUSE OR DATAMART RETRIEVAL. Your data provider may have an established a data warehouse or datamart from which you can extract the data you need. A data warehouse is a primary data repository for the organization and is typically protected behind the organization's most secure firewall or security protocols. A datamart is often a smaller subset of a data warehouse, containing data on a specific topic area.

Data warehouses and datamarts can minimize problems of version control, because the organization analyzing data can retrieve updated files when it needs them. Access to data warehouses and datamarts is highly controlled and can be complex to negotiate.

Direct Access to Files

Some state agencies have systems for gaining direct access to their data files:

TRADITIONAL REMOTE ACCESS TO HOST SYSTEMS. In these situations, the organization provides the researcher or analyst credentials for accessing the data within their existing systems. They do not grant authorization to extract files from those systems. In rare cases, this can mean that the researcher must use the data provider's computer system at the data provider's offices to conduct analysis.



In some cases, researchers are authorized to connect via the internet to a computer on site and take control of that computer remotely. Lastly, researchers may be given rights to establish a Virtual Private Network (VPN) connection to the collector's network systems to access the required applications and data.

This mechanism can provide most immediate access to the data without intervention from the data provider's personnel. Yet such virtual connections can be slow and unstable, especially when researchers must analyze large data sets.

SPECIAL ACCESS TO SYSTEM DATA PROVIDED BY A CUSTOM HARDWARE OR SOFTWARE SYSTEM.

Some agencies have software and hardware systems specifically to provide access to researchers and other institutional partners. In those cases, researchers have access protocols that require either connecting to designated software systems over the internet or installing specific connectivity hardware at their local offices.

Tool L: Analyzing Data From Multiple Sources

When data analysts obtain data from multiple sources, they may have work to do to link different data files so that you can analyze them together. For example, to calculate student enrollments in arts courses, they may need two data files:

- A file from the Student Information System containing unique student IDs, the ID of the school each student attends, each student's grade level and demographic data about each student. In this case, the field containing student IDs would be the key field. Each student ID would appear only once, but the same school IDs would frequently reappear.
- A file from the Course Information System containing unique course IDs and IDs of students who take those courses. In this case, the field containing course IDs would be the key field. Each course ID would appear only once, but the same student ID will appear several times throughout the data file if that student has taken several different courses.

In the best-case scenario, both files use the same system of unique student IDs, which makes it possible to link them for analysis. By matching student records to one another, data analysts can analyze student enrollments by school and demographic group, for example.

What do data analysts do when they receive multiple data files on the same students or entities that don't share fields such as unique student IDs? If they receive information from two different state agencies, for example, they might find that one dataset uses internal ID numbers for students while the other uses students' Social Security numbers.

In cases like these, analysts should:

- Determine if one agency can create a new file using the same identification key employed by the other agency — by substituting Social Security numbers for internal student ID numbers, for example.
- If neither organization can make that accommodation, analysts may have to match the data sets with one another by finding other ways of linking them. For example, they could use student names and birthdates to link students in one file to students in the other. While some students may share the exact same names and birthdates, that problem would not be common.



PART 4: Reporting on the Data

A central aim of any arts education data initiative is to make information on arts education available to audiences who can use it to guide better decisions. The success of the initiative therefore depends on its ability to report on arts education data in a form that key audiences can understand and use. This section of the toolkit offers guidance on how to plan and execute a sound strategy for reporting your data.

Reporting on your data requires the following steps:

- [Review Your Arts Education Information Against the Original Goals of Your Initiative.](#)
- [Confirm the Audiences for Your Information.](#)
- [Choose What Information You Want to Convey.](#)
- [Choose a Mechanism for Reporting on Data.](#)
- [If You Choose to Create an Interactive Website or Webpages, Create a Blueprint.](#)
- [Design Your Visualizations.](#)
- [Prepare Your Data for Your Interactive Website or Webpages.](#)
- [Troubleshoot and Adjust.](#)
- [Promote Your Website or Webpages.](#)

These steps need not be as sequential as they appear here. You may need to move back and forth among them as you prepare your strategy and design your reporting mechanisms. For example, discoveries you make as you design your visualizations may prompt you to reevaluate what information you want to convey if some information doesn't lend itself to visualization.

That said, these steps will help you be deliberate in your planning. You cannot begin to create effective reporting mechanisms until you understand your goals, precisely what information you have to support them and the audience you want to reach.

This part of the toolkit has one extensive Tool, [Tool M](#), containing two sample wireframes that present ideas for laying out interactive websites or webpages that present arts education data.

1. Review Your Arts Education Information Against the Original Goals of Your Initiative

Your goals will help you determine what information about arts education you need to present, to whom and in what format.

GO OVER THE GOALS you established at the beginning of the initiative. (See Part 1.)

REVIEW THE DATA THAT EMERGED FROM YOUR ANALYSIS (See Part 3.) Do you have the information you need to inform progress toward your goals? For example, if you aim to guarantee

every child access to arts education, does your information reveal how many students currently have such access? Do you have trend data to help you mark progress toward universal access?

CONSIDER ADDING TO YOUR ORIGINAL DATA REQUEST if you lack information that addresses your goals. Do not take this step lightly, because it may add significant time to your project.

IF NECESSARY, REVISE YOUR GOALS to address unanticipated needs revealed by the data. If, for instance, you find that students from low-income families are far less likely than you expected to take music classes, you can make raising participation among such students a more explicit goal.

Your goals should be the lodestar for your work. They will help you focus on the most relevant information and then present that information in ways that are most likely to inspire effective action.



STUMBLING BLOCK

Watch out for the impact of data suppressions.

Parts 2 and 3 of this toolkit address the challenge of data suppressions, or instances where data providers withhold data on small groups of students to protect their privacy. When you see visualizations of your data, the full impact of these suppressions will become clear — in the form of charts that show little or no information.

As you review your data, you may find many such data suppressions at the school or even district level if you've broken data out by student subgroups like race, ethnicity or disability status. If these suppressions affect most of your school- or district-level charts, you may not be able to include those subgroups in your final report, unless you want to publish a lot of empty charts.

It will save you time and money to review your spreadsheets and make these decisions before you begin planning your reports or designing an arts education data website.

2. Confirm the Audiences for Your Information

A clear picture of your intended audience will help you understand how you will need to present your information. Work with the partners who helped you set your goals create a list of potential audiences — the people in your state who have a stake in arts education. (See Part 1.) Do they represent parents, educators, policymakers, funders, arts education advocates or others? What information, if any, do these audiences need, and how are they likely to use it?

FOR EXAMPLE:

STATE POLICYMAKERS may want statewide data to inform their state policy decisions.

FUNDERS may want to identify regions or communities in the state that require the most support to plug gaps in access.



SCHOOL LEADERS may want to benchmark access or participation to arts education in their district or schools against access or participation in neighboring districts or schools.

PARENTS may want to identify local schools that have robust arts offerings, or they may want information to assess the offerings in schools their children already attend.

Your final reporting mechanism cannot be all things to all people, but you will probably discover that different audiences have overlapping needs. As you design your reporting mechanisms, keep these audiences and their needs in mind, because those needs should shape the content and format of what you report.

3. Choose What Information You Want to Convey

Your goals and the needs of your audiences will help you select the information you should report. Your choices may seem limited — you probably cannot choose topics beyond access to arts education, access to qualified arts teachers and participation in arts classes. That said, your and your audience's overarching goals will help you determine what aspects of the data you should highlight.

As you identify what information you would like to report, consider some important questions that will have implications for what information you will focus on:

WHAT LEVEL OF DETAIL DO YOU WANT TO REPORT?

Do you have state-level data? District-level data? School-level data? Would it serve your goals and your audience to report on all three? Remember, federal and state privacy laws prevent you from reporting data on individual students.

WHAT ARE YOUR UNITS OF ANALYSIS?

Students? (For example, “50% of high school students in District X have access to theatre classes” or “47% of rural students in State X have access to certified visual arts teachers.”). Schools? (For example, “12% of schools in State X offer dance classes.”) Teachers? (For example, “97% of high school visual arts teachers in District X are certified to teach visual arts.”)



TIMELY TIP

Using schools, rather than students, as the unit of analysis in a state- or district-wide analysis can have big implications for your findings. By using schools as your unit of analysis, you will give schools with small and large enrollments equal weight, which could skew your analysis of students' access to arts education. (For example, 50% of schools could offer theatre, but that 50% could enroll 75% of students in the state.)



TIMELY TIP CONT'D

If schools are your unit of analysis, you may want to offer context on access or participation by school type. (For example, are rural schools less likely than suburban schools to offer dance? How about schools that enroll less than 400 students, or schools where more than 75% of students qualify for the federal school lunch program?) Such information can reveal which schools need most attention.

WHAT INFORMATION IS MOST USEFUL?

For example, information broken out by race, ethnicity or geographic region may offer more guidance for targeted strategies to improve access than information reported in the aggregate.

Here are some strategies for presenting information in ways that can inform decisions:

SUPPORTING EQUITY. Highlight unequal access to, or participation in, arts education.

- Break out data by student subgroup – by gender, race/ethnicity, eligibility for free or subsidized lunch, disability status, status as an English language learner, etc.
- Break out data by geography or region – rural vs. urban or suburban schools, for example, or schools in different areas of the state.
- Break out data by type of school – Title I schools, charter schools, schools by percentage of students who qualify for free or subsidized lunch, etc.

PROMOTING PROGRESS. Examine changes to access or participation over multiple years.

- Measure the percentage change from one year to the next.
- Create line charts showing longer term trends.

STRIVING TOWARD FIXED GOALS. Measure how the state, its districts or its schools perform against explicit targets.

- Use targets set forth in state statute or regulation – statutes that require all schools to offer at least two arts disciplines, for example, or requirements that all high school students receive at least one credit in the arts.
- Use targets set by the initiative's partners (see Part 1) – for instance, that at least 50% of middle schoolers in every racial and ethnic subgroup complete at least one arts course.

BENCHMARKING AGAINST OTHERS. Promote comparisons among schools and districts to establish real-world benchmarks for access and participation.

- Compare districts or schools with neighboring districts or schools, for example, or with districts or schools that have similar demographic profiles.
- Compare schools with the districts in which they are located or with the state as a whole.

The above examples are by no means exhaustive, nor are they mutually exclusive. You can break out trend data by race and ethnicity, for example. As you'll see later, however, your message will be clearer if you do not attempt to tackle too many different topics or themes in a single chart or data visualization.



STUMBLING BLOCK

Remember that *not everything you can say needs to be said*. Data analysis often produces much more information than you can or even should report. Your audience may not have the time or attention to absorb too many kinds of information, and some information may distract from your goals.

4. Choose a Mechanism for Reporting on Data

After you have identified your audience and the information you would like to present, you will be ready to select your mechanism for reporting the information.

The audience and goals will dictate your format. While some stakeholders may be most interested in state-level data, for example, many, like school principals or teachers, might want district- or school-level data. Those with an interest in equity may want to see data broken out by race, ethnicity and eligibility for free or subsidized lunch, whereas those who focus on rural education may want to see how rural schools stack up against suburban and urban schools.

PDF REPORTS. Static PDF reports are well-suited for presenting detailed information at the state level, but they limit your ability to present extensive information on every district or school in that state.

- **CONTENT:** Static reports can effectively present high-level findings of data analysis and make the case for policies and practices to address challenges uncovered in the data.
- **AUDIENCE:** Such reports may serve such stakeholders as policymakers who focus broadly on state-level issues, but they may not suit the needs of local stakeholders who need information about their own districts or schools.

INFOGRAPHICS. Infographics can present state-level data through engaging and accessible visualizations.

- **CONTENT:** An infographic can quickly convey one or two important points, but it cannot present more than a few visualizations at a time without overwhelming or confusing the audience.
- **AUDIENCE:** Infographics can target a broad audience of policymakers, parents, community leaders and other stakeholders, usually to raise awareness of a specific challenge or strategies to address it.

INTERACTIVE WEBSITES. These websites rely on platforms that can organize and visualize large amounts of data automatically. Simple navigation structures allow users to move easily from state-level information to information about any district or school in the state.

- **CONTENT:** Interactive websites are flexible enough to accommodate many different types of information. Users could toggle between trend data and data for a single year, for example, or they could select from drop-down lists of student subgroups to see data broken out by gender, race, disability status or other categories.
- **AUDIENCE:** Interactive websites can accommodate different audiences, because each audience can select the issues — and the districts or schools — that it finds most relevant to its needs.

A COMBINATION OF THE ABOVE. A robust arts education data reporting strategy could combine interactive websites with reports and infographics to reach the broadest possible audience with a variety of information and messages. Interactive websites can allow users to explore different aspects of the data, while reports and infographics can promote a more limited set of messages or lessons that emerge from an analysis of the data.



TIMELY TIP

You or your partners may not be able to control all the messages that emerge from the data you present on a website or webpage — and that’s not necessarily a bad thing. Many interactive data websites give visitors the option of downloading the data presented there in the form of spreadsheets. Visitors to the site may use then use those data to produce their own reports or infographics highlighting information that is important to their communities.

The decision about which reporting mechanism you choose will of course have implications for your budget. Simple online reports that require little design can be inexpensive to produce. Infographics can cost between \$1,000 and \$10,000, depending on how elaborate they are. Interactive websites can be much more expensive — \$100,000 or more — if you hire developers to build them from scratch. Fortunately, there are off-the-shelf data visualization platforms that can dramatically lower the cost of creating a basic, but still powerful, arts education data website or set of webpages. Simple websites or webpages built on such platforms can cost as little as a few thousand dollars.

5. If You Choose to Create an Interactive Website, Create a Blueprint

Wireframes are like blueprints of websites. They are akin to the storyboards of video development or the layout template of desktop publishing. They map the user’s experience across your webpages, laying out places for text, graphics, data visualization and page controls among other features of your site. They demonstrate how users can navigate through websites to find the information they need.



TIMELY TIP

If the person or team developing your wireframes isn’t familiar with web development or off-the-shelf data visualization platforms, have them confer with people who are, even if you must hire them. If you are developing web pages from scratch, seemingly small changes to your design can have big implications for cost and timeline. If you are using an off-the shelf data visualization platform, it helps to be familiar with the power and limitations of that platform as you begin the wireframing process.

[Tool M](#) offers two examples of wireframes for arts education data websites. These wireframes include rough mockups of charts and sample text to display how form and content can support each other. The first example shows a website that would need to be built from scratch. It offers



cleaner navigation and clearer displays but comes at a higher cost. The second example shows a website that could be created on most off-the-shelf data visualization platforms, with some adaptations. The website's navigation may not be as clean, but it would be substantially less expensive to create.

6. Design Your Visualizations

As you consider your wireframes, begin to design your visualizations — the charts or tables that will convey your information. Detailed guidance on how to create effective charts and tables is beyond the scope of this toolkit, but there are multiple resources that offer such guidance.



TIMELY TIP

You can find guidance on data visualization resources from several federal sources. The federal government's Technical Assistance Program for Statewide Longitudinal Data Systems includes a [Data Visualization Toolkit](#) with principles for effective visualization and links to additional resources. Though intended for state education agencies, the National Forum on Education Statistics' extensive [Guide to Data Visualization](#) offers guidance for any data visualization effort. Funded by the federal government, the Center for IDEA Early Childhood Data Systems has created its own [Data Visualization Toolkit](#). Though targeted to early education data, this toolkit offers insights that apply to arts education data as well.

When designing a data visualization, such as a chart, keep some broad principles in mind:

IS IT COMPLETE?

It's all too easy to leave out important information on a chart. Be sure you include:

- The year or years of data you display.
- The name of the school, district or state in question.
- The units (i.e., count or percentage).
- If appropriate, the arts discipline or disciplines in question.
- Data labels displaying numbers or percentages, so that viewers don't have to estimate the quantitative information your charts represent.

IS IT SIMPLE?

Too often, charts get cluttered with distracting information.

- Don't present too much information in a small space. Multiple axes in one chart, line charts superimposed over bar charts or too many categories in one line chart can confuse the viewer, bury your main point and even distort your findings.

- Don't repeat information. If you specify percentage in a chart's axis, for instance, you don't need to do so in its title.
- Tailor visualizations to your audience. It's likely that most of your viewers aren't researchers. Use simple language in your titles and straightforward presentations of data.

DOES IT MAKE A CLEAR POINT?

- Make comparisons clear. Bar charts or column charts can effectively display differences among schools or categories — differences that can get lost in pie charts, for example. Line charts can also highlight gaps, but too many lines on a single chart can obscure gaps and be hard to follow.
- Present information in the most helpful context. For example, consider comparing results for a single school with results for its district and for the state as a whole. Also consider presenting trends over multiple years, which can help viewers chart progress. And always ask yourself whether counts or percentages tell the clearest story: The fact that 500 students took music classes in a district tells us little if we don't know that those 500 students comprised 10% of the total enrollment in that district.

IS IT HONEST?

- Clearly label and define the data your chart is displaying. If possible, define your terms in a methodology section or even in brief explanations that appear below your charts or in hover-over text. (See our sample wireframes in [Tool M](#) for examples of how to do so.) If, for example, you identify schools that do not offer arts classes, be clear in your notes about how you define such schools. Are they schools with no enrollments in arts classes? Are they schools that lack teachers assigned to the arts?
- Don't distort the scale of your axes. If you are reporting percentages, considering starting your axis at 0% and ending it at 100% whenever possible. You may occasionally need to start or end elsewhere to make charts more readable, but doing so for any other reason can mislead your audience by exaggerating gaps or changes in data. Many data visualization programs will automatically rescale your axes in ways that can distort your findings. Most give you the option to override that feature by specifying where axes begin and end.



TIMELY TIP

If you want your website or webpages to be accessible to all audiences, consult federal [Section 508 guidelines](#) for the development of web pages before you begin designing your website and visualizations. Federal agencies must comply with these guidelines to ensure that their websites are accessible to, and usable by, individuals with disabilities. The guidelines can be helpful to non-federal websites as well. They can affect your:

Choice of fonts (fewer stylized and/or serif fonts).

Choice of colors (watch your red/green interactions, and don't overuse closely related colors that can't be easily distinguished from one another).



TIMELY TIP CONT'D

Decision to provide alternate text coding, or “alt tags,” to describe visualizations verbally. Screen readers for visually impaired users can read alt tags for users who might have difficulty seeing.

Note that some of these principles — governing choice of fonts and colors, for example — apply to printed materials as well.

[These guidelines](#), prepared for the National Park Service, include additional guidance for making printed materials accessible.

7. Prepare Your Data for Your Interactive Website or Webpages

Modern data visualization platforms automatically generate charts and tables from spreadsheets full of data. If you want to report on arts education in every district and school in your state, your website or webpages must feature hundreds or thousands of separate charts. The good news is that you need to design only one template for each type of chart or table, and the platform can instantly create corresponding charts for every district and school in the state.

If, for example, you want to report on middle school enrollments in dance for each school in your state, you can create a template for how those data should appear in a chart. If you upload a spreadsheet with middle school dance enrollments for every school in the state, the visualization platform will do the rest, automatically generating a corresponding chart for every school. (See the sample wireframes in [Tool M](#) for examples of how these templates might look.)

Whoever is developing your website or webpages will probably need your data before she can begin the development process — whether you’re creating your website or webpages from scratch or using an off-the-shelf platform. In many cases you can format your data in Microsoft Excel or similar spreadsheets.

Work with your developer to make sure that you format your spreadsheets in ways that best suit your platform’s structure and requirements. This work is not complicated, but you must follow formatting rules precisely if you want your data to display correctly, or at all.

Note that small errors in your spreadsheet — letters where there should be numbers, for example, or extraneous characters — can prevent charts from displaying information. Be careful not to import any unwanted characters into your spreadsheets.

8. Troubleshoot and Adjust

When you see your data visualized for the first time, you may encounter problems in some of the visualizations. Go through as many of your state, district and school visualizations as possible; and keep any eye out for irregularities such as missing charts, charts that are clearly displaying incorrect data or charts with formatting problems.

The causes of these irregularities can vary, but in most cases, you can correct them by making corresponding corrections to your spreadsheets or adjusting the formatting of your charts. If problems persist, your developer may have to troubleshoot the website's code.

9. Promote Your Website or Webpages

Once your website or webpages are live, make sure as many people as possible are aware they exist. At a minimum, you can use some simple strategies to promote your site.

- Send an email blast to key audiences alerting them that the new site is live.
- Use social media posts on Facebook, Twitter, Instagram and LinkedIn to promote your site.
- Ensure that the URL (or website address) is included on any connected one-pagers and other digital/printed materials.
- Clearly link to the website or webpages from the frequently visited pages on your and your partners' websites.
- Include the URL in your email signature block to bring attention to the site.
- Demonstrate the website or webpages at meetings and events across the state.

By weaving the arts education data website or webpages into your and your partner organizations' routine communications, you can ensure that they get the attention they deserve.

Summary

The success of your arts education data initiative hinges on how well you report on the data you've worked so hard to request and analyze. Your reporting strategy must be firmly tied to your goals and carefully targeted to your most important audiences. Fortunately, technology has dramatically lowered the cost and effort of data visualization.



Tool M: Sample Wireframes

The following two sample wireframes offer examples of how you can present and organize arts education data in an interactive format that suits diverse audiences. Each wireframe contains rough mockups of charts to demonstrate how the format of your website can affect the content you want to present. These wireframes are purposely plain. You would need to style your website to meet the host organization's branding guidelines. Please note that any data displayed in the wireframes are for demonstration purposes only. They do not describe any known state, district or school.

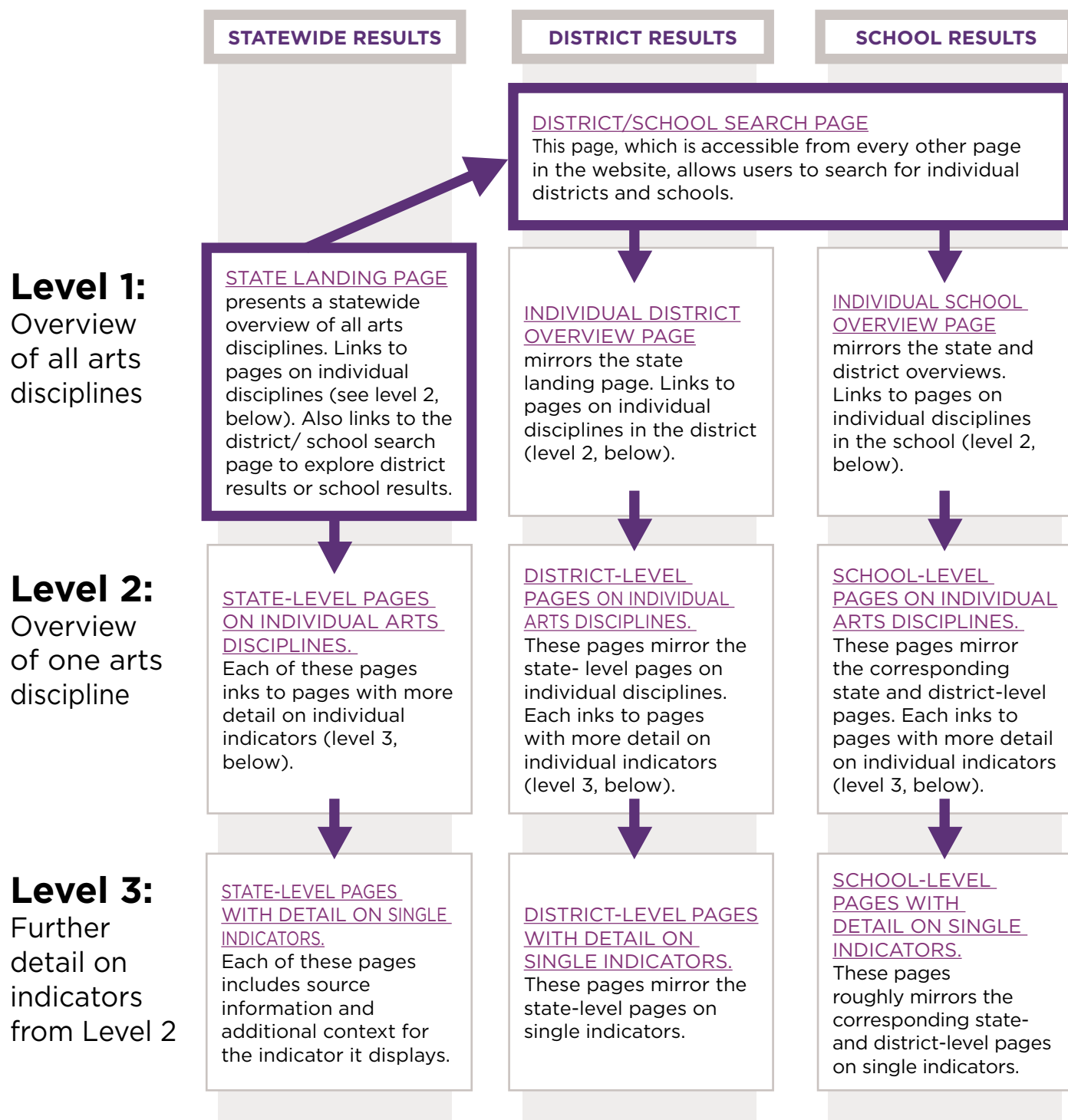
The first sample wireframe offers an example of a website you would probably have to design from scratch. Unless you have a sophisticated team of developers in your organization, you must hire a vendor to produce a website like this. This approach can give you flexibility over how you choose to organize and visualize information about arts education, but that flexibility comes at a cost. A website like this can cost \$100,000 or more.

The second sample wireframe aims to demonstrate what is possible on an off-the-shelf data visualization platform. This solution is substantially cheaper — \$20,000 or less, depending on how much of the work you or your partner organizations can perform. Off-the-shelf solutions offer less flexibility than bespoke websites, but a reasonably tech-savvy person can create them without relying on extensive coding skills.

These are merely samples rather than prescriptive models. Your goals, audiences and priorities may require different kinds of visualizations or navigation. Still, they aim to spark your thinking about how to present large amounts of data in a well-organized and accessible format.

ANATOMY OF A STATE EDUCATION DATA WEBSITE: EXAMPLE 1

The simple mockup of an arts education data website that appears in the following pages offers results for the state as a whole, every school district, and every school. Under each of these, it also offers three levels of detail: (1.) A page with an overview of all arts disciplines; (2.) Pages offering overviews of each separate arts discipline; and (3.) Pages offering further detail on individual arts education indicators. The schematic below provides a general outline of the website's architecture.





Landing Page

Top level navigation - ABOUT STATE DISTRICT SCHOOL ART TYPE

Introduction Text

Use this section to give a brief overview on the site

State Data Overview

(Click to go through to text page)

Search by District

(Either pull down list or box for searching)

Search by Schools

(Either pull down list or box for searching)

Name of school

Art Disciplines Included in Data

(Icons Clickable links to subsequent pages)

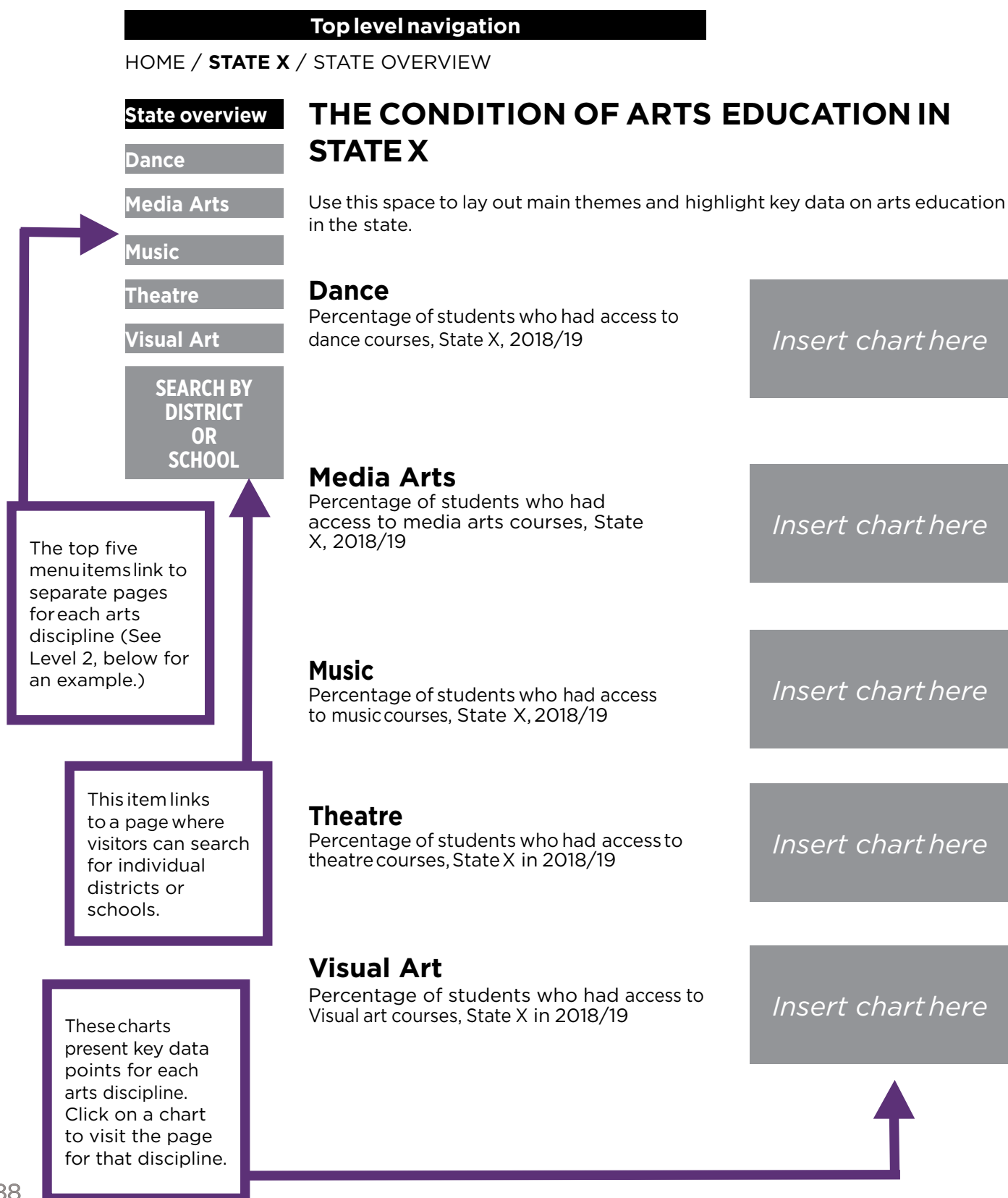
Name of district



The About page should detail where data sources and walk the users through how to use the site.

STATEWIDE--LEVEL 1. STATE OVERVIEW PAGE

This page offers an overview of the condition of arts education in your state, presents the main navigation menu, and gives the reader an introduction to major data points for each arts discipline. Clicking on menu items on the left or charts will take readers to a page with more information on individual arts disciplines. (See State Level 2 on the next page.)





STATEWIDE - LEVEL 2. OVERVIEW OF A SINGLE ARTS DISCIPLINE

This page offers a state-level overview of information on a single arts discipline. It provides high-level data on access to courses, course-taking, and access to teachers. Clicking on menu items on the left or charts will take readers to a page with more detail on specific topics, such as access to courses. (See State Level 3 on the next page.)

Top level navigation

HOME / **STATE OVERVIEW** / MUSIC

Music

Access to Courses

Enrollment in
Courses

Access to
Teachers

Find a district or
school

STATE X MUSIC OVERVIEW

Use this space to lay out main themes and highlight key data points.

Access to courses

Students in schools that offered music courses, State X, 2014/15-2018/19

Insert chart here

Enrollment in Courses

Students enrolled in music courses, State X, 2014-15- 2018/19.

Insert chart here

Access to Teachers

Students in schools that employed certified music teachers, State X, 2014/15-2018/19

Insert chart here

The top three menu items, and the corresponding charts, link to more detail on access, enrollment, and teachers (See Level 3, below, for an example.)

STATEWIDE - LEVEL 3: DETAIL ON A SINGLE INDICATOR

This page offers more detail on individual indicators presented in the previous pages. Here, visitors can filter results by different student subgroups, or by types of schools.

Arts Education in Our State

Top level navigation

HOME / **DISTRICT X** / MUSIC / ENROLLMENT IN COURSES

Music

Access to Courses

Media Arts

**Enrollment in
Courses**

Access to
Teachers

Find a district or
school

Music - Access to Courses in District X

Add text here to set context or explain the chart below

Overall

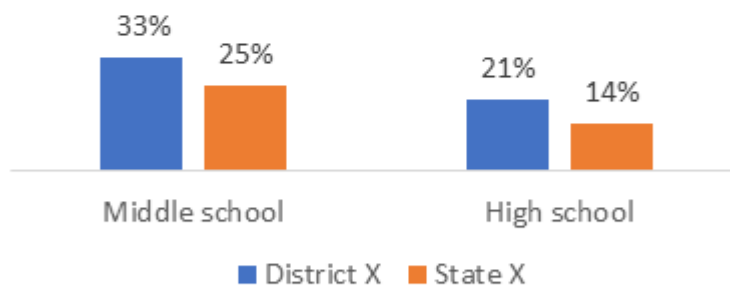
Gender

Race/
ethnicity

Family
income

School
type

Students enrolled in music courses,
District X and State X, 2018/19



Add explanations and resources here. These could include a description of the information displayed in the chart, data sources (such as the state's Student Information System), or links to additional resources that provide context.

Site visitors can filter the data to investigate gaps among subgroups of students. The "school type" filter could include traditional public schools and public charter schools. Other filters could include English language learner status, special education status or school location (urban, suburban, rural).



DISTRICT-WIDE - LEVEL 1: DISTRICT OVERVIEW PAGE

This page offers a general overview of arts education in a single district. It is very similar in format and content to the statewide overview page.

Top level navigation

HOME / **DISTRICT X** / DISTRICT OVERVIEW

District overview

Dance

Media Arts

Music

Theatre

Visual Art

THE CONDITION OF ARTS EDUCATION IN District X

If feasible, use this space to lay out main themes and highlight key data for the district.

Dance

Percentage of students who had access to dance courses, District X, 2018/19

Insert chart here

Media Arts

Percentage of students who had access to media arts courses, District X, 2018/19

Insert chart here

Music

Percentage of students who had access to music courses, District X, 2018/19

Insert chart here

Theatre

Percentage of K-12 students had access to theatre courses, District X, 2018/19.

Insert chart here

Visual Art

Percentage of students who had access to Visual art courses, District X in 2018/19.

Insert chart here

If there are many school districts in your state, it will be difficult to tailor this introductory language to each specific district. It may be more feasible to include standard language here that helps frame the context and importance of the information presented on this page.

DISTRICT-WIDE – LEVEL 2: DISTRICT OVERVIEW OF A SINGLE ARTS DISCIPLINE

This page offers a district-level overview of information on a single arts discipline. It closely resembles the statewide overview of information on a single arts discipline.

Top level navigation

HOME / **DISTRICT X** / MUSIC

Music

Access to Courses

Enrollment in Courses

Access to Teachers

Find a district or school

THE CONDITION OF MUSIC EDUCATION IN DISTRICT X

If feasible, use this space to lay out main themes and highlight key data for the district.

Access to courses

Students in schools that offered music courses, District X, 2014/15- 2018/19

Insert chart here

Enrollment in courses

Students enrolled in music courses, District X, 2014-15- 2018/19.

Insert chart here

Access to teachers

Students in schools that employed certified music teachers, District X, 2014/15-2018/19

Insert chart here



DISTRICT-WIDE - LEVEL 3: DETAIL ON A SINGLE INDICATOR

This page offers more detail on individual indicators presented in the previous pages. Here, visitors can filter results by different student subgroups, or by types of schools.

Arts Education in Our State

Top level navigation

HOME / **DISTRICT X** / MUSIC / ENROLLMENT IN COURSES

Music

Access to Courses

Enrollment in Courses

Access to Teachers

Find a district or school

MUSIC - Access to Courses in District X

Add text here to set context or explain the chart below

Overall

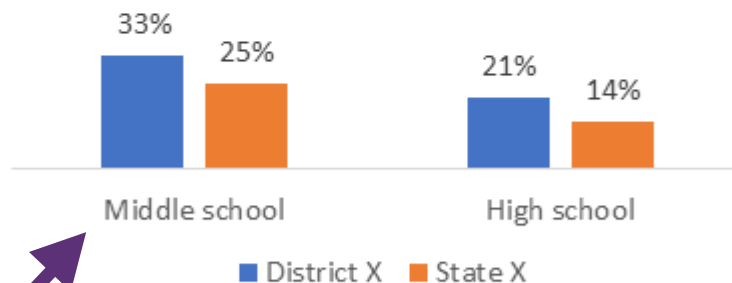
Gender

Race/
ethnicity

Family
income

School
type

Students enrolled in music courses,
District X and State X, 2018/19



In smaller districts, some student subgroups may be so small that the state will suppress data on them to abide by federal and state policy laws. If this is a widespread problem, you may consider removing this tab.

Add explanations and resources here. These could include a description of the information displayed in the chart, data sources (such as the state's Student Information System), or links to additional resources that provide context.

You can add context to district-level results by comparing them with state-level results, as in this chart.

SCHOOL-WIDE - LEVEL 1: SCHOOL OVERVIEW PAGE

This page offers a general overview of arts education in a single school. It is similar in format and content to the statewide and district-wide overview pages. Unlike those pages, however, this one probably cannot offer percentages of students with access to arts classes. In most cases, your data will only show whether or not schools offered the class. The page could focus on enrollment instead.

Top level navigation

HOME / **SCHOOL X** / SCHOOL OVERVIEW

School overview

Dance

Media Arts

Music

Theatre

Visual Art

District/School

ARTS EDUCATION IN SCHOOL X

In 2018/19, School X offered courses in the following arts disciplines:

[Include icons representing each discipline offered]

Dance

Percentage of students who enrolled in dance courses, School X, 2018/19

Insert chart here

Media Arts

Percentage of students who enrolled in media arts courses, School X, 2018/19

Insert chart here

Music

Percentage of students who enrolled in music courses, School X, 2018/19

Insert chart here

Theatre

Percentage of K-12 students who enrolled in theatre courses, School X, 2018/19.

Insert chart here

Visual Art

Percentage of students who enrolled in Visual art courses, School X in 2018/19.

Insert chart here

This box could offer a very brief overview of which arts classes the school offers. If the data are robust enough, you can offer a list of specific courses under each arts discipline.

Some schools will appear to offer no classes in one or more arts disciplines. In that case, you can simply write that the school had no enrollment in the discipline, rather than displaying an empty chart. It will require additional coding to replace a chart with a sentence in such cases.



SCHOOL-WIDE - LEVEL 2: SCHOOL OVERVIEW OF A SINGLE ARTS DISCIPLINE

This page offers a school-level overview of information on a single arts discipline. It resembles the state- and district-wide overviews of information on a single arts discipline, though again with important distinctions. If a school did not offer access to courses in the discipline, the page can simply say as much, or the system can suppress the page altogether.

Top level navigation

HOME / **SCHOOL X** / MUSIC

Music

Enrollment in
Courses

Access to
Teachers

Find a district or
school

THE CONDITION OF MUSIC EDUCATION IN SCHOOL X

If feasible, use this space to lay out main themes or frame the context of data below.

Enrollment in courses

Percentage of students enrolled in music courses, School X, 2014-15-2018/19.

Insert chart here

Access to teachers

Number of dedicated music teachers in School X, 2014/15-2018/19

Insert chart here

Unlike the menus on the corresponding state- and district- wide pages, this menu does not include access to courses in the arts, because the previous page already indicates what arts courses the school offers.

SCHOOL-WIDE - LEVEL 3: DETAIL ON A SINGLE INDICATOR

This page offers more detail on individual indicators presented in the previous pages. Here, visitors can filter results by different student subgroups, or by types of schools.

Arts Education in Our State

Top level navigation

HOME / **SCHOOL X** / MUSIC / ENROLLMENT IN COURSES

Music

Access to Courses

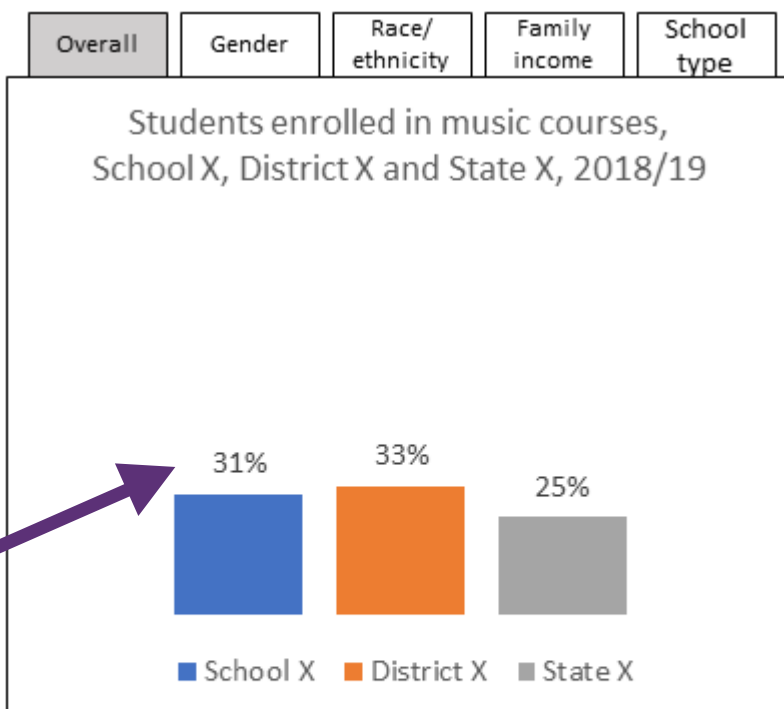
Enrollment in
Courses

Access to
Teachers

Find a district or
school

MUSIC - Access to Courses in School X

Add text here to set context or explain the chart below.



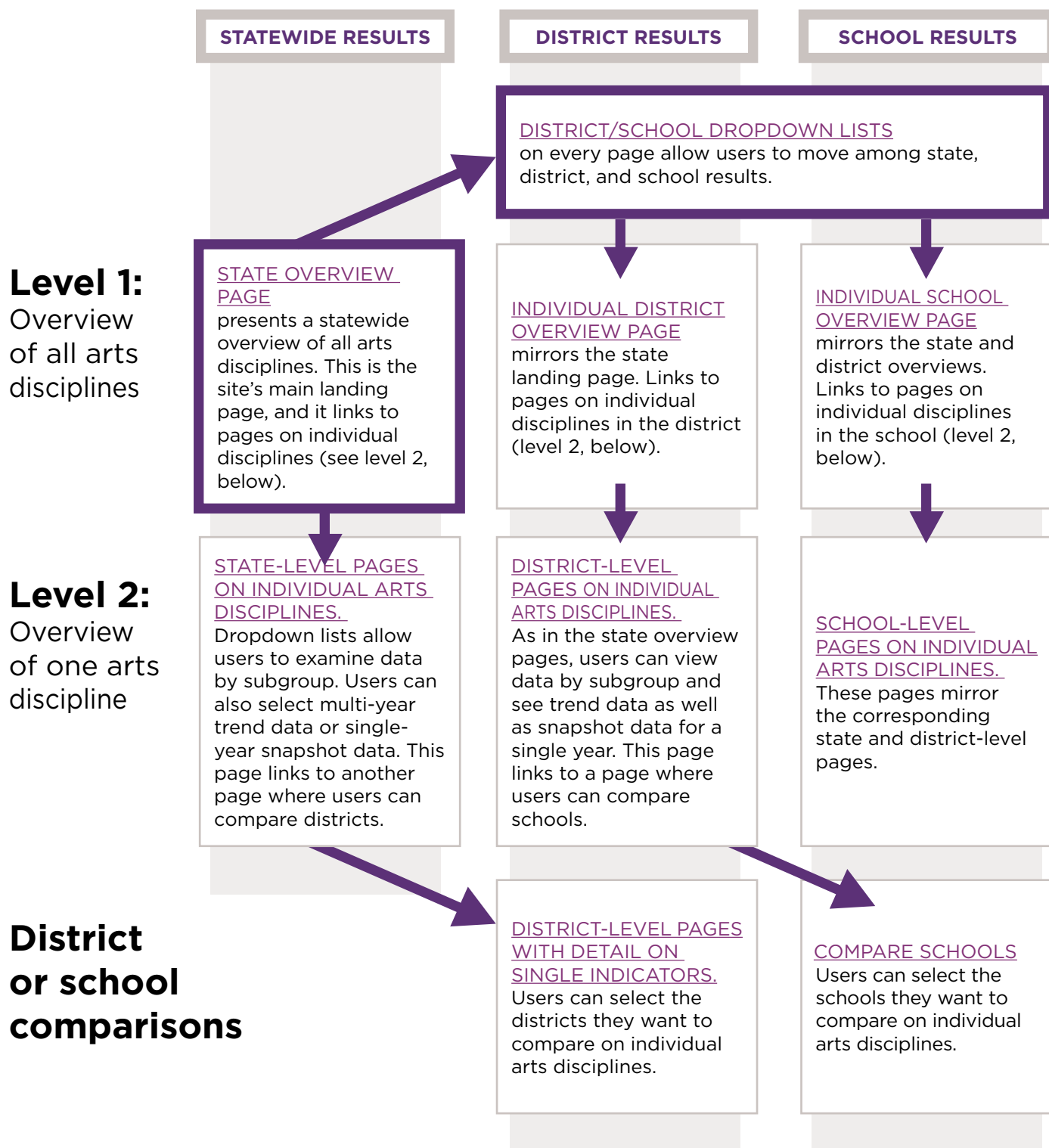
You can provide more context for your school- level information by comparing it to district- and state- level information.

Add explanations and resources here. These could include a description of the information displayed in the chart, data sources (such as the state's Student Information System), or links to additional resources that provide context.



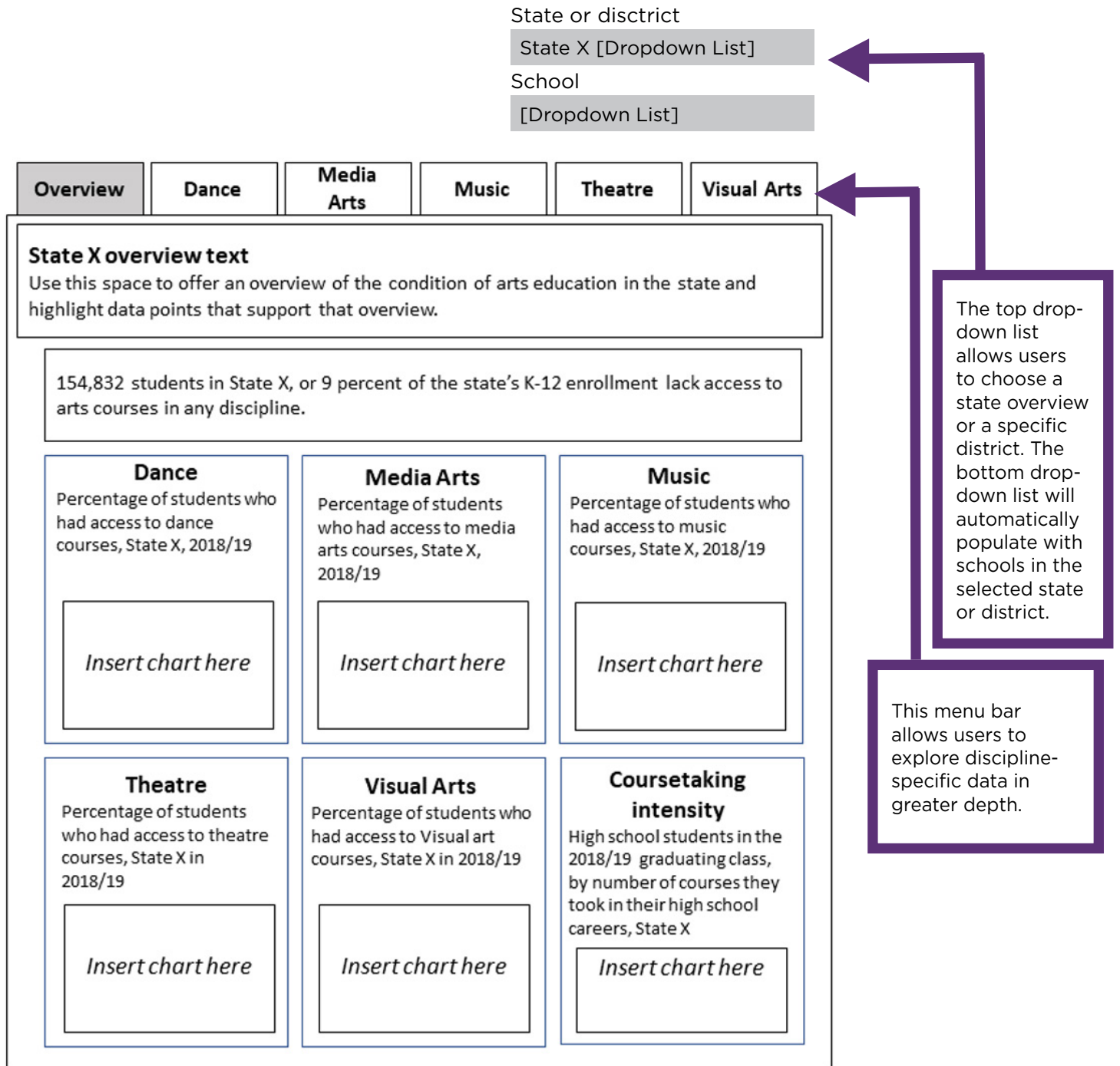
ANATOMY OF A STATE EDUCATION DATA WEBSITE: EXAMPLE 2

This simple mockup of an arts education data website offers arts education data results for the state as a whole, every school district, and every school. Under each of these, it offers two levels of detail: (1.) A page with an overview of all arts disciplines; (2.) Pages offering overviews of each separate arts discipline, with options to view data by subgroup or to toggle between snapshot and trend data. The website also allows users to view district-to-district and school-to-school comparisons. The schematic below provides a general outline of the website's architecture.



Landing Page

This is the main landing page for the website. It offers an overview of the condition of arts education in your state, presents the main navigation menu, and gives the reader an introduction to major data points for each arts discipline. Drop down lists at the top of the page allow users to navigate to pages showing similar data for individual districts or schools. [Back to wireframe overview.](#)





STATEWIDE—LEVEL 2 SINGLE DISCIPLINE PAGE

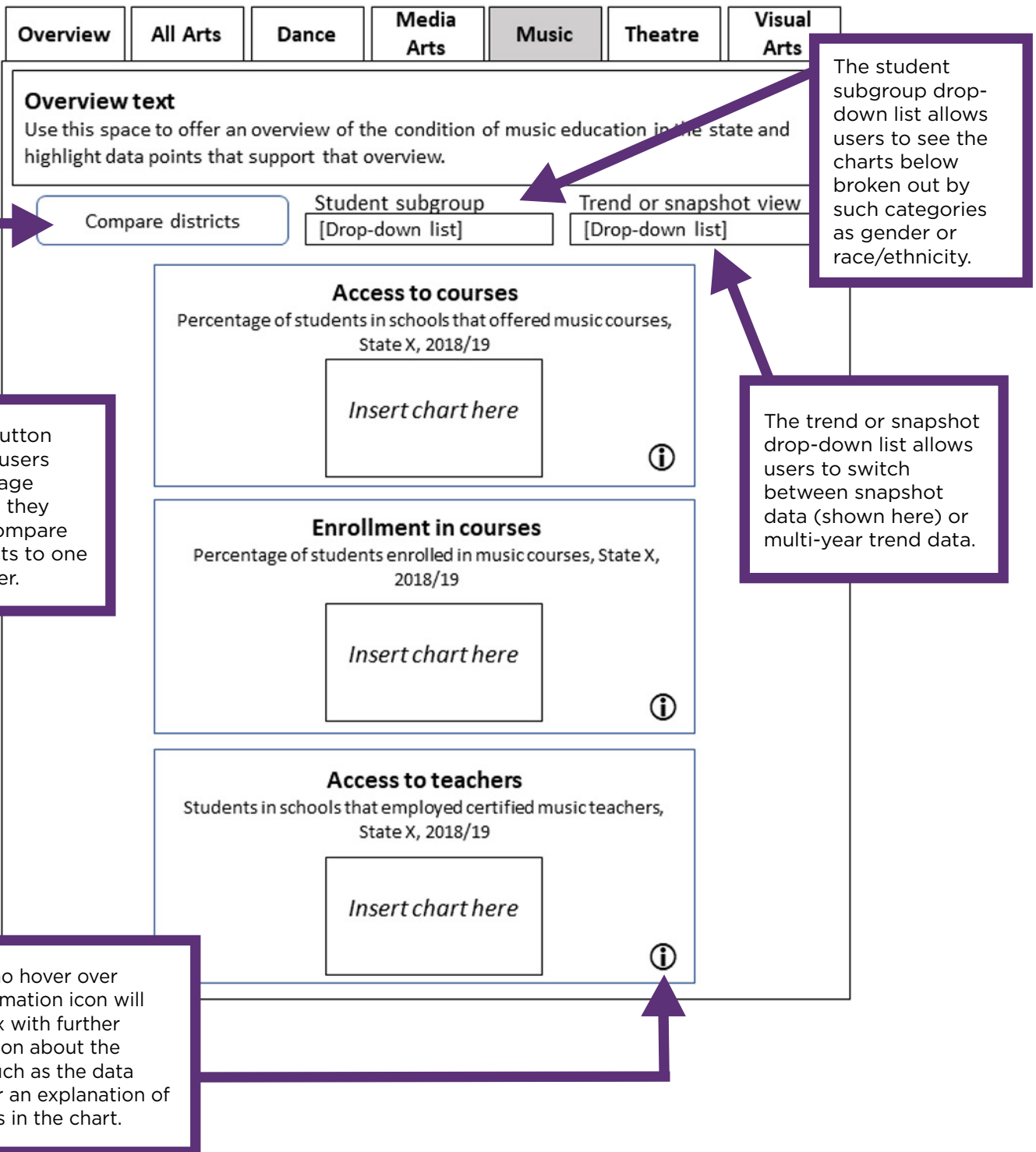
This page offers a state-level overview of information on a single arts discipline. Drop-down lists above the charts allow users to see results broken out by student subgroup or displayed as trends over multiple years. [Back to wireframe overview.](#)

State or district

State X [Dropdown List]

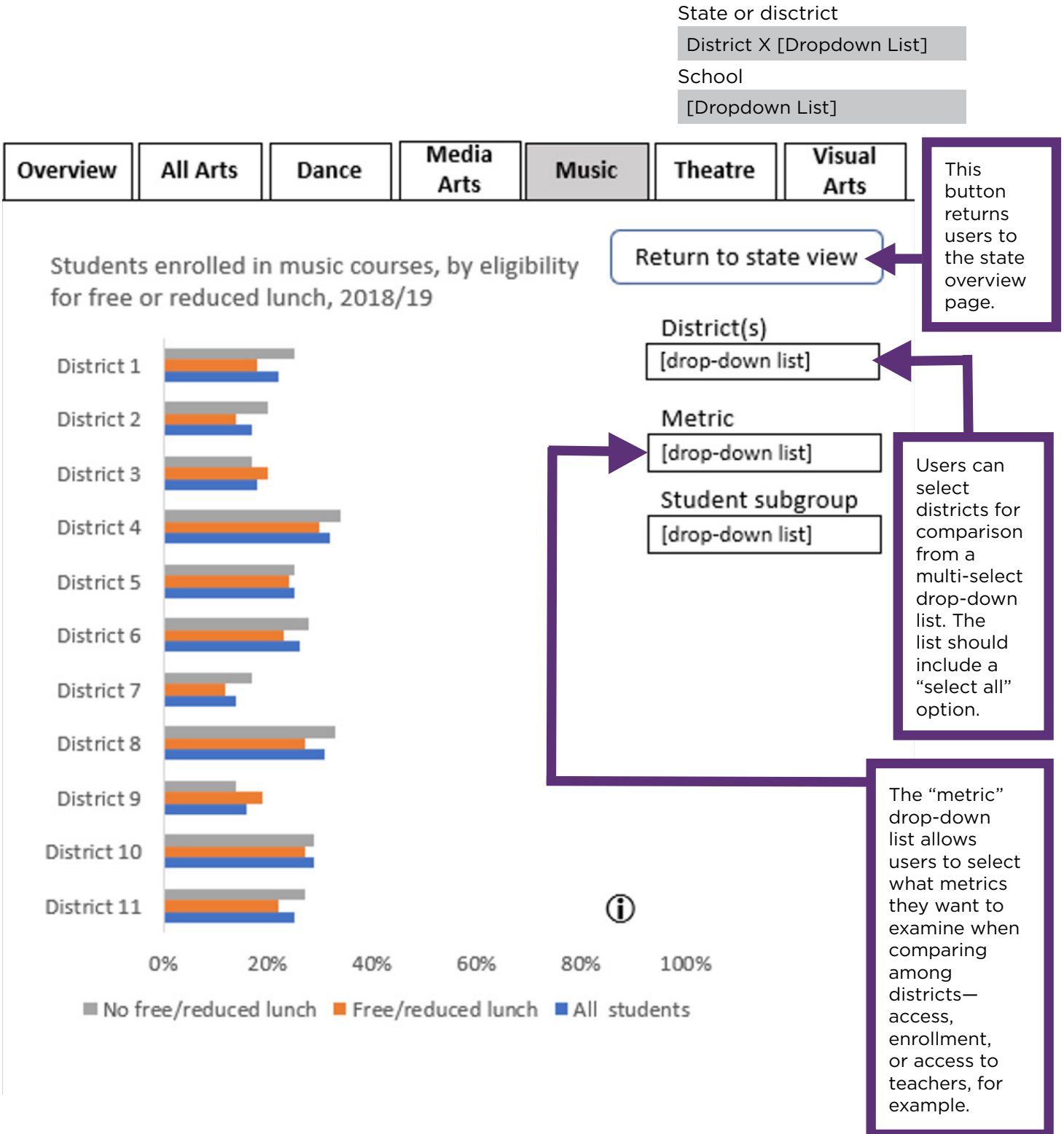
School

[Dropdown List]



DISTRICT COMPARISON PAGE

This page allows users to compare results among districts within a single arts discipline. Users can select districts for comparison from a drop-down list. Other drop-down lists allow users to select the metric for comparison and then break results out by student subgroup. [Back to wireframe overview.](#)





DISTRICT OVERVIEW PAGE

The district overview page closely resembles the state overview page, but it presents data specific to the district.

[Back to wireframe overview.](#)

This drop down list will show all the schools in the district. Users who select a school will be taken to the school overview page.

State or district
 District X [Dropdown List]
 School
 [Dropdown List]

Overview	Dance	Media Arts	Music	Theatre	Visual Arts
-----------------	--------------	-------------------	--------------	----------------	--------------------

District X overview text

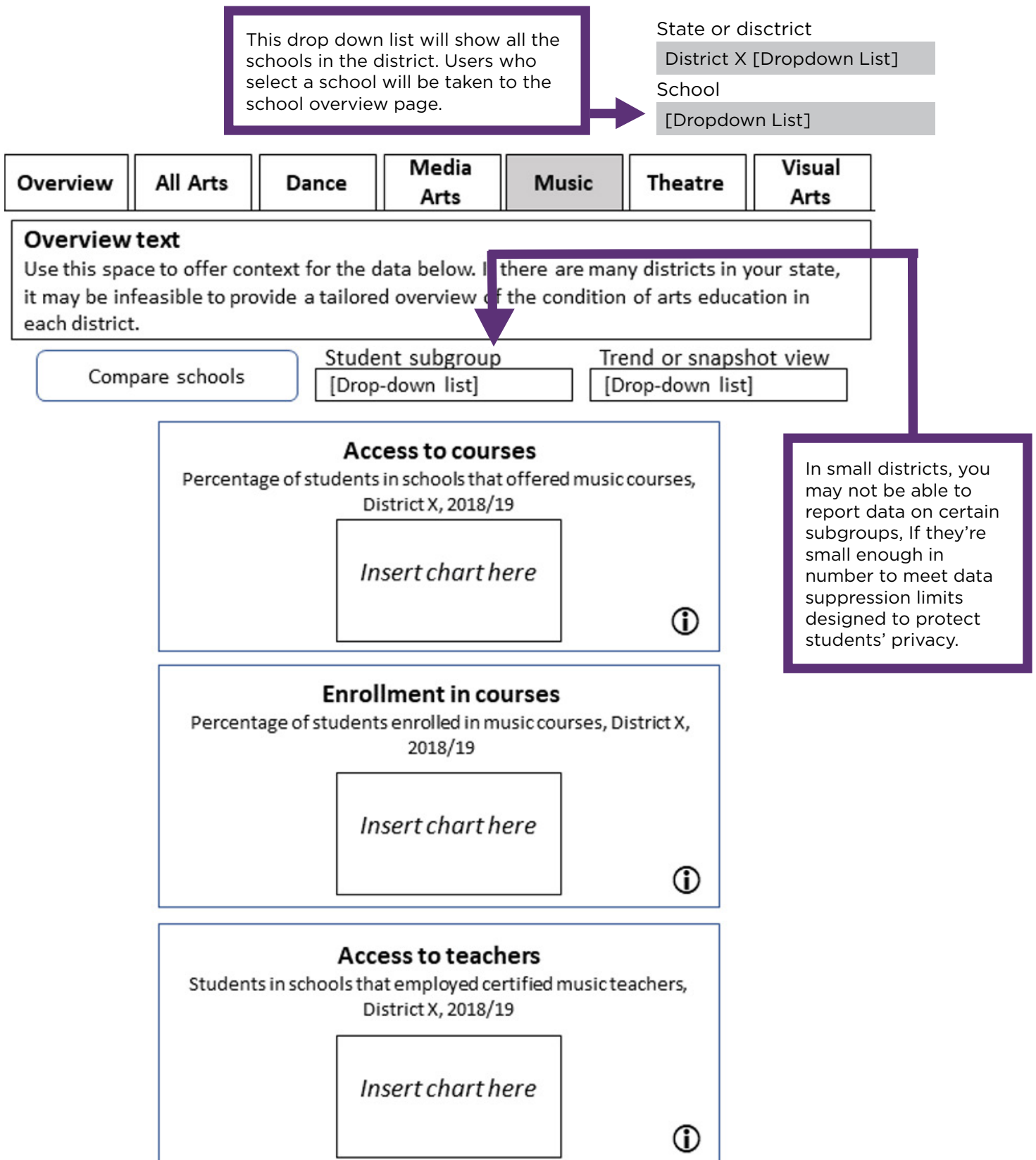
Use this space to offer context for the data below. If there are many districts in your state, it may be infeasible to provide a tailored overview of the condition of arts education in each district.

1,214 students in District X, or 14 percent of the state's K-12 enrollment, lack access to arts courses in any discipline.

Dance Percentage of students who had access to dance courses, District X, 2018/19 <i>Insert chart here</i>	Media Arts Percentage of students who had access to media arts courses, District X, 2018/19 <i>Insert chart here</i>	Music Percentage of students who had access to music courses, District X, 2018/19 <i>Insert chart here</i>
Theatre Percentage of students who had access to theatre courses, District X in 2018/19 <i>Insert chart here</i>	Visual Arts Percentage of students who had access to Visual art courses, District X in 2018/19 <i>Insert chart here</i>	Coursetaking intensity High school students in the 2018/19 graduating class, by number of courses they took in their high school careers, District X <i>Insert chart here</i>

DISTRICT—SINGLE ARTS DISCIPLINE

The district page displaying data on a single arts discipline closely resembles its state counterpart, but it presents data specific to the district. [Back to wireframe overview.](#)





SCHOOL COMPARISON PAGE

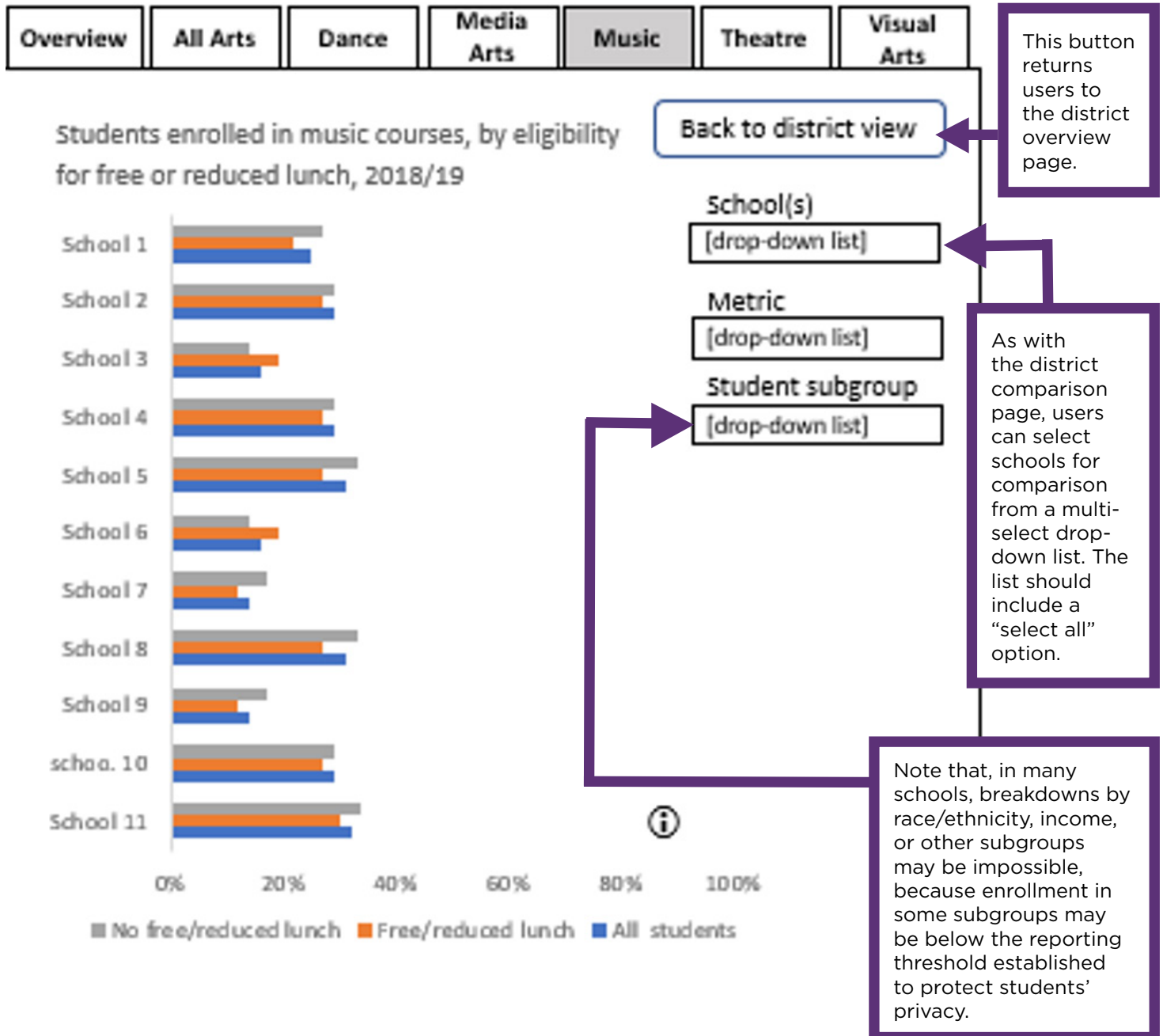
This page closely resembles district comparison page, but it presents data specific to select schools. [Back to wireframe overview.](#)

State or district

District X [Dropdown List]

School

[Dropdown List]



DISTRICT OVERVIEW PAGE

The district overview page closely resembles the state overview page, but it presents data specific to the district.

[Back to wireframe overview.](#)

State or district
District X [Dropdown List]

School
[Dropdown List]

Overview	Dance	Media Arts	Music	Theatre	Visual Arts
----------	-------	------------	-------	---------	-------------

School X overview text
Use this space to offer context for the data below.

In 2018/19 School X offered courses in the following arts disciplines:
[Include icons representing each discipline offered]

Dance
Percentage of students who had access to dance courses, School X, 2018/19

Insert chart here

Media Arts
Percentage of students who had access to media arts courses, School X, 2018/19

Insert chart here

Music
Percentage of students who had access to music courses, School X, 2018/19

Insert chart here

Theatre
Percentage of students who had access to theatre courses, School X in 2018/19

Insert chart here

Visual Arts
Percentage of students who had access to Visual art courses, School X in 2018/19

Insert chart here

Coursetaking intensity
High school students in the 2018/19 graduating class, by number of courses they took in their high school careers, School X

Insert chart here

Here, you can indicate whether schools offered classes in any given discipline. In some cases, total lack of enrollment can be a sign that schools did not offer the course.



SCHOOL SINGLE ARTS DISCIPLINE PAGE

This page closely resembles the corresponding page for the district. [Back to wireframe overview.](#)

State or district

District X [Dropdown List]

School

[Dropdown List]

Overview	All Arts	Dance	Media Arts	Music	Theatre	Visual Arts
----------	----------	-------	------------	-------	---------	-------------

Overview text

Use this space to establish context for the data below

Compare schools

Student subgroup

[Drop-down list]

Trend or snapshot view

[Drop-down list]

Enrollment in courses

Percentage of students enrolled in music courses, School X, 2018/19

Insert chart here



Access to teachers

Number of certified music teachers, School X, 2018/19

Insert chart here



If a school does not offer courses in a discipline, your overview text can simply note that fact. You can then suppress the charts below, if your data visualization platform allows that feature. Alternatively, the charts can indicate that there was no enrollment.

As in the school comparison page, enrollment in some subgroups may be below the reporting threshold established to protect students' privacy. In those cases, subgroup analysis may be impossible.

PART 5: Using the Data to Promote Better Decision-Making

Parts 1 through 4 of this toolkit have led you through the steps of planning an arts education data initiative, requesting arts education data, analyzing those data and publicly reporting on the results. There is now a critical fifth phase of this work, without which the other four may fall well short of your initiative's goals.

Part 5 of the toolkit offers strategies for using arts education data to engage the public in devising strategies to support these goals. Even the best data dashboards or websites will have little impact if few people know about them or use them. This section takes you through important steps to ensure that the information you have published has an impact.

1. [Make Sense of the Data](#)
2. [Set Measurable Goals](#)
3. [Create Communications Tools Specific to Your State's Conditions](#)
4. [Use Data to Recruit New Champions and Allies](#)
5. [Troubleshoot Along the Way](#)

Most of Part 5 is a suite of tools to help you undertake these important steps. You can find these in the Tools, links to which you will find throughout the text:

- [Tool N: Data Questions to Consider](#)
- [Tool O: Goal Setting](#)
- [Tool P: Sample Message Map for State X](#)
- [Tool Q: Sample Copy for a Two-Pager on Arts Education in State X](#)
- [Tool R: Sample Email Blast Copy for State X](#)
- [Tool S: Recommendations for In-Person Meetings in State X](#)
- [Tool T: Sample Social Media Toolkit for State X](#)

1. Make Sense of the Data

Now that you have publicly reported on data by presenting them in a dashboard or some other widely accessible form, such as PDF reports or infographics, you must put them in context.

Questions to consider as you review the data include:

- How do schools or districts compare to other schools or districts, or to the state as a whole?
- Is the state making good on the promise of education equity? For example, do you see gaps in access or participation by family income, gender or race or ethnicity?



- Are there regional differences — for example, differences in access between rural, suburban and urban communities?
- Are schools and districts in your state living up to state requirements for universal arts access? For example, are students meeting graduation requirements in the arts?



TIMELY TIP

To gauge whether schools and districts are living up to state requirements, visit the Arts Education Partnership's clearinghouse of state policies, [ArtScan](#). ArtScan summarizes state policies related to K-12 arts education, including:

Are schools required to offer arts education?

Is arts education a requirement for schools to be accredited?

Does the state require course credits in the arts for high school graduation?

Does the state specify requirements for endorsement, initial licensure or certification of arts teachers or arts specialists in one or more arts disciplines?

See [Tool N](#) for more questions to consider as you review the data.

2. Set Measurable Goals

With this new information, it is possible to envision meeting important goals for your state. These goals should be put in writing and made public through a variety of ongoing communications tools, reports or commentaries that share information on your efforts.

For example, if universal access to arts education is your goal, you can chart a course to your ultimate vision by drafting interim milestones and a timeline for reaching them. Goals for enrollment in arts disciplines may be more complex and require stakeholder engagement to establish. Should all students take an arts class at some point in their high school careers? Half of all students? Here, too, you can set milestones and a timeline.

One way to set goals is to identify exemplary school districts and use them as benchmarks for other districts. If a school district achieves widespread and equitable participation in a broad array of arts classes amidst budget challenges, for example, it could set a standard for other districts. Other states that have published their arts education data can also offer benchmarks for your state.

As you work with partners to set shared goals, investigate the National Endowment for the Arts' [Collective Impact Grants](#) program, which supports efforts to “increase student access to arts education through collective, systemic approaches.” Using data to inform common strategies for expanding arts access is an important strategy for achieving collective impact.

[Tool O](#) can help you identify key questions to consider as you set your goals.



TIMELY TIP

As you set goals for metrics like access to and participation in the arts, consider strategies for exploring the quality of those educational opportunities. Opportunity to Learn Standards in [dance](#), [music](#), [theater](#) and [visual art](#) describe the minimum learning conditions every student needs to master voluntary national content standards in the arts. These conditions include facilities, curriculum, staffing, instructional materials or equipment that support teaching and learning in the arts. Few states collect comprehensive data on these areas, but those data can help communities explore the quality of arts education in their own districts and schools. State education data on access and participation can set the stage for this deeper exploration.

3. Create Communications Tools Specific to Your State's Conditions

With publicly available information, you can create tools and materials to use the data to support an arts-rich, creative education.

Connect these tools and materials to the key goals and explicit direction of your state or jurisdiction. For example, some states have clearly defined workforce development goals, providing an opportunity to connect arts education to the development of a workforce that meets the needs of 21st-century learning.

Other states have focused efforts in recent years on social and emotional learning, an aspect of educating the whole child. Communications materials can make a strong case that high-quality arts education for all students is a strong contributor to SEL efforts.

Communications efforts will secure more partners and support if you frame your information to attract support and new funding rather than to assign blame. Information that sheds a light on areas of need can be used as key supporting evidence of the need for additional support or attention to important challenges.

To assist you in your communications efforts, we have developed sample tools for communicating about arts education data for a fictional state — State X. In the Tools, you will find:

- A message map that serves as the foundational building block for all communications materials. ([Tool P](#))
- Sample copy for a two-pager on arts education in State X ([Tool Q](#)).
- Sample language to use in an email blast. ([Tool R](#))
- Recommendations for in-person meetings. ([Tool S](#))
- A social media toolkit. ([Tool T](#))



TIMELY TIP

Arts organizations across the country have created other tools that can help you communicate effectively about data on the arts and arts education. For example:

- [CreateCA](#), a nonprofit coalition of California organizations representing parents, teachers, state government, school superintendents, advocates and others, has created a [road map](#) to help school districts in the state understand their arts education data and use them to improve their offerings in the arts. (For more about California's efforts to produce arts education data, see the case study, "[From Data to Action](#).")
- [Arts Midwest](#), a nonprofit [Regional Arts Organization](#), has used research on the values and sentiments that inform public attitudes of the arts to create a [messaging framework](#) for "building public will for arts and culture."
- The National Endowment for the Arts compiles and publishes an [Arts Data Profile Series](#) that summarizes important research on the impact of the arts, including state-level estimates of how many Americans participate in arts activities or how much economic value the arts produce. This information can supply important context for your arts education efforts.

Consider finding or creating other communications tools that serve your goals. Examples could include:

AN ARTS SELF-ASSESSMENT TOOL OR REPORT CARD to help jurisdictions measure and communicate their commitment to shared principles of access and quality in arts education. Such self assessments or report cards can build on or deepen the insights provided by state education data.

- Chicago Public Schools has a [Creative Schools Certification](#) tied to [elementary-](#) and [secondary-level](#) rubrics for measuring access and quality in arts education. The certification uses data collected by the school district to identify the level of arts instruction in each school — from "emerging" to "excelling."
- The [ArtCan Map](#), an initiative of the Texas Cultural Trust, uses state education data to determine a rating for each district and school in the state — from "distinguished" to "needs improvement." It also offers schools [tools](#) to help them evaluate how well they ensure access to arts education. (For more information, see the case study, "[Mapping the Arts](#).")
- The Kennedy Center's [Community Audit for Arts Education](#), and the accompanying [Community Audit Resource assessment](#), help local education, community and cultural leaders gauge the condition of arts education in their own schools and establish partnerships to improve and expand arts education.

AWARDS OR OTHER RECOGNITION to elevate jurisdictions or schools with exemplary arts programs.

- Mississippi designates schools that have committed to arts integration and changed their school's culture as [Model Whole Schools](#) for others to emulate.
- The California Department of Education [recognizes](#) schools that have exemplary programs in arts education.
- The Kennedy Center for the Performing Arts [recognizes](#) individuals, schools and organizations that demonstrate exemplary support for the arts.

INFOGRAPHICS that communicate the data and information in engaging formats, highlight strategies for addressing challenges or celebrate rising indicators. (See [Part 4](#).)

- The National Endowment for the Arts publishes infographics on the arts and its significance, including [this infographic](#) on its support for arts education.
- Among the many infographics published by Americans for the Arts is [this infographic](#) displaying data on the status and benefits of arts education.
- The Educational Theatre Association uses infographics to convey [results from its Annual High School Survey](#) in an engaging way.

RESOURCES AND TOOLS to help schools and districts respond to challenges and opportunities revealed in the data.

FOR EXAMPLE:

- [Americans for the Arts](#) provides tools for developing strong local leadership; cultivating adequate resources; and strengthening partnerships among schools, businesses, artists and community leaders in support of arts education.
- [The Arts Education Partnership](#) includes a variety of resources on strategies for improving students' access to effective arts education, including research on policy and best practice.

STORIES ABOUT STUDENT AND SCHOOL SUCCESSES that result from arts education.

- The Arts Education Partnership regularly publishes [Success Stories](#) that highlight the impact of effective policy and practice in arts education.
- The Indiana Arts Commission posts regular [stories](#) about the successes of arts initiatives, including those in arts education, across the state.

**TIMELY TIP**

People hear statistics, but they feel stories. When telling stories about your data:

- Consider what aspects your key audiences would find most interesting. Avoid summarizing all your data and information, because some pieces of data will be more relevant to your audience than others. When crafting your narrative, consider if any of the key points were surprising or new. Narrow your key points by asking yourself what is meaningful and why each point matters to your audience.
- Make your data come alive by sharing a story of one student or family. For example, how has that family benefited from an excellent arts education? Alternatively, can a story of two families underscore opportunity gaps you find in the data?

4. Use Data to Recruit New Champions and Allies

When you communicate your data, you can bring in new supporters and partners, including policymakers, higher education leaders, classroom teachers and teaching artists, among others.

These individuals and organizations can be spokespeople for your information, authors of commentary pieces or speakers at events.

Specific strategies to share this information with potential partners include:

- Op-eds by key stakeholders in outlets at the local, state or national levels.
- Presentations to school board meetings, PTA meetings, etc.
- Email communications to key stakeholders.
- Social media posts highlighting the issues.

5. Troubleshoot Along the Way

Be prepared to learn about inaccuracies in the data. Some schools and districts may point out that the data about them are incorrect. Take this as an opportunity rather than a criticism. Openly acknowledge from the outset that some data may be inaccurate, and support the aim of improving the data each year.

Good data take time to collect and report accurately, and giving users access is also critical to improving the data themselves — enabling users to see, use and correct the data. The first time states release data can be an opportunity to call for improving existing data and plan for collecting better data in the future.

Making data public — without violating individual students’ privacy — is a vital step in ensuring that the data are reported accurately. Otherwise, inaccuracies won’t come to light and be corrected.

See [Tool E](#) for ideas for how to respond when the data are incorrect or you are unable to share them.

Summary

Your data initiative will realize its original vision only if you help people turn data into strategies for expanding access to effective arts education. It is important to make sense of the data, put them into context, set measurable goals, engage key communities and offer those communities analysis and tools for acting on the data.

Topics like state data systems or data analysis probably won’t fire the imaginations of many educators, parents or policymakers. Few stakeholders in the arts ache for the chance to pore over spreadsheets. When presented clearly and forcefully, however, the information buried in systems and spreadsheets can awaken stakeholders to serious challenges and inspire them to devise new strategies for tackling those challenges. Such information can bring to light the real students who have few chances to dance, make music, perform on stage or create meaningful works of art.

Champions for the arts know that many students in their states lack these opportunities, but they don’t how many, or where they are. You can empower these arts champions by coupling untapped data from state systems with powerful communications strategies. Armed with such information and tools, arts education stakeholders across your state can give every child the chance to excel in and through the arts.



Tool N: Data Questions to Consider

This worksheet offers questions to consider as you begin the process of reviewing your arts education data. Think about your own priorities for arts education. For example, are you interested in focusing on a community, a school, a county or an entire state? Are you interested in addressing questions of equity by race, ethnicity, family income or other characteristics? Here are examples of questions to consider:

Access

- What percentage of students have access to arts instruction?
For example, are there gaps between rural, urban and suburban students; students who are eligible for free / reduced lunch and those who aren't; students of different races and ethnicities? Do students with disabilities and English language learners have less access than their peers?
- Are schools meeting your state requirements for arts access? (Check out [ArtScan](#) from the Arts Education Partnership for an overview of what those requirements are in your state.)
- Which of the arts disciplines — dance, theatre, music, visual arts or media arts — do these students have access to?
- Is access to education in each of the arts disciplines strong across grade levels?

Participation

- What percentage of students enroll in arts courses? Are there gaps by race / ethnicity; eligibility for free or reduced lunch; rural, urban or suburban status; etc.?
- What percentage of students enroll in courses in each of the arts disciplines?
- Does participation differ among grade levels?
- Are schools meeting requirements for participation, like graduation requirements?

Teachers

- What percentage of arts teachers are certified or have recommended endorsements in the specific arts subject they teach? (Review your state's teacher certification requirements.) Are there gaps in access to such teachers by school location, neighborhood characteristics or school level?
- What percentage of students in arts classes have access to such teachers? Are there differences by race / ethnicity, eligibility for free / reduced lunch or other demographic characteristics?
- What are the average class sizes or student/ teacher ratios by arts discipline?

Comparing Schools, Districts and States

COMPARISONS AMONG STATES

- How does your state compare to other states?
- How do your state numbers compare to national averages?
- The [2016 National Assessment of Educational Progress arts assessment](#) may have information that can support your efforts. (Note: The questions NAEP addresses are almost certainly not identical to the questions your state's data addresses, so handle your comparisons with care.)

COMPARISONS AMONG DISTRICTS OR COUNTIES

- How does your jurisdiction compare to other jurisdictions in your state?
- How does your county or district compare to state averages?

COMPARISONS AMONG INDIVIDUAL SCHOOLS

- How does one school compare to other schools?
- What about schools in the same or different communities?
- What about schools serving similar or different demographics? (The federal government's [Civil Rights Data Collection](#) allows you to quickly find demographic information on every school and district in the country.)



Tool O: Goal Setting

As you review arts education data for your state, district or school, consider setting quantitative goals — ones that can be measured through numbers versus qualitative measures. Strike the right balance between aspirational and feasible goals. One way to do this is to create milestones to mark success along the way. For example, if you are currently at 50% participation and have a goal of getting to 100%, you may want to set an intermediate milestone at 75%.

One way to determine if a potential goal is realistic is to see if there are state regulations requiring universal access or graduation requirements, for example, which would provide additional support to your efforts.

Work with partners to plan your goals. Here are questions to discuss with them:

- What specifically would you like to see for your students (and why)?
 - What goals or efforts can you relate to a clear metric? (e.g., additional teachers, additional courses, etc.)
- What opportunities do you see ahead? Are there policies or other strategies that can support expansion of arts access and participation?
- What do you see as your biggest challenges? Could policies, outmoded practices or limited resources stand in the way of your goals?
- Are the measurable goals you set feasible for schools that face challenging conditions, such as small enrollments or challenges attracting teachers? Can you find schools or districts that have addressed these challenges successfully?
- What specific timeline would be appropriate to set milestones for this goal? (Note: Keep time frames clear so partners can identify short, intermediate or long-term goals.)
- How do you plan to make your goals public?

The National Endowment for the Arts offers [Collective Impact Grants](#) to help organizations increase student access to arts education through collective, systemic approaches — including setting goals and measuring progress toward them. Among the principles grant recipients must embrace are these, as detailed on the website:

- Cross-sector partners must work to determine a common vision, define goals, develop strategies, and identify measurable objectives for arts education.
- Data informs decision-making.
- A shared measurement system is an evaluation system that assesses the progress of each project partner's work toward common outcomes.

Tool P: Sample Message Map for State X

Use this message map to develop the core statements that define your initiative and assemble those statements into a framework that can be used to guide all public discussions (media interviews, speeches and presentations) as well as printed and electronic collateral (publications, websites and emails). **Please note that all data describing State X are fictitious.**

CORE STATEMENT: All students deserve a high-quality arts education to support their success in school, work and life. That is why State X policy mandates that all students have access to and enroll in quality arts education courses.

KEY MESSAGE 1 – CONFIRMED VALUE OF ARTS EDUCATION

Research confirms that arts education is valuable to students' future success in school, work and life.

Americans understand the value of arts education. In a recent poll, 71% of Americans rated classes in the arts as very or extremely important to school quality. According to research assembled in the Arts Education Partnership's [ArtsEdSearch](#) research clearinghouse:

- Participation in arts classes improves students' attendance and graduation rates, boosts their empathy and resilience and sharpens their critical thinking skills.
- Participation in arts education correlates with academic performance.

In addition, the Every Student Succeeds Act (ESSA) [encourages states](#) to incorporate multiple measures of school success in their accountability systems to foster a well-rounded education, which includes access to classes in the arts.

KEY MESSAGE 2 – POWER AND POTENTIAL OF DATA

Policymakers, school and district leaders, parents and community members can use arts education data to shine a light on what is working and identify opportunities for improvement so that more students can have access to a well-rounded education.

- While almost every state requires all schools to offer instruction in at least one arts discipline, only seven publicly report any information on arts enrollment. Policymakers can use this information to track the impact of state policies to boost access to arts education.
- While almost every state has developed data systems to help track and improve access and quality in education, most do not use these systems to assess student access to and participation in courses like music, theater, dance and visual arts. District and school leaders can use this information to direct resources to schools that lack robust arts education programs and address inequities in access to or participation in arts courses.
- Parents and students can use arts education data to find schools or programs whose arts offerings best suit their interests.



KEY MESSAGE 3 – STATE X’S DATA REVEAL EQUITY GAPS IN ARTS EDUCATION

Certain populations of State X students are more likely than their peers to miss out on the benefits of arts education. We must do better for our students.

- There are significant gaps in enrollment among racial and ethnic groups, with only 74% of African American students and 68% of Hispanic or Latino students enrolled in at least one arts course.
- There are also gaps that affect students from low-income families. More than half of students (57%) who receive free or reduced-price lunches attend schools that do not offer any arts courses.
- Roughly one-third of students attending rural schools (32%) lack access to any arts courses.

Tool Q: Sample Copy for a Two-Pager on Arts Education in State X

As you communicate about the findings of your arts education data initiative, it may be helpful to distribute a brief overview of the initiative and its findings. Adapt the language below for your own document. You can find research to support claims below at [ArtsEdSearch](#), the Arts Education Partnership's clearinghouse of research on arts education. **Please note that all the data describing State X in this document are fictitious.**

Creative Futures: The Arts Are Vital to a Quality Education

All students deserve a high-quality arts education to support their success in school, work and life. That is why State X policy mandates that all students have access to and enroll in quality arts education courses.

Benefits of Arts Education

When students participate in arts classes, their academic performance improves, their attendance and graduation rates increase, they become more empathetic and their critical thinking skills grow sharper. Research has shown, repeatedly, that arts education is valuable to students' future success in school, work and life.

ACADEMIC PERFORMANCE

Multiple studies have confirmed the correlation between art engagement and academic achievement in other subjects.

GRADUATION RATES

Schools with long-standing art programs have higher graduation rates; students who don't take art classes are [five times more likely](#) to drop out of school before graduation than their peers who do.

21ST CENTURY SKILLS

Arts education develops creativity and problem-solving skills, improves judgment and encourages innovative thinking.

CHILD DEVELOPMENT

Arts classes are highly recommended for developing motor skills in young children and help to improve visual-spatial skills and hand-eye coordination.



EXPANDED COLLEGE ACCESS

At-risk students with a history of involvement in the arts have higher college enrollment rates than their at-risk peers who didn't pursue art education, and they are three times more likely to earn bachelor's degrees than their peers.

(Contact information and About information)

What the Data Say

(OPTION 1) EQUITY GAPS IN ARTS EDUCATION IN STATE X

Currently, 52,814 students (20%) in State X attend schools that do not offer any arts courses. *This inequity goes against State X's statewide policy mandating that 100% of students be enrolled in arts courses.* Certain populations of students are more likely than their peers to miss out on the benefits of arts education:

- Overall, 80% of students are enrolled in at least one arts course, but there is a significant gap in enrollment among racial and ethnic groups. Only 74% of African American students and 68% of Hispanic or Latino students are enrolled in at least one arts course.
- There are also gaps that affect students from low-income families. More than half of students (57%) who receive free or reduced-price lunches attend schools that do not offer any arts courses.
- Roughly one-third of students who attend rural schools (32%) lack access to any arts courses.

It is troubling that access to arts courses decreases significantly as students grow older. Only 52% of high schoolers enrolled in at least one arts course of any discipline.

We must do better for our students.

(OPTION 2) TREND LINES ... FOR THE THIRD YEAR IN A ROW, ARTS EDUCATION IS ON THE RISE IN STATE X

State X is proud to report that each year more students attend schools offering arts courses.

- Overall, 80% of students are enrolled in at least one arts course, up from 72% in 2015.
- We've seen the greatest increases among our Hispanic or Latino students — rising from 62% to 68% in the last three years.
- After our efforts to increase access to arts in schools in our rural communities, 68% of students in rural schools have art programs — up from 63% in 2015.

While there's still more work to be done, our collective efforts are working.

(OPTION 3) COMPARED TO NATIONAL AVERAGES ... STATE X LAGS WELL BEHIND THE NATIONAL AVERAGE IN STUDENTS ATTENDING SCHOOLS WITH ARTS EDUCATION

- While across the country, an average of 94% of students attend schools that offer music classes, only 87% of students in State X attend such schools.
- Additionally, only 79% of all State X students attend schools that offer visual arts classes, significantly lower than the national average of 87%.

How We Can Support and Expand Arts Education

The good news is that most Americans understand the value of arts education. Polls show that [71%](#) of Americans believe classes in the arts are very or extremely important to school quality. Here are some steps policymakers and education leaders can take to expand access to and participation in arts education:

- Create a task force consisting of department of education staff and local arts education stakeholders to create an arts education plan for public schools.
- Provide targeted professional development for educators.
- Incorporate the arts as an essential component of all educator workforce development programs.
- Incorporate learning in the arts as part of a comprehensive definition of college, career and citizenship readiness.
- Engage and build relationships with key arts and education stakeholders invested in education improvement.
- *(Consider adding other recommendations for policy or practice in your state.)*

For more information about arts education and its importance, please visit: *(Insert the URL of your website or webpages describing your arts education data initiative.)*



Tool R: Sample Email Blast Copy for State X

Use the sample text below to help you write blast emails to stakeholders in your state. **Please note that all the data describing State X in this document are fictitious.**

[Greeting]

Thank you for helping ensure that students in State X have access to high-quality arts education that supports their success in school, work and life.

[Importance of arts]

The Arts Are Vital to a Quality Education

Research has shown, repeatedly, that arts education is valuable to students' future success in school, work and life. That is why State X policy mandates that all elementary, middle and high school students have access to quality arts education courses in at least two arts disciplines.

[Intro of organization sending email]

[Name of entity sending email] is committed to working together to expand access to and participation in arts education.

This email provides data on State X's progress and highlights what we can do to bring more arts education opportunities to more students.

Our Data: Equity Gaps in Arts Education in State X

Currently, **52,814 students (20%)** in State X attend schools that do not offer any arts courses — which violates both the letter and spirit of state regulations.

Certain populations of students are more likely than their peers to miss out on the benefits of arts education:

- 64% of students are enrolled in at least one arts course, but there is a significant gap in enrollment among racial and ethnic groups. **Only 58% of African American students and 56% of Hispanic or Latino students are enrolled in at least one arts course.**
- **Almost one-third of students (31%) who receive free or reduced-price lunches** attend schools that do not offer any arts courses.
- Roughly **one-third of students (32%) attending schools in rural communities** lack access to any arts courses.

We must do better for our students.

How We Can Support and Expand Arts Education

We have the opportunity to expand access to and participation in arts education:

- Create a task force consisting of department of education staff and local arts education stakeholders to create an arts education plan for public schools.
- Provide targeted professional development for educators.
- Incorporate the arts as an essential component of all educator workforce development programs.
- Incorporate learning in the arts as part of a comprehensive definition of college, career and citizenship readiness.
- Engage and build relationships with key arts and education stakeholders invested in education improvement

(Consider adding other recommendations for policy or practice in your state.)

(Recommendations for what stakeholders in your state can do)

(Include sentence of specific ways to support effort.)

For more information about arts education and its importance, please visit: *(Include the URL of any website or webpages you have created with more information about the results of your arts education data initiative.)*



Tool S: Recommendations for In-Person Meetings in State X

In addition to providing materials and engaging on social media, you can organize in-person meetings to communicate and connect with key audiences who can influence arts education in your state. This document describes the participants, topics and locations to consider when planning a meeting.

Step 1 – Determine Who Should Be There

An initial question to answer when planning a meeting is which stakeholders you should invite to the meeting.

Key questions to consider:

- Who has decision-making power in arts education?
- Which organizations or individuals influence those decision-makers?
- What partners could serve as champions or key messengers around the importance of arts education and allow you to be more successful?
- Which partners' buy-in do you need in order to sustain the work?
- Which individuals and organizations bring particular knowledge or expertise in arts education?
- Which individuals and organizations have led successful projects with similar goals?
- Who are potential funders of efforts to support arts education?

Additionally, you should understand which individuals or organizations are critical to the success of each meeting and which would be nice to have but are not essential to your meeting's success. You must ensure that your must-have guests are available before finalizing the meeting.

Step 2 – Determine What Topics to Discuss

As you prepare to convene your stakeholders, develop agendas that provide information and allow for time for interaction and discussion among participants.

Initial Meeting: Below is a sample meeting agenda for an initial meeting.

INTRODUCTIONS AND VISION FOR ARTS EDUCATION IN STATE/JURISDICTION

(Someone provides a high-level overview of the importance of arts education.)

- Who you are; what organization you represent.
- Hopes for arts education in your state/jurisdiction.

THE WHAT – THE DATA

- Present the current state of arts education in your state or jurisdiction.

SO WHAT – THE EFFECTS

What are the implications of these data on our students, schools and communities?

Small group discussions, followed by the group reporting key points raised in conversations.

NOW WHAT – MOVING FORWARD

What improvements would we like to see in the data, as measured against clear metrics? Discuss possible goals, including higher numbers of students attending schools with arts education; improvements for particular populations (rural, African American, etc.); and a focus on one or more education levels (elementary, middle or secondary).

SET IMMEDIATE NEXT STEPS FOR ACTION

Agree on timing for the next session and ways to communicate in the meantime.

Step 3: Follow-Up Meetings

Once you have convened your stakeholders to begin the discussion, there are a variety of other topics you should discuss in future meetings around goal setting. Below is a list of additional topics for your consideration:

OPPORTUNITIES

- What opportunities do you see ahead?
- Are there state policies that can support expansion of arts access and participation?

PITFALLS

- What do you see as your biggest challenges? Could state policies or limited resources stand in the way of your goals?
- Are the measurable goals you set feasible for schools that face challenging conditions, such as funding challenges or challenges attracting teachers?

TIMELINE

- What specific timeline would be appropriate for milestones on the way to the goal?
- How can you keep time frames clear so that partners can identify short, intermediate or long-term goals?



COMMUNICATIONS

- How do you plan to make your goals public?
- Which organization(s) will lead communications efforts?

Connecting to Existing Meetings

While it is possible to coordinate and host your own meetings, it is also a good idea to tie your meeting to existing meetings that convene important stakeholders whose attendance is otherwise difficult to secure. Key meetings to connect with include:

SCHOOL BOARD MEETINGS

- **Opportunity:** Request that arts education be placed on the agenda for a board meeting.
- **Recommendation:** Bring students and community members to make public statements on state of county or city arts programs at area schools.

CITY COUNCIL OR COUNTY SUPERVISORS MEETINGS

- **Opportunity:** Request a city or county proclamation recognizing the importance of arts education.
- **Recommendation:** Bring students and community members to make public statements on state of county or city arts programs at area schools.

PTA MEETINGS

- **Opportunity:** Request a session at a PTA meeting for students to share their experiences with arts education.
- **Recommendation:** Identify students who have benefited from arts programs to speak at PTA meetings. Hearing from students is often much more meaningful than hearing from adults).
- **Recommendation:** Bring students and community members to make public statements on the state of county or city arts programs at area schools.

Tool T: Sample Social Media Toolkit for State X

This social media toolkit is designed to help you take advantage of digital media channels to increase support for arts education in State X schools. The toolkit includes social media best practices, recommended key partners and sample content you can use or adapt.

CONTENTS

- Social Media Best Practices.
- Potential Partners/Key Influencers.
- Key Hashtags.
- Social Media Sample Content.

Social Media Best Practices

Before implementing this social media strategy, consider a basic set of best practices for using the materials you have and engaging with your target audiences effectively.

CONTENT

When posting, the key is to maintain a consistent presence, publishing content at least two times per week. **Content should also be short, no more than two sentences**, to ensure that the audience can easily ascertain the key message and recommendations. Whenever possible, post pictures or video. Visual posts get more interaction.

TIPS FOR EFFECTIVE ENGAGEMENT

Make sure to create opportunities for interaction, whether you tag a key influencer or link to a relevant resource.

Take advantage of any other dialogues or social media content that focus on arts education. Respond directly to those dialogues or share them with your networks. As a part of your social media strategy, you should expand your network of stakeholders who are interested in this issue, because they can disseminate your posts and messages.

Social Media Platforms

FACEBOOK – the world’s largest social platform, with over 1 billion active monthly users. It’s very likely that you have an involved Facebook parent community just waiting for your posts. Optimal times to post are Mondays – Thursdays, right before lunch or right after rush hour.

TWITTER – a popular microblogging platform that is ideal for quick updates. The key to being successful on Twitter is to post consistently. Tweets with links are [more likely](#) to be retweeted, while posts with images [get more engagement](#) than tweets without. It is effective to use at least one hashtag per tweet to ensure you are reaching individuals beyond your network of followers.

INSTAGRAM – a platform for sharing photos and video, organized by tags (or topics) and information about location. Instagram can be a good platform for sharing short, clear infographics or photos of successful arts education programs in action. Instagram will not accommodate much text, so focus on images that tell a story. Again, include hashtags to increase engagement.

Tag key influencers — in other words, include their formal social media handles in posts that might interest them. This notifies them that you mentioned them.

- Build your network of stakeholders.
- Leverage trending hashtags.
- Use engaging visuals to supplement your content.
- Don't forget to include suggestions for what people can do to promote change.



Potential Partners/Key Influencers

To increase social presence, it is critical to engage with — and re-broadcast content from — a variety of partners invested in arts education. Below is a list of national partners that are actively engaged in this issue across social media platforms. They can be conduits to parents, policymakers, educators and other key stakeholders. This list is not exhaustive, so take some time to identify organizations in your state or community that have active social media accounts.

Monitor these and other accounts when possible, and when relevant, respond directly to or re-post their content.

ORGANIZATION/ INFLUENCER	WEBSITE	SOCIAL MEDIA HANDLES/ LINK
AFTERSCHOOL ALLIANCE	http://www.afterschoolalliance.org	Twitter: @afterschool4all Facebook: afterschoolalliancedc Instagram: afterschool4all
ALLIANCE FOR YOUNG ARTISTS & WRITERS	https://www.artandwriting.org	Twitter: @artandwriting Facebook: Scholastic Art and Writing Awards Instagram: artandwriting
AMERICAN ALLIANCE FOR THEATRE AND EDUCATION	https://www.aate.com	Twitter: @AATENow Facebook: The American Alliance for Theatre and Education Instagram: aatenow
AMERICAN EDUCATIONAL RESEARCH ASSOCIATION (AERA)	https://www.aera.net	Twitter: @AERA_EdResearch Facebook: AERAEdResearch Instagram: aera_edresearch
AMERICANS FOR THE ARTS	https://www.americansforthearts.org	Twitter: @Americans4Arts Facebook: americans4arts Instagram: americans4arts
ARTSCONNECTION	https://artsconnection.org	Twitter: @ArtsConnection_ Facebook: artsconnection Instagram: artsconnection
ARTS EDUCATION COLLABORATIVE	https://artsedcollaborative.org	Twitter: @ArtsEdCollab Facebook: artsedcollab Instagram: artsedcollab
ARTS EDUCATION PARTNERSHIP	https://aep-arts.org	Twitter: @aep_arts Facebook: ArtsEdPartnership Instagram: aep_arts

ARTS SCHOOLS NETWORK	https://www.artsschoolsnetwork.org	Twitter: @artsschools Facebook: artsschoolsnetwork
CHORUS AMERICA	https://www.chorusamerica.org	Twitter: @chorusamerica Facebook: chorusamerica Instagram: chorus_america
COUNCIL OF CHIEF STATE SCHOOL OFFICERS (CCSSO)	https://ccsso.org	Twitter: @CCSSO Facebook: ccsso Instagram: ccsso
EDUCATION COMMISSION OF THE STATES	https://www.ecs.org	Twitter: @edcommission Facebook: edcommission
EDUCATIONAL THEATRE ASSOCIATION	https://www.schooltheatre.org	Twitter: @schooltheatre Facebook: Educational Theatre Association Instagram: schooltheatre
GRANTMAKERS IN EDUCATION	https://www.edfunders.org	Twitter: @Edfunders Facebook: edfunders
GRANTMAKERS IN THE ARTS	https://www.giarts.org	Twitter: @GIArts Facebook: GrantmakersArts Instagram: grantmakersinthearts
INTERNATIONAL CHILD ART FOUNDATION	https://www.icaf.org	Twitter: @ICAF_org Facebook: ICAF.org
JOHN F. KENNEDY CENTER FOR THE PERFORMING ARTS	https://www.kennedy-center.org	Twitter: @KenCen Facebook: KennedyCenter Instagram: kennedycenter
MUSIC FOR ALL	https://www.musicforall.org	Twitter: @musicforall Facebook: musicforallnetwork Instagram: officialmusicforall
NATIONAL ASSEMBLY OF STATE ARTS AGENCIES	https://nasaa-arts.org	Twitter: @nasaa_arts
NATIONAL ART EDUCATION ASSOCIATION (NAEA)	https://www.arteducators.org	Twitter: @NAEA Facebook: arteducators Instagram: whyartmatters
THE NATIONAL ASSOCIATION FOR MUSIC EDUCATION	https://nafme.org	Twitter: @NAfME Facebook: nafme Instagram: nafme



NATIONAL ASSOCIATION OF ELEMENTARY SCHOOL PRINCIPALS	https://www.naesp.org	Twitter: @NAESP Facebook: naesp Instagram: thenaesp
NATIONAL ASSOCIATION OF SECONDARY SCHOOL PRINCIPALS	https://www.nassp.org	Twitter: @NASSP Facebook: principals Instagram: nassp_
NATIONAL ASSOCIATION OF STATE BOARDS OF EDUCATION	http://www.nasbe.org	Twitter: @NASBE Facebook: StateBoards
NATIONAL DANCE EDUCATION ASSOCIATION	https://ndeo.org	Twitter: @ndeodance Facebook: ndeopage Instagram: ndeodance
NATIONAL ENDOWMENT FOR THE ARTS	https://www.arts.gov	Twitter: @NEAarts Facebook: National Endowment for the Arts Instagram: neaarts
NATIONAL PTA	http://www.PTA.org	Twitter: @NationalPTA Facebook: ParentTeacherAssociation Instagram: nationalpta
PARTNERSHIP FOR 21ST CENTURY LEARNING	http://www.battelleforkids.org/networks/p21	Twitter: @battelleforkids Facebook: battelleforkids Instagram: battelleforkids
STATE EDUCATION AGENCY DIRECTORS OF ARTS EDUCATION	https://www.seadae.org	Twitter: @_SEADAE
TURNAROUND ARTS *NATIONAL PROGRAM OF THE JFK CENTER FOR THE PERFORMING ARTS*	http://turnaroundarts.kennedy-center.org	Twitter: @TurnaroundArts Facebook: TurnaroundArts Instagram: turnaroundartsnational
U.S. DEPARTMENT OF EDUCATION	https://www.ed.gov	Twitter: @usedgov Facebook: ED.gov Instagram: usedgov
VH1 SAVE THE MUSIC FOUNDATION	https://www.savethemusic.org	Twitter: @VH1SaveTheMusic Facebook: vh1savethemusic
YOUNG AUDIENCES ARTS FOR LEARNING	https://www.youngaudiences.org	Twitter: @YoungAudiences_ Facebook: Young Audiences Arts for Learning Instagram: young_audiences

Key Hashtags

Hashtags serve as a useful way to reach other stakeholders who may not fall within your social media networks. They also provide an entry point into relevant, issue-based conversations you can participate in to engage relevant members of a target audience.

Below is a list of hashtags used in arts education dialogues across the country:

- **#artsed**
- **#artsintegration**
- **#edchat**
- **#arteducation**
- **#arted**
- **#arts**
- **#theatreineducation**
- **#STEAM**
- **#edtech**
- **#artsgrants**
- **#artsfunding**
- **#artsforchange**



Social Media Sample Content

This section includes a set of sample Facebook and Twitter posts to use or (more likely) adapt in your communications efforts. The images below are publicly available through a Creative Commons license, which authorizes their free distribution for nonprofit purposes.

IMAGE	FACEBOOK	TWITTER
	When students participate in arts classes, their academic performance improves, their attendance and graduation rates increase, they become more empathetic and resilient and their critical thinking skills grow sharper. However, while an average of 94% of students nationwide attend schools offering music classes, the same cannot be said for State X where only 87% of all students attend such schools. Find out [link] what we can do to invest in our students' future successes in school, work and life.	From improved grades and sharpened critical thinking skills to increased graduation rates and more empathy – the benefits of arts education are endless! #artsed #artsintegration
	Dear State X- Almost one-third (31%) of students who receive free or reduced-price lunches attend schools that do not offer any arts courses. Low-income students with a history of involvement in the arts have higher college enrollment rates than their low-income peers who didn't pursue arts education, and they are three times more likely to earn bachelor's degrees than their peers. We must do better for our students.	At-risk students with a history of involvement in the arts have higher college enrollment rates & are 3X more likely to earn bachelor's degrees than their peers. #edchat #artsed



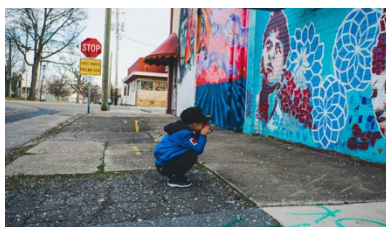
Way to go, State X! For the 3rd year in a row, Arts Education is on the rise in State X! While there's still more work to be done, our collective efforts are working!

Learn more about the positive effects of #artsed on students' behavior, performance, and outlook from this great article by @MindShift.

<https://www.kqed.org/mindshift/50874/what-happens-to-student-behavior-when-schools-prioritize-art>

For the 3rd year in a row, Arts Education is on the rise in State X! Check out this article from @Mindshift to learn more about the positive effects #artsed has on students' behavior and performance!

<https://www.kqed.org/mindshift/50874/what-happens-to-student-behavior-when-schools-prioritize-art>



We know that arts education develops creativity and problem-solving skills, improves judgment and encourages innovative thinking. Read more about the studies that have found these correlations in this informative article from @forbes.

<https://www.forbes.com/sites/jessicabaron/2019/03/05/fine-arts-courses-help-students-excel-in-math-and-science/#5f36748f2596>

Multiple studies have confirmed the correlation between art engagement and academic achievement in other subjects. To learn more about these studies, check out this great article from @forbes.

<https://www.forbes.com/sites/jessicabaron/2019/03/05/fine-arts-courses-help-students-excel-in-math-and-science/#5f36748f2596>



Arts integration has been proven to be beneficial in improving students' learning and thinking skills, while also increasing access to arts education at a time when arts offerings in some schools are being scaled back. Learn more about the interesting partnership between arts integration and social emotional learning here: https://districtadministration.com/arts-integration-and-social-emotional-learning-a-partnership-for-success/?platform=hootsuite&utm_AugTwittercampaign=hootsuite

#Artsintegration has been proven to be beneficial in improving students' learning and thinking skills. Learn more about the intersection between arts integration and social emotional learning #SEL [here](#).



An analysis from the Kinder Institute's Houston Education Research Consortium and the Brookings Institution found that exposure to arts education was linked to more empathy and engagement, better writing scores and fewer disciplinary problems.

<https://bit.ly/2IHJqcO>

An analysis from the @RiceKinderInst and @Brookings found that exposure to #artseducation was linked to more empathy and engagement, better writing scores and fewer disciplinary problems.

<https://bit.ly/2IHJqcO>



"But when you look deeper, it's clear that not all arts curriculum is equal in terms of enrollment. Music and visual art enroll about 70% of Ohio students, but it's just 1% for drama and less than 1% for dance."

Read on to learn more about what @OhioAllianceforArtsEducation Executive Dir. Jarrod Hartzler has to say about art education in Ohio.

<https://bit.ly/2m9pL5Q>

"Music and visual art enroll about 70% of Ohio students, but it's just 1% for drama and less than 1% for dance." @ohioalliance's new Exec. Director, Jarrod Hartzler, explains what those numbers mean for #artseducation in Ohio.

<https://bit.ly/2m9pL5Q>



We know that participation in arts classes improves students' attendance and graduation rates, boosts their empathy and tolerance, and sharpens their critical thinking skills.

However, 6.1% of State X students still do NOT have access to ANY art course.

Without public arts education data, it will be more difficult for policymakers, school and district leaders, parents and community members to ensure that students in all districts and areas receive equitable education programs.

#ArtsDataMatters

Research confirms that #artseducation is valuable to students' future success in school, work, and life, but over 52k students in State X still do not have access to any art course.

Check out @aep_arts to learn more about the importance of #artseducation data.

NATIONAL ENDOWMENT FOR THE ARTS



Established by Congress in 1965, the National Endowment for the Arts is the independent federal agency whose funding and support gives Americans the opportunity to participate in the arts, exercise their imaginations and develop their creative capacities. Through partnerships with state arts agencies, local leaders, other federal agencies and the philanthropic sector, the Arts Endowment supports arts learning, affirms and celebrates America's rich and diverse cultural heritage, and extends its work to promote equal access to the arts in every community across America. Visit [arts.gov](https://www.arts.gov) to learn more.

EDUCATION COMMISSION OF THE STATES



Education Commission of the States was created by states, for states, in 1965. It conducts comprehensive research, delivers evidence-based reports, provides expert counsel and convenes state leaders on the full spectrum of education policy issues, from early learning through the workforce. It is the only state-focused national organization to bring together governors, legislators, and K-12 and higher education chiefs, as well as other state education leaders. Learn more at [ecs.org](https://www.ecs.org).