

EDFacts D&A

Dashboards & Analytics



User Guide



ESP Solutions Group

Overview



U.S. DEPARTMENT OF EDUCATION EDFacts Submission System

For years, you, your program offices, and districts have invested many hours and significant burden submitting EDFacts data.

You submit your data annually in a format that is hard to review and use for reports.

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LEA CHILDREN WITH DISABILITIES,108469,TRLEACWDBLIDEA2013007
22,99,01,001090,,IDEADISAB,,,,,SLD,,,16,RC80,,N,,2
21,99,01,001090,,IDEADISAB,,,,,SLI,,,6,RC80,,N,,1
24,99,01,001090,,IDEADISAB,,,,,SLI,,,7,RC80,,N,,2
25,99,01,001090,,IDEADISAB,,,,,SLI,,,8,RC80,,N,,1
26,99,01,001090,,IDEADISAB,,,,,SLI,,,11,RC80,,N,,1
27,99,01,001090,,IDEADISAB,,WH7,,,,,,RC80,,N,,1
28,99,01,001090,,IDEADISAB,,WH7,,,,,,RC39,,N,,3
29,99,01,001090,,IDEADISAB,,WH7,,,,,,RC79TD40,,N,,4
30,99,01,001090,,IDEADISAB,,WH7,,,,,,RC80,,N,,23
31,99,01,001090,,IDEADISAB,,,F,,,,,,MR,,,RC39,,N,,1
32,99,01,001090,,IDEADISAB,,,F,,,,,,MR,,,RC79TD40,,N,,1
33,99,01,001090,,IDEADISAB,,,F,,,,,,OH1,,,RC80,,N,,2
34,99,01,001090,,IDEADISAB,,,F,,,,,,SLD,,,RC80,,N,,7
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You can import the data into other applications and design your own reports, having to unravel the complexity of the EDFacts grouping structures and apply the correct filters.

You can also wait for your submissions to be accepted by the EDFacts Submission System (ESS) and later on be available through

ED Data Express, where can get your *State Snapshot* or you can sort



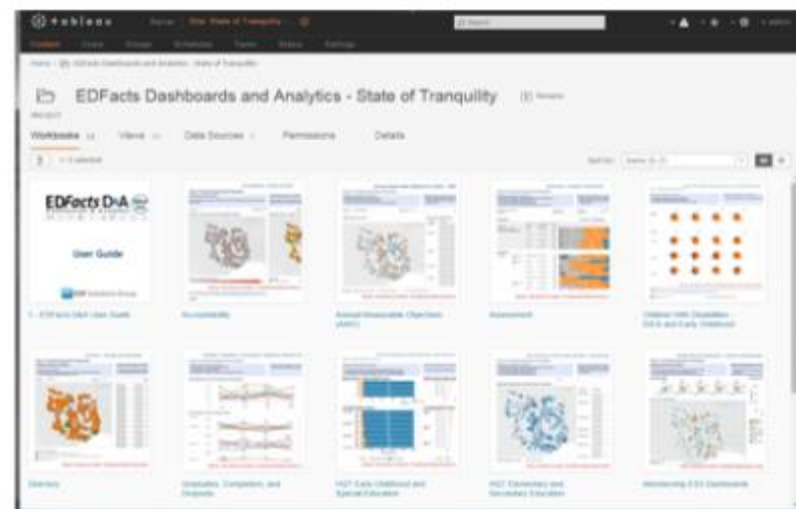
through the data elements, groups, and subgroups to get preset graphs and tables, data mapping, trend lines, and conditional analysis. Not everyone in your

SEA, LEAs and schools have the time or the knowledge needed to do this.



EDFacts Dashboards and Analytics (EDFacts D&A) provides you with timely and useful insights into what those data show about schools, districts, and your state even before you submit them to ESS.

EDFacts D&A is a set of Tableau dashboards preloaded with your data and generated with filters that are already set up for interaction. Key Directory data elements are imbedded in all the SQL data views used to generate the Tableau dashboards.

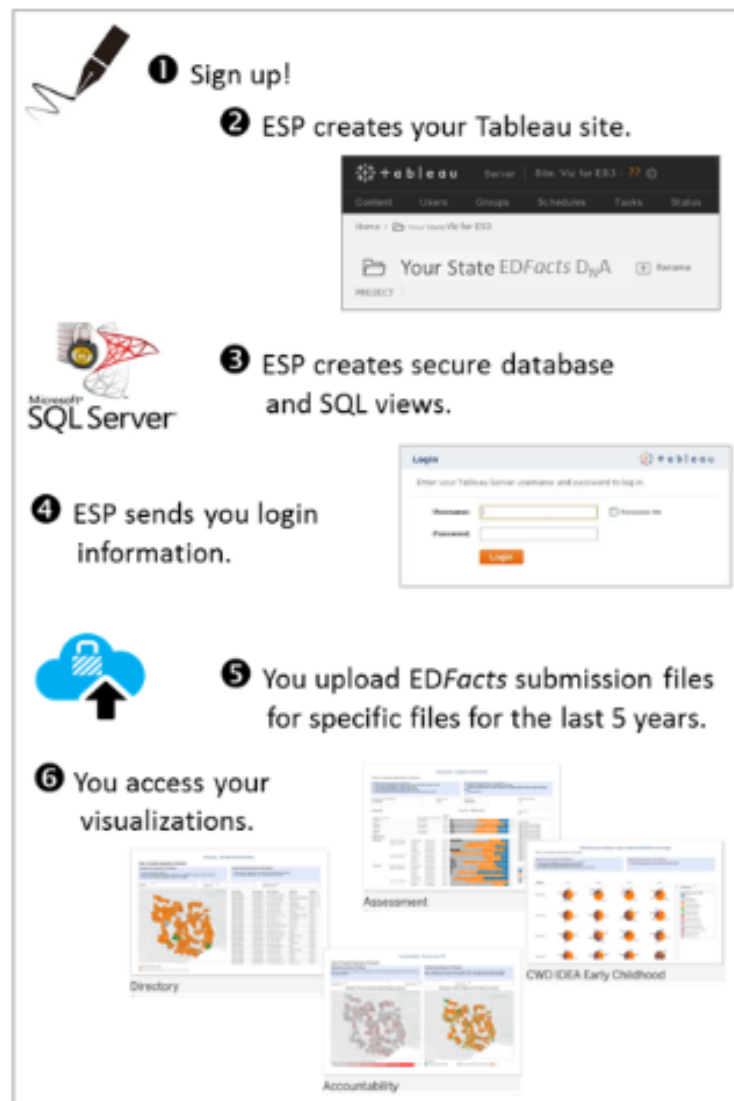


Phase I includes 11 Tableau workbooks with 48 views displaying data from 24 EDFacts submissions.

Engagement

Your agreement to participate in EDFacts D&A will set in motion the following steps:

1. A secure Tableau site for your SEA will be created in the ESP Solutions Group Tableau server.
 - a. You will receive a Tableau Server license for each user in your SEA account.
 - b. This license will allow you to view, interact with, and download workbooks. Workbooks contain the visualizations created by ESP especially for EDFacts data analysis and reporting. You can use these workbooks several ways. (Contact ESP for more information about licenses.)
 - i. Distribute for view with Tableau Reader. This is a free way to provide access to the visualizations to your selected users.
 - ii. Upload into Tableau Desktop. This requires you to have your own license for Tableau Desktop for creating visualizations.
 - iii. Publish in your own SEA Tableau Server. This requires you to have your own Tableau Server license installed at your SEA.
2. A database specifically for your SEA will be created in the ESP Solutions Group Tableau server.
3. You will receive the User Name and Password for your Tableau EDFacts D&A site.
4. Utilizing the EDFacts D&A User Interface application, you will upload the last five cycles of selected EDFacts submission files. You may upload data not yet submitted to the EDFacts Submission System to compare with previously submitted data.
5. You will then have access to all the workbooks based on the data you uploaded.



Security

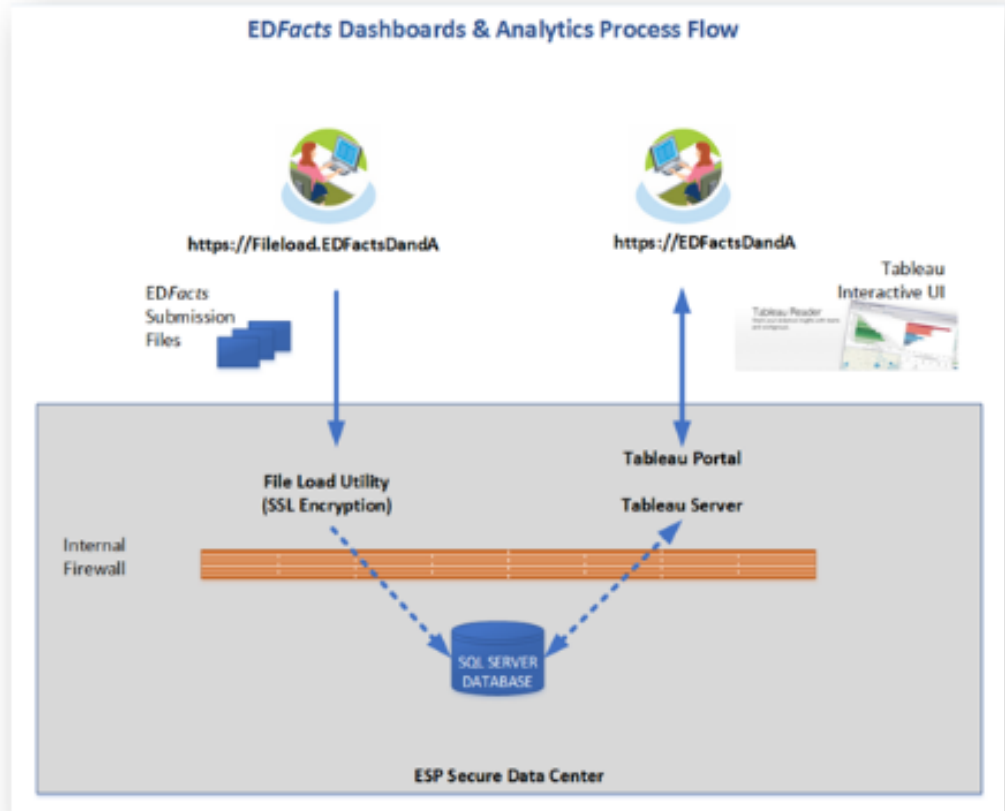
ESP Solutions Group has a long history of working with data governance issues and with the specific issues of handling EDFacts data. We have constructed an environment to support the EDFacts Dashboards and Analytics process flow that assures SEA data is secure and accessible only to authorized users of the system. You may wish to refer to the diagram below as you read this overview of security processes.

All data for EDFacts Dashboards and Analytics are processed with the ESP secure data center, located at our main facility in Austin, Texas which has been operational since 2009 without an incident of security breach. All equipment is maintained in a separate and secure data room with multiple lock entry and restricted access. Before providing or accessing data from the system, each SEA user must apply for and receive password controlled access using procedures approved by a signed MOA between the SEA customer and ESP Solutions Group. Each user account is configured to provide access to only the data associated with that states EDFacts data.

Once an SEA user has an account, they have access to a secure web application for file loading and a Tableau web portal running on separate secure servers. Each server has an SSL certificate installed to assure that communication is done only using a secure connection. After the secure connection is made, the session key is used to encrypt all transmitted data. An SEA browser connects to a web server (website) secured with SSL (https). The browser requests that the server identify itself and must send a copy of its SSL Certificate, including the server's public key.

Once loaded, EDFacts Dashboards and Analytics data are persisted in an MS SQL database server which is located behind a non-public facing firewall for added security. The data for each state is located in separate databases within this server so that there is no possibility of data cross-over, and the connection from the file load server and the Tableau server to the database is done using a password-secured internal user account managed by the ESP IT organization. Regular data backups are managed entirely within the secure lab.

ESP Solutions Group adheres to strict data access policies and procedures to assure SEA data are secure.



Uploading your Data

Upon signing your contract with ESP you will receive a user name and password for each user in your SEA account. The same user name and password may be used for the data-loading application and for your SEA secure Tableau site. You will receive also the URL for both sites and a customer services contact.

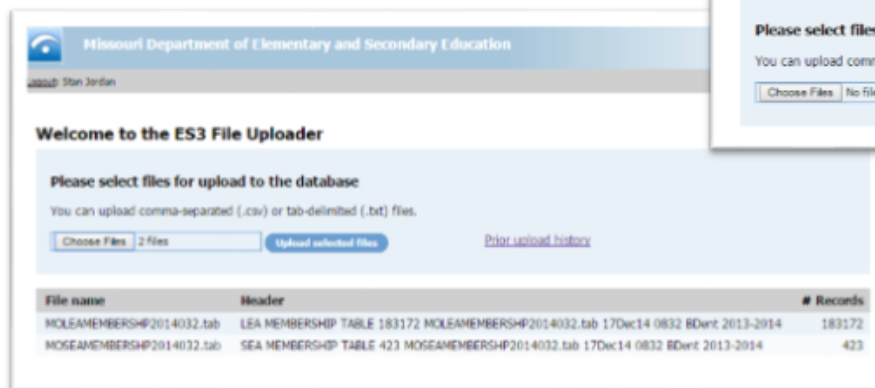
Each file only takes a few minutes to upload. It may take two to four days to upload the first set of files for five ED Facts cycles, depending on the size of your files and firewall restrictions. Your visualizations will be available 24 hours later.

1. Log in to the secure site.

2. Click on Choose Files.

- a. First time upload

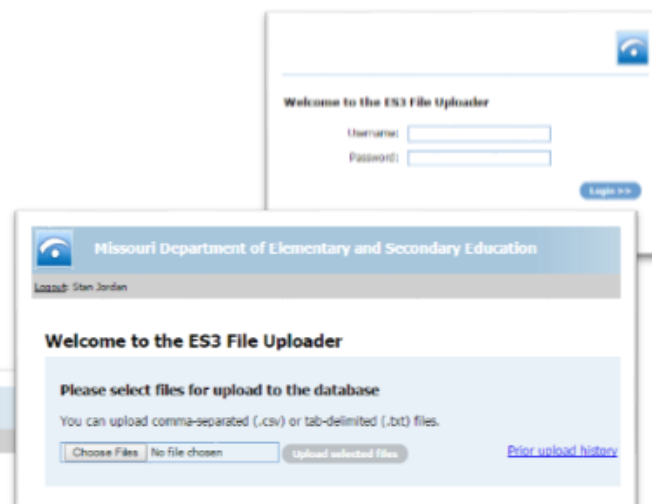
- From your data sources, select the ED Facts submission files for the most recent five years.
- You may choose to upload only the files for the existing visualizations or you may upload all your files. There is a 40 MB limit to each upload.



The screenshot shows the 'Welcome to the ES3 File Uploader' page. It includes a header for the Missouri Department of Elementary and Secondary Education, a login section with a 'Logout: Stan Jordan' link, and a 'Please select files for upload to the database' section. Below this, it states 'You can upload comma-separated (.csv) or tab-delimited (.txt) files.' and shows a 'Choose Files' button with '2 Files' next to it. A table lists the uploaded files:

File name	Header	# Records
MOLEAMBERSHIP2014032.tab	LEA MEMBERSHIP TABLE 183172 MOLEAMBERSHIP2014032.tab 17Dec14 0832 BDent 2013-2014	183172
MOSEAMBERSHIP2014032.tab	SEA MEMBERSHIP TABLE 423 MOSEAMBERSHIP2014032.tab 17Dec14 0832 BDent 2013-2014	423

- The relevant files will be uploaded into a database inside ESP's secure data center containing only your data and accessible only to you through these login credentials and the secure ED Facts D and A Tableau site for your SEA.
- b. View and download the history of previous uploads: Prior to further uploads,



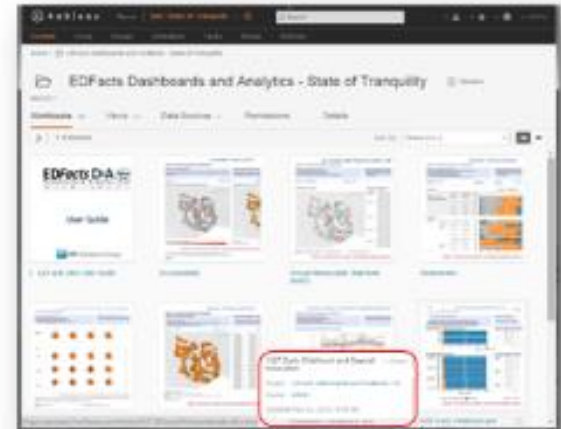
The screenshot shows the 'Welcome to the ES3 File Uploader' page. It includes a header for the Missouri Department of Elementary and Secondary Education, a login section with 'Username:' and 'Password:' fields and a 'Login' button, and a 'Please select files for upload to the database' section. Below this, it states 'You can upload comma-separated (.csv) or tab-delimited (.txt) files.' and shows a 'Choose Files' button with 'No file chosen' next to it. A 'Prior upload history' link is also visible.


Tableau Use and Navigation

If you are new to Tableau, these navigation and use tips will be helpful as you explore the State of Tranquility ED Facts D&A site.

1. When you land on the page State of Tranquility ED Facts D&A you see previews/links to all the workbooks (sets of views or dashboards) displaying the State of Tranquility data. If you hover on each preview, you see metadata about that workbook: name, number of sheets, project, owner, and update date. When you click on a workbook, you drill down and can see previews of each of the views or dashboards.

Once you open one of the views, you navigate to the other views by clicking on tabs at the top of the page.



2. When a data point in a map, graph, or table is selected, the rest of the visualization fades to the background. To return to the complete dashboard, click again on the selected data point.
3. Filters are preset to apply to multiple visualizations in a dashboard. Likewise, when you select one point of data in one visualization, your selection may also affect other visualizations in the same dashboard. To reset the visualization to its original state, click on the icon  (Revert All) at the top of the page.

4. If any of the filters is set in a way that no data are available for the specific visualization, the page may appear empty. Reset the filters to include at least one LEA and/or school and subgroup for the visualization to display.



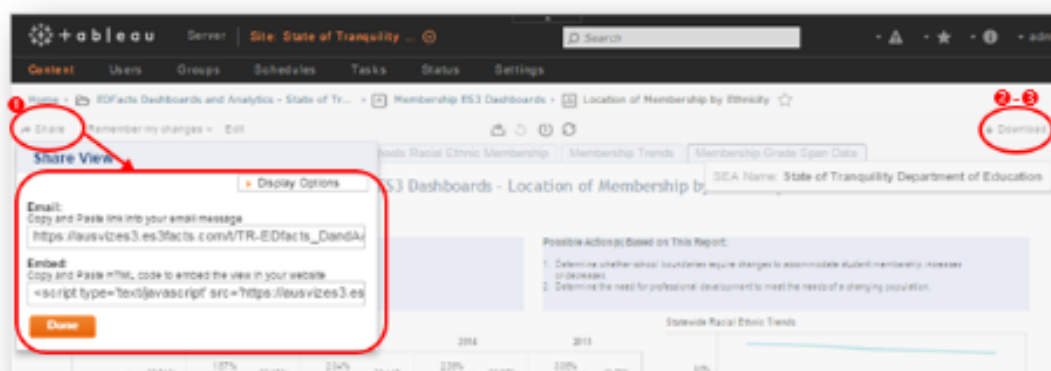
5. You are free to explore all the visualizations and interact using the filters, legends, and tool tips. You cannot "break" anything.

Sharing Your Visualizations

There are several ways to share your Tableau EDFacts D&A dashboards.

1. Dashboards can be embedded in your internal or external web sites if you have the necessary enterprise Tableau license. For more of this, check with your IT department.
2. Workbooks can be downloaded and shared with anyone who has Tableau Desktop. In Tableau Desktop, the files can be edited, printed, and saved as Tableau Packaged Workbooks (.twbx). The downloaded dashboard includes an extract of the data, which can be used to create new visualizations along with additional data sources you can connect to in your system.
3. Workbooks can be downloaded and distributed to anyone to be opened with Tableau Reader. Tableau Reader makes it possible to share your visualizations and dashboards with anyone – without the need for them to have a Tableau Desktop license. Tableau Reader allows people to interact with the visualizations by setting filters, re-sorting data, paging through the data, and using legend highlighting and flexible zooming and sizing of the views to focus on relevant data points. While publishing a PDF file works well in many cases, using Tableau Reader provides for a more interactive experience for the viewer.

Tableau Reader is a free application. It is free to download and install on any machine. Reader can be downloaded at <http://www.tableau.com/downloadreader>.



Frequently Asked Questions

1. **Whom do I contact for more information about a specific dashboard content and structure?**
 - A. For questions about specific dashboards contact Evangellina Mangino at emangino@espsg.com.
2. **Whom do I contact for more information about data format and groupings in EDFacts submissions?**
 - A. For questions about data format and groupings in EDFacts submissions, follow the links included on the footer of each dashboard.
3. **Whom do I contact for more information about additional customization of EDFacts dashboards or for design and implementation of dashboards with other SEA/LEA/School data?**
 - A. For questions about additional customization of EDFacts dashboards or for design and implementation of dashboards with other SEA/LEA/School data, contact Greg Palmer at gpalmer@espsg.com.

Tableau Workbooks and ED*Facts* Submissions – Phase I – Available Now

Tableau Workbook	ED <i>Facts</i> Data Submissions
Directory – DATA ELEMENTS FROM THE DIRECTORY SUBMISSIONS ARE EMBEDDED IN ALL DATA VIEWS USED IN THE CREATION OF ED<i>Facts</i> D&A VISUALIZATIONS.	029 DIRECTORY – Directory 039 GRADEOFF – Grades Offered
Accountability	132 SCHSYEND – School End of School Year Status
Annual Measurable Objectives	109 MTHPRFTGS – AMO Mathematics Status 111 RLAPFTGST – AMO Reading/Language Arts Status
Assessment	175 STUPERFMA – Academic Achievement in Mathematics 178 STUPERRLA – Academic Achievement in Reading (Language Arts) 179 STUPERSCI – Academic Achievement in Science 185 STUPARTMA – Assessment Participation in Mathematics 188 STUPARTRL – Assessment Participation in Reading/Language Arts 189 STUPARTSC – Assessment Participation in Science 108 MTHPRTSTS – Mathematics Participation Status 110 RLAPTSTAT – Reading/Language Arts Participation Status
Children with Disabilities IDEA – Early Childhood	089 CHDSBERL – Children with Disabilities (IDEA) Early Childhood 099 SPEDPRSNL – Special Education Related Services Personnel
Graduates, Completers, and Dropouts	032 DROPOUCNT – Dropouts 040 GRADCOUNT – Graduates/Completers 150 GRADRTCOH – Regulatory Adjusted-Cohort Graduation Rate 151 GRADCOHRT – Cohorts for Regulatory Adjusted-Cohort Graduation Rate
HQT Elementary and Secondary Education	063 ELMCLSTE – Teacher Quality in Elementary Classes 064 SECCLSTE – Teacher Quality in Core Secondary Classes
HQT Early Childhood and Special Education	070 TEACHSPED – Special Education Teachers (FTE)
Membership	052 MEMBERSHP – Membership
School Improvement Grants	132 SCHSYEND – School End of School Year Status
Staff FTE	059 FTESTFTBL – Staff FTE

Phase II

The roadmap for Phase II is below. [ESP Solutions Group](#) is open to suggestions from ES3 members for Phase II dashboards.

Tableau Workbook	EDFacts Data Submissions
Accountability	010 — Public School Choice 106 — Elementary/Middle Additional Indicator 107 — High School Graduation Rate Indicator 108 — Mathematics Participation Status 128 — Supplemental Educational Services 129 — CCD School 153 — Restructuring Actions 152 — Corrective Actions 164 — PSC/SES Data
Education for Homeless Children	043 — Homeless Served (McKinney-Vento) 118 — Homeless Students Enrolled 170 — LEA Subgrant Status
Improving Basic Programs - Title I Part A	036 — Title I Part A TAS Services 037 — Title I SWP/TAS Participation 065 — Federally Funded Staff 134 — Title I Part A Participation 193 — Title I Allocations
Migrant Children Title I Part C	054 — Migrant Students Served 121 — Migrant Students Eligible—12 Months 122 — MEP Students Eligible and Served—Summer/Intersession 145 — MEP Services 192 — MEP Students Priority Services 165 — Migrant Data
N, D, or At Risk - Title I Part D	113 — Neglected or Delinquent Academic Achievement 125 — N or D Academic Achievement — LEA 127 — N or D Participation—LEA 180 — N or D — In Program Outcomes 181 — N or D — Exited Program Outcomes 182 — N or D — Transition Services
Persistently Dangerous Schools	130 — ESEA Status
School Improvement Grants	167 — School Improvement Grants
Title III - Language Instructional Programs	045 — Immigrant 046 — LEP Students in LEP Program 050 — Title III Limited English Proficiency (LEP) English Language Proficiency Results 067 — Title III Teachers 116 — Title III LEP Students Served 126 — Title III Former LEP Students 137 — LEP English Language Proficiency Test 138 — Title III LEP English Language Proficiency Test 139 — LEP English Language Proficiency Results 141 — LEP Enrolled

Glossary

TERM	DEFINITION
Cell	The lowest level of granularity presented within a view
Dashboard	A dashboard is a collection of several worksheets shown in a single location where you can compare and monitor a variety of data simultaneously.
Data Point	A cell in a table; a spot in a map; a bar, line, or symbol in a graph
Filter Action	Filter actions show related information in one or more target sheets. This type of action works well when you are building guided analytical paths through a workbook or on dashboards that filter from a master view to show more details.
Highlight Action	An action type that provides highlighting of specific selections based on a color or shape. Highlight actions can be invoked through color or shape legends.
Legends	There are color legends and shape legends. The legend displays the colors or shapes associated with a measure or dimension members. A legend may be set to highlight selected items. This means that when you click on a specific color or shape, members of that measure or dimension are highlighted and all others become faint in the background. To return to the normal view, click again on the highlighted legend color or shape.
Pane	Panes denote the break between discrete entities expressed in the visualization. They are expressed by light grey border lines.
Quick Filter	Quick filters are filter elements that are exposed on the desktop within a worksheet or a dashboard.
State of Tranquility	The State of Tranquility was created with masked data placed for these samples in a region of Texas. The data do not represent the SEA or any LEA, or school in Texas.
Tableau Desktop	Tableau Desktop is the rapid-fire authoring environment used to create and publish views, reports and dashboards to Tableau Server. Using Tableau Desktop, a report author can connect to multiple data sources, explore relationships, create dashboards, modify metadata, and finally publish a completed workbook or data source to Tableau Server. Tableau Desktop can also open any workbooks published on Tableau Server or connect to any published data sources, whether published as an extract or a live connection.
Tableau Public	A free version of Tableau Desktop that is limited to connecting to data sets with no more than 1,000,000 records. Data sources are also limited to text files, Excel spreadsheets, or Access data files.
Tableau Reader	Tableau Reader is a free application that lets anyone view and interact with Tableau packaged workbooks. These packaged workbooks are created using Tableau Desktop, and are self-contained documents that combine the data and the Tableau visual analysis into a single file.
Tableau Server	Tableau server is Tableau's data consumption environment for entities that want to share information securely with a defined group of users. ESP's Tableau server includes separate secure Tableau sites and individual databases created for each client SEA.
Tableau Server License	The Tableau Server license allows a secure access to enterprise data and user interaction via web portals. Licenses are issued for each individual user of the system; they are transferrable but cannot be shared. They are renewable annually.
Tooltips	Tooltips are additional data details that display when you rest the pointer over one or more marks in the view.
View	Individual data visualization or a pane within a dashboard. A view or a dashboard is where one or more visualization are displayed.
Visualization	A visualization is any kind of chart, graph, or visual representation. Transforming data into an effective visualization is the first step towards making your data meaningful to you.
Workbook	Workbooks hold one or more worksheets and dashboards. Tableau workbooks are files in which the design of the visualization, the dashboards, and the data connections are saved, but not the data. As a result, these files normally small because the data source keeps the data, not Tableau.
Packaged Workbooks	Tableau packaged workbooks refer to workbook files that have been saved in a way that bundles the source data with the visualizations so that both are contained in a single compressed file. Packaged workbooks can be opened in Tableau Desktop and Tableau Reader.
Worksheets	Worksheets hold your data views. You can save individual worksheets as bookmarks. Each worksheet can be connected to only one data source. However, different worksheets in a workbook can be connected to different data sources. A worksheet is the canvas where a visualization is developed.