



Common Education Data Standards

CEDS 101

A language is a **standard** form of **communication**.

Humans speak **many different languages**.

But, there are **certain things** we all need to **understand** and **communicate**.

For these, we need a **common language**.

FOR EXAMPLE: Sign symbols

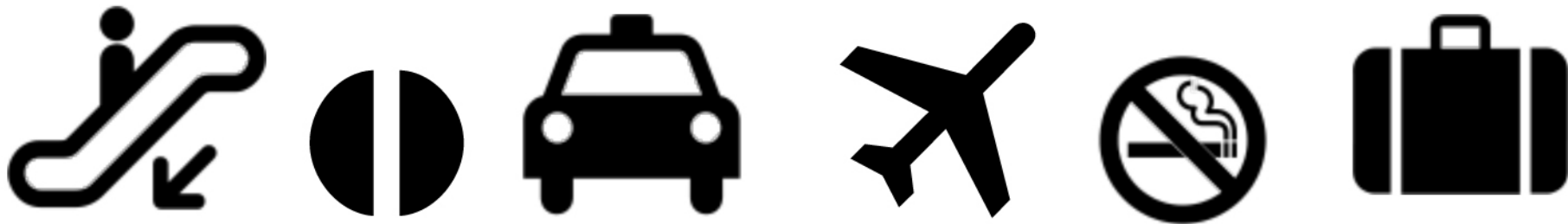
Imagine...

You arrive at an **airport** in a **foreign city** where an **unfamiliar language** is spoken.

How do you **find your way**?



Universal travel sign symbols
developed in the 1970s aided wayfinding.



What is CEDS?

A **vocabulary** including standard definitions, option sets, & technical specifications to streamline sharing and comparing information

A national collaborative effort to develop **voluntary, common** data standards for a key set of education data elements

Voluntary Common Vocabulary

CEDS is Not

- Required
- All or nothing
- A data collection
- An implementation
- Solely an ED undertaking
- A federal unit record system



What is an Education Standard?

A set of commonly agreed upon names, definitions, option sets, and technical specifications for a given selection of data elements.

FOR EXAMPLE: Address Type for Organization



“The type of address listed for an organization”

Reasons for a Common Vocabulary

1. **Accurate, timely, and consistent data** to inform decisionmaking
2. **Share & compare high quality data** within & across **P-20** sectors
3. **Decrease the staff burden** associated with deciphering data

Example 1

Imagine...

A child from
Early Learning Program A also
enrolls in Early Intervention Part C
services that use a different
education data standard.

Here's a
child:

Matthe
SmithIII

Race = Guamanian

Gender = M

Did you mean:

Matthew ?

Smith ?

Suffix = III ?

Race = NHOPI ?

Sex = M ?

EL Program A



Early Intervention



Example 2

Imagine...

A student from a high school in State A enrolls in a university in State B that uses a different education data standard.

Here's a
new student:

Jonatha

TsumuraII

Race = Japanese

Gender = M

Did you mean:

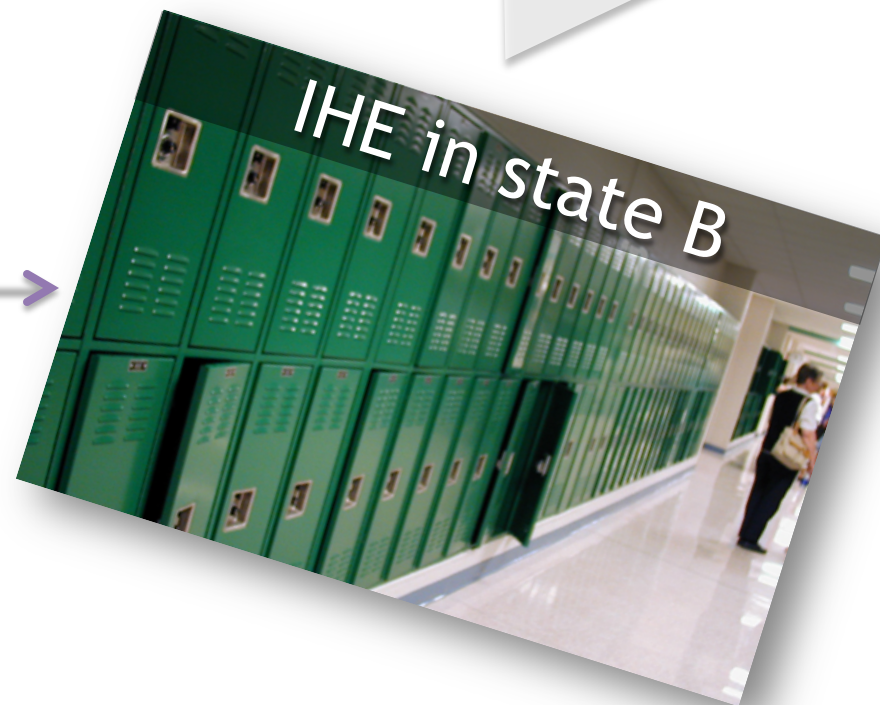
Jonathan ?

Tsumura ?

Suffix = II ?

Race = Asian ?

Sex = M ?



When both provider and recipient use the standard **in the defined way**,

there is a **common understanding** on the intended meaning.



CEDS Anatomy: The Basics

Standard Information: The Basics



Hispanic or Latino Ethnicity

- Yes
- No
- NotSelected

Element

Definition

Option set

Domain

Entity

Element Details (press "ESC" key to close)

Hispanic or Latino Ethnicity

Definition

An indication that the person trace Central and South America, and of Usage Notes

K12: Use cases support Yes and M Selected as options - As defined in

Option Set

Description	Option
Yes	Yes
No	No
Not selected	NotSelected

Related Entities and Categories

- Adult Education -> AE Participant
- Early Learning -> EL Child
- Early Learning -> EL Staff
- K12 -> K12 Staff
- K12 -> **K12 Student**
- Postsecondary -> PS Staff
- Postsecondary -> PS Student

Standard Information: The Basics (cont.)

Element Details (press "ESC" key to close)

Related Topics

Related Topics

- Early Learning -> Program Entry
- Early Learning -> Staff Quality
- K-12 -> EDFacts
- K-12 -> High School Generated Transcript
- K-12 -> LEA-to-LEA Student Record Exchange
- K-12 -> LEA-to-SEA Student Record Exchange
- K-12 -> Teacher Compensation Survey
- Postsecondary Education -> Complete College America
- Postsecondary Education -> IPEDS
- Postsecondary Education -> IPEDS -> HR
- Postsecondary Education -> Transition

CEDS Element ID

CEDS Element ID

00144

Element Technical Name

Element Technical Name

HispanicOrLatinoEthnicity

XML

XML

```
<xs:simpleType name="HispanicOrLatinoEthnicity">
  <xs:annotation>
    <xs:documentation>Usage: Hispanic or Latino Ethnicity</xs:documentation>
  </xs:annotation>
  <xs:restriction base="xs:token">
    <xs:enumeration value="Yes"></xs:enumeration>
    <xs:enumeration value="No"></xs:enumeration>
    <xs:enumeration value="NotSelected"></xs:enumeration>
  </xs:restriction>
</xs:simpleType>
```


Domain

- Management level at which the data are maintained.
- Some correspond with **sector(s) of P-20 system.**
- CEDS contains **9 domains**
 - Early Learning
 - K12
 - Postsecondary
 - Adult Education
 - CTE
 - Workforce
 - Learning Resources
 - Assessments
 - Learning Standards

Element Details (press "ESC" key to close)

Hispanic or Latino Ethnicity

Definition

An indication that the person traces his or her ancestry to Mexico, Central and South America, and other Spanish-speaking countries.

Usage Notes

K12: Use cases support Yes and No as options. Selected as options - As defined in IPEDS

Option Set

Description	Option
Yes	Yes

Related Entities and Categories

Adult Education -> AE Participant

Early Learning -> EL Child

Early Learning -> EL Staff

K12 -> K12 Staff

K12 -> K12 Student

Postsecondary -> PS Staff

Postsecondary -> PS Student

K12 -> K12 Student

Postsecondary -> PS Staff

Postsecondary -> PS Student



Elements

- **Attributes of entities**, and **units of data** that can be **defined** and **measured**.
- Two parts:
 - **Name**: Common text name for the element
 - **Definition**: A statement of the meaning or significance of an element

Element Details (press "ESC" key to close)

Hispanic or Latino Ethnicity

Definition

Hispanic or Latino Ethnicity

Definition

An indication that the person traces his or her ancestry to Central and South America, and other Spanish-speaking countries.

Option Set

Description	Option
Yes	Yes
No	No
Not selected	NotSelected

Related Entities and Categories

Adult Education -> AE Participant
Early Learning -> EL Child
Early Learning -> EL Staff
K12 -> K12 Staff
K12 -> K12 Student
Postsecondary -> PS Staff
Postsecondary -> PS Student

Option Set

- Provide **recommended alternatives** or **responses** for an element.
- Can be:
 - **standard set of options:**
Ex) LANGUAGE CODE
 - **open-ended:**
Ex) FIRST NAME

Element Details (press "ESC" key to close)

Hispanic or Latino Ethnicity

Definition

An indication that the person traces his or her ancestry to Central and South America, and other Spanish-speaking countries.

Usage Notes

K12: Use cases support Yes and No as options. Selected as options - As defined in IPEDS Data Collection Manual.

Option Set

Option Set

Description	Option
Yes	Yes
No	No
Not selected	NotSelected

Early Learning -> EL Child

Early Learning -> EL Staff

K12 -> K12 Staff

K12 -> K12 Student

Postsecondary -> PS Staff

Postsecondary -> PS Student

Related Categories & Entities

- **Persons, places, events, objects, or concepts** about which data are collected.
- **Provide context** for the data elements.
- **Examples:**
 - Student → EL Child
 - Staff → Assessment
 - School → Organization

Element Details (press "ESC" key to close)

Hispanic or Latino Ethnicity

Definition

An indication that the person traces his or her ancestry to Central and South America, and other Spanish-speaking countries.

Usage Notes

K12: Use cases support Yes and No as options. Selected as options - As defined in IPEDS.

Option Set

Description	Option
-------------	--------

Yes	Yes
-----	-----

No	Entities and Categories
----	-------------------------

Not selected	Early Learning -> EL Child -> Demographic
--------------	-------------------------------------------

	- K12 Staff -> Demographic
	- K12 Student -> Demographic
	- Secondary -> PS Student -> Demographic

Related Entities

Adult Education

Early Learning -> EL Child

Early Learning -> EL Staff

K12 -> K12 Staff

K12 -> K12 Student

Postsecondary -> PS Staff

Postsecondary -> PS Student

Related Topics

- **Real-world applications** for which an element can be used to support.
- Examples:
 - ED*Facts* & IPEDS reporting
 - LEA-to-LEA Student Record Exchange
 - High School Generated Transcript

The screenshot shows two overlapping 'Element Details' windows. The top window is partially obscured by the bottom one. Both windows have a dark purple header with the text 'Element Details (press "ESC" key to close)'. Below the header, the text 'Related Topics' is displayed. The top window lists: 'Early Learning -> Program Entry', 'Early Learning -> Staff Quality', and 'K-12 -> EDFacts'. The bottom window lists: 'Early Learning -> Program Entry', 'Early Learning -> Staff Quality', 'K-12 -> EDFacts', 'K-12 -> High School Generated Transcript', 'K-12 -> LEA-to-LEA Student Record Exchange', 'K-12 -> LEA-to-SEA Student Record Exchange', 'K-12 -> Teacher Compensation Survey', 'Postsecondary Education -> Complete Coursework', 'Postsecondary Education -> IPEDS', 'Postsecondary Education -> IPEDS -> High School', and 'Postsecondary Education -> Transition'. At the bottom of the screenshot, there is a snippet of XML code:

```
<xs:restriction base="xs:token">  
<xs:enumeration value="Yes"></xs:enumeration>  
<xs:enumeration value="No"></xs:enumeration>  
<xs:enumeration value="NotSelected"></xs:enu  
</xs:restriction>
```



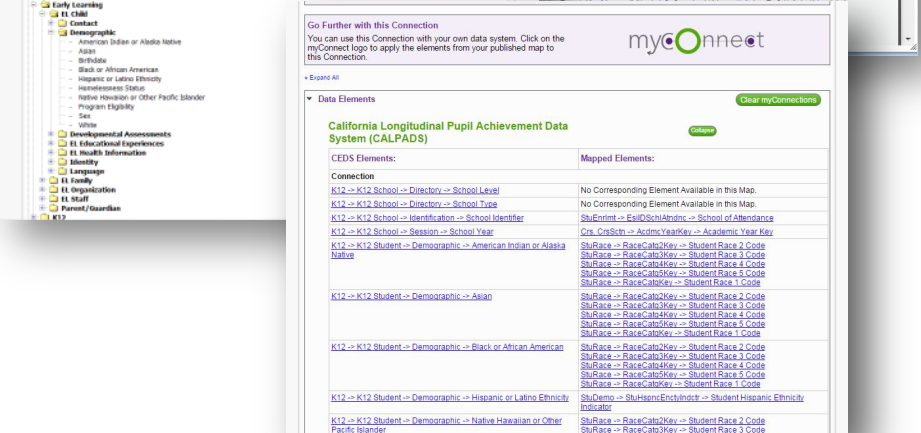
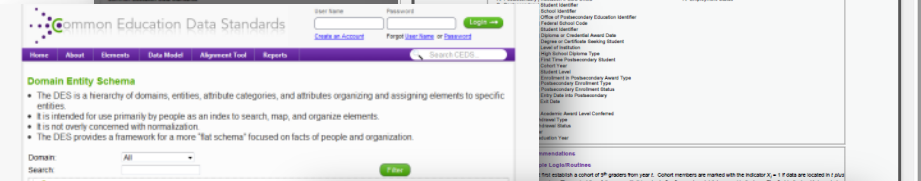
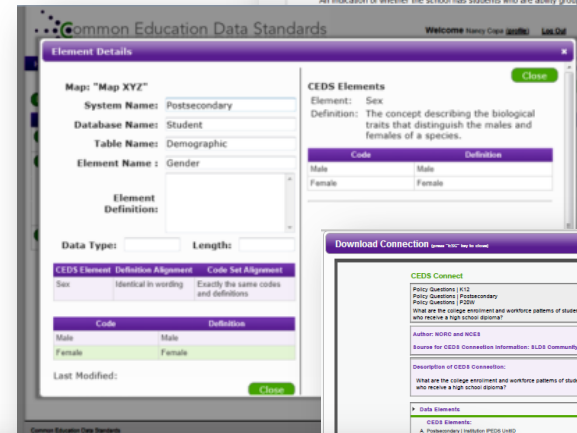
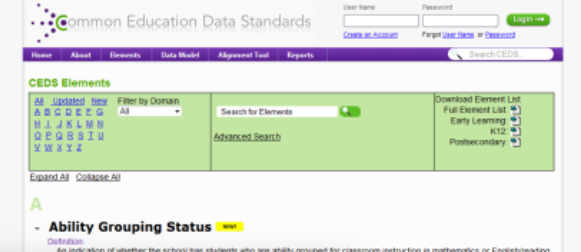
CEDS TOOLS

CEDS Tools

- A Robust & Expanding **Common, Voluntary Vocabulary** drawn from existing sources

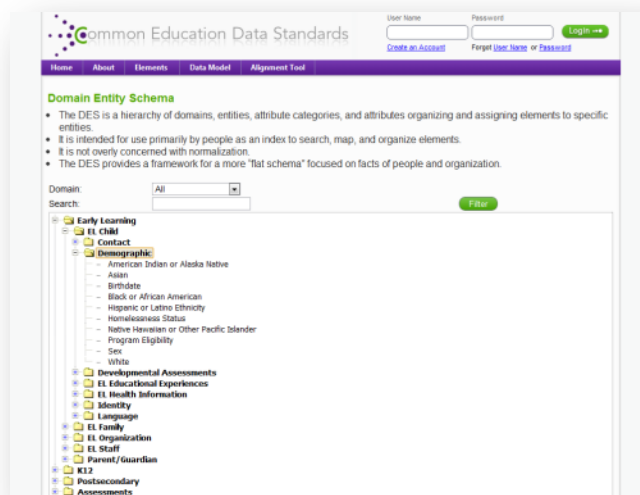
- Powerful Stakeholder **Tools & Models**

- Connect
- Logical Data Model
- Align
- myConnect



CEDS Logical Data Model

- Provides a **high-level framework** for translating standards into physical models
- **System-agnostic** representation
- **2 distinct views:**
 - Domain Entity Schema
 - Normalized Data Schema



Align



Web-based tool that allows users to

- **Import** or input their data dictionaries
- **Align** their current data to CEDS
- **Compare** themselves with others
- **Analyze** their data in relation to various other CEDS-aligned efforts

- Allows stakeholders to connect specific and relevant maps to a growing pool of CEDS Connections

Stakeholders from varied types of educational organizations can use the tool to

- **answer** policy questions
- **calculate** metrics and indicators
- **address** reporting requirements

- Allows users to see the data elements in a published Connection side by side with their own data elements

Extend

- Allows users to see data definitions from other efforts that have not yet been adopted into CEDS but are relevant to specific data systems and education data discussions
- The website has expanded to include a repository of metadata from other efforts:
 - Element Search Tool: When searching CEDS elements by name, users may choose "**Search Extend Elements**" to expand the search to include the Extend elements
 - Domain Entity Schema: When using the drill down function of the Domain Entity Schema, users may choose "**Extend Your Search**" to see the Extend elements
 - Downloads: Users may choose "**Include Extend Elements in Download**" when using the new Excel dynamic download tool



**Who's
Involved**

CEDS Stakeholders

- **State Agencies**

- State Education Agencies
- State Higher Education Agencies
- Social Services Agencies

- **Local Education Agencies**

- K12
- Head Start
- Social Services

- **Institutions of Higher Education**

- Public
- Private
- Community Colleges

CEDS Stakeholders (cont.)

- **U.S. Department of Education**
 - NCES (SLDS, IPEDS, Forum)
 - ED Facts
 - Office of Educ. Technology
 - Financial Student Aid
 - Office of the Undersecretary
 - Special Education
- **U.S. Health and Human Services**
- **U.S. Department of Labor**
- **Interoperability Standard Organizations**
- **Education Associations**
- **Foundations**

Engage with CEDS

<http://ceds.ed.gov>

