Unifying Data Model - Introduction

A primary component of Ed-Fi technology is an educational data standard that empowers educators with real-time, actionable information on every student in their classroom, school, or district.

The Ed-Fi Data Standard integrates and organizes raw education data and information from a broad range of data sources so it can be sifted, analyzed, and put to everyday use. With the Ed-Fi Data Standard, educators are equipped with the information they need to understand the individual needs of students, and can prepare to address those needs on the first day of school. In addition, on-demand access means that action plans for students can be monitored and refined throughout the school year. Most importantly, the Ed-Fi Data Standard can be implemented in any school, district, regional education service agency, or state education agency today.

The Ed-Fi Data Standard v2.1 aligns with version 7.0 of the Common Education Data Standard (CEDS) developed by the National Center for Education Statistics (NCES). The Ed-Fi Alliance works closely with NCES to support the CEDS effort. Ed-Fi Alliance team members actively participate in CEDS technical and stakeholder groups.

Ed-Fi Data Standard in Action

The foundation of the Ed-Fi Data Standard is a Unifying Data Model (UDM), which is an enterprise data model of commonly exchanged and shared K–12 education data. The model is expressed in Unified Modeling Language (UML), and includes entities such as students, teachers, assessment results, attendance, and many others. The role of the Ed-Fi UDM is to harmonize the information model and data types across all facets of Ed-Fi technology. This means that the Ed-Fi Data Standard components discussed in this documentation share common models and data definitions with all other Ed-Fi technology components such as the Ed-Fi Operational Data Store and API. That API includes a representation of the UDM as API resources in JavaScript Object Notation (JSON) format for exchange over HTTP/S using RESTful API conventions.

A companion Extensible Markup Language (XML) data exchange framework supports the sharing of student data among disparate source systems in bulk format, such as gradebook applications, curriculum and lesson planning systems, plus benchmark testing and reporting systems. The data exchanged among these systems can include records on students’ grades, absence rates, transcripts, and standardized test scores.

The Ed-Fi Data Standard includes the Unifying Data Model, API specifications, and bulk specifications. The standard is built on open industry protocols, formats, and conventions and is therefore vendor-neutral. The standards can be implemented on any hardware and software platform.