



Ed-Fi Extension and Semantic Analysis: Georgia

Purpose and Brief of the Analysis

The purpose of this report is to work with the Georgia Department of Education (GDOE) as the partner of Ed-Fi Alliance (Ed-Fi) and share Ed-Fi's findings for the assessment of extensions and semantic alignment of the state's usage of data elements in Ed-Fi's core data standard.

Our analysis has concluded that Georgia is well-aligned with Ed-Fi core semantically, which means the data elements in the Ed-Fi core are almost always used by the State as intended.

Georgia has used the extension mechanism in Ed-Fi for areas where the core data standard did not meet specific needs of the state in areas that include school and section enrollments, discipline, section 504 program, special education events, and staff employment and assignments. In addition, two new extension entities were defined for school and LEA statistics reporting.

As found in the section below, the extension analysis looked at areas where there are current options available in the core; where there might be better alternatives for extension; and where extensions should be considered by Ed-Fi for inclusion into the core data model.

Body of the State Analysis

The Ed-Fi Alliance is committed to sustaining the Ed-Fi data standard to support the capture, usage, reporting, and exchange of educational data. As such the Ed-Fi data standard promotes data interoperability in the industry, enables data-driven decision making, and hence contributing to the advancement of educational outcomes.

In a continuing effort to better serve the community of users, this analysis is the first of a periodic evaluation of how the various Ed-Fi states are using and extending the Ed-Fi data model. In particular, the analysis is meant to investigate the following questions:

- Is the State using the core Ed-Fi data model as semantically defined and intended?
- Does the State follow good practices in extending the Ed-Fi data model, adhering to the overall conventions embodied in the data standard?
- Do extensions duplicate what could be reflected in the Ed-Fi core model, or are there subsequent updates to the core that now cover what previously required an extension?
- Are there extensions that point to common needs across states and/or potential model changes that would benefit the community at large?



The analysis findings specific to Georgia are summarized in the following sections: *extension analysis* has a focus on the extensions the state introduced, and the *semantic analysis* evaluates the usage of the core data standard any deviations from the original purpose of the data element. The intent of this analysis is to improve the Ed-Fi data standard and its usage in the community. The analysis should be taken as an *opinion* based upon published materials by Ed-Fi and the states to stimulate further collaboration.

Extension Analysis

The Georgia extensions comprise two new entities, two new associations, and 110 attributes as outlined below.

- New entity LocalEducationAgencyStatistics provides summary counts for psychological cases and private or home-schooled students; with attributes as follows:
 - Extension.LEAStats.LocalEducationAgencyId
 - Extension.LEAStats.Tkes90PercentAllTeachersIncluded
 - Extension.LEAStats.privateOrHomeSchooledStudentCounts common with attributes:
 - Extension.LEAStats.privateOrHomeSchooledStudentCounts.privateOrHomeSchooledStudentDescriptor
 - Extension.LEAStats.privateOrHomeSchooledStudentCounts.CollecteCount
 - Extension.LEAStats.PsychologicalServicesEvaluationCounts common with attributes:
 - Extension.LEAStats.PsychologicalServicesEvaluationCounts.PsychologicalServicesEvaluationDescriptor
 - Extension.LEAStats.PsychologicalServicesEvaluationCounts.CollecteCount
- New entity SchoolStatistics provides summary counts for behavior, and social work cases, interventions, and referrals; with attributes as follows:
 - Extension.SchoolStats.DualEnrollmentAwarenessGrade10
 - Extension.SchoolStats.DualEnrollmentAwarenessGrade11
 - Extension.SchoolStats.OnlineSchool
 - Extension.SchoolStats.NutritionchoolDescriptor
 - Extension.SchoolStats.StemSteamSchoolDescriptor
 - Extension.SchoolStats.TitleIPartASchoolDesignationDescriptor
 - Extension.SchoolStats.BehaviorIncidentCounts common with attributes:
 - Extension.SchoolStats.BehaviorIncidentCounts.BehaviorIncidentDescriptor
 - Extension.SchoolStats.BehaviorIncidentCounts.CollecteCount
 - Extension.SchoolStats.SocialWorkCaseCounts common with attributes:
 - Extension.SchoolStats.SocialWorkCaseCounts.SocialWorkCaseDescriptor



- Extension.SchoolStats.SocialWorkCaseCounts.CollectedCount
- Extension.SchoolStats.SocialWorkReferralCounts common with attributes:
 - Extension.SchoolStats.SocialWorkReferralCounts.SocialWorkReferralDescriptor
 - Extension.SchoolStats.SocialWorkReferralCounts.CollectedCount
- Extension.SchoolStats.SocialWorkServiceInterventionCounts common with attributes:
 - Extension.SchoolStats.SocialWorkServiceInterventionCounts.SocialWorkServiceInterventionDescriptor
 - Extension.SchoolStats.SocialWorkServiceInterventionCounts.CollectedCount
- Attribute extensions to Section as follows:
 - Section.Extension.TaughtByESOLTeacher
 - Section.Extension.AlternateEducationOrganizationId
- Attribute extensions to the StudentEducationOrganizationAssociation are as follows:
 - StudentEducationOrganizationAssociation.Extension.Biliteracy1LanguageDescriptor
 - StudentEducationOrganizationAssociation.Extension.Biliteracy2LanguageDescriptor
 - StudentEducationOrganizationAssociation.Extension.Biliteracy3LanguageDescriptor
 - StudentEducationOrganizationAssociation.Extension.CountyOfResidenceDescriptor --
Ed-Fi has StudentEducationOrganizationAssociation.Address.NameOfCounty
 - StudentEducationOrganizationAssociation.Extension.NonESOLStatusDescriptor
 - StudentEducationOrganizationAssociation.Extension.DateStudentEligibleForACS
 - StudentEducationOrganizationAssociation.Extension.DateStudentNoLongerACS
 - StudentEducationOrganizationAssociation.Extension.ParentCommunicationLanguageDescriptor
 - StudentEducationOrganizationAssociation.Extension.SystemOfResidenceDescriptor
- Attribute extensions to the StudentSchoolAssociation are as follows:
 - StudentSchoolAssociation.Extension.dateEntered9thGrade
 - StudentSchoolAssociation.Extension.PriorTenDays
 - StudentSchoolAssociation.Extension.SummerImmigrantProgramParticipation
 - StudentSchoolAssociation.Extension.SummerTitleIIIServed
 - StudentSchoolAssociation.Extension.asvabScore
 - StudentSchoolAssociation.Extension.FteSegments common with attributes:
 - StudentSchoolAssociation.Extension.FteSegments.SegmentNumber
 - StudentSchoolAssociation.Extension.FteSegments.FteProgramCodeDescriptor
 - StudentSchoolAssociation.Extension.FteSegments.InclusionPersonnelDescriptor
 - StudentSchoolAssociation.Extension.FteSegments.ItinerantTeacherSpecialEducationServices



- StudentSchoolAssociation.Extension.FteSegments.ReceivedSupplementalSpeechServices
 - StudentSchoolAssociation.Extension.FteSegments.TransportedForSection
- Attribute extensions to the StudentSectionAssociation are as follows:
 - StudentSectionAssociation.Extension.CreditRecovery
 - StudentSectionAssociation.Extension.FTEProgramCodeDescriptor
 - StudentSectionAssociation.Extension.IEPInclusionTypeDescriptor
 - StudentSectionAssociation.Extension.InclusionPersonnelDescriptor
 - StudentSectionAssociation.Extension.ItinerantTeacherSpecialEducationServices
 - StudentSectionAssociation.Extension.ReceivedSupplementalSpeechServices
 - StudentSectionAssociation.Extension.TransportedForSection
 - StudentSectionAssociation.Extension.NumberOfParaPros
 - StudentSectionAssociation.WorkBasedLearningProgramDescriptor
 - StudentSectionAssociation.Extension.EIPDeliveryModelDescriptor
 - StudentSectionAssociation.Extension.ESOLDeliveryModelDescriptor
 - StudentSectionAssociation.Extension.GiftedDeliveryModelDescriptor
 - StudentSectionAssociation.Extension.SpecialEducationDeliveryModelDescriptor
 - StudentSectionAssociation.Extension.AdditionalTeacher common with attributes:
 - StudentSectionAssociation.Extension.AdditionalTeacher.StaffUniqueId
 - StudentSectionAssociation.Extension.AdditionalTeacher.StaffServiceTypeDescriptor
- Attribute extension to the DisciplineIncident as follows:
 - DisciplineIncident.Extension.IncidentTimingDescriptor
- Attribute extensions to the DisciplineAction are as follows:
 - DisciplineAction.Extension.AlternativeSchoolId
 - DisciplineAction.Extension.DisciplineActionAuxiliaryDescriptor
 - DisciplineAction.Extension.IncidentSeverityLevelDescriptor
 - DisciplineAction.Extension.DisciplineProcessTypeDescriptor
 - DisciplineAction.Extension.DataTypeIndicatorDescriptor
- Attribute extension to the StudentProgramAssociation which is used for Gifted program participation:
 - StudentProgramAssociation.Extension.ProgramReferredByDescriptor
- New association StudentSection504ProgramAssociation for section 504 disabled students; with attributes as follows:
 - Extension.StudentSection504ProgramAssociation.EducationOrganizationReference
 - Extension.StudentSection504ProgramAssociation.StudentReference



- Extension.StudentSection504ProgramAssociation.ProgramReference
- Extension.StudentSection504ProgramAssociation.BeginDate
- Extension.StudentSection504ProgramAssociation.EndDate
- Extension.StudentSection504ProgramAssociation.AccommodationPlan
- Extension.StudentSection504ProgramAssociation.InitialDNQDate
- Extension.StudentSection504ProgramAssociation.LastEvaluationDate
- Extension.StudentSection504ProgramAssociation.MeetingDate
- Extension.StudentSection504ProgramAssociation.ReasonExitedDescriptor
- Extension.StudentSection504ProgramAssociation.ServedOutsideRegularSession
- Extension.StudentSection504ProgramAssociation.Section504Plan common with attribute:
 - Extension.StudentSection504ProgramAssociation.Section504Plan.Section504PlanDescriptor
- New association StudentSpecialEducationProgramAssociationEvent describes events associated with a student in a Special Education program; with attributes as follows:
 - Extension.StudentSpecialEducationProgramAssociationEvent.EventDate
 - Extension.StudentSpecialEducationProgramAssociationEvent.specialEducationEventTypeIdDescriptor
 - Extension.StudentSpecialEducationProgramAssociationEvent.SpecialEducationEventReasonDescriptor
 - Extension.StudentSpecialEducationProgramAssociationEvent.SpecialEducationNonComplianceReasonDescriptor
 - Extension.StudentSpecialEducationProgramAssociationEvent.ParentPresentAtConference
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentPresentAtConference
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation reference with keys:
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.BeginDate
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.EducationOrganizationId
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.ProgramEducationOrganizationId
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.ProgramName



- Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.ProgramType
 - Extension.StudentSpecialEducationProgramAssociationEvent.StudentSpecialEducationProgramAssociation.StudentUniqueId
- Attribute extension to the Staff are as follows:
 - Staff.Extension.EmployeeTypeDescriptor
- Attribute extensions to the StaffEducationOrganizationEmploymentAssociation are as follows:
 - StaffEdOrgEmploymentAssociation.Extension.AnnualContractWorkDays
 - StaffEdOrgEmploymentAssociation.Extension.AnnualSalary -- *Ed-Fi V5 has a new attribute AnnualWage*
 - StaffEdOrgEmploymentAssociation.Extension.EmploymentBasis
 - StaffEdOrgEmploymentAssociation.Extension.SalaryPayStepDescriptor
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentCharacteristic common with attributes:
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentCharacteristic.StaffEmploymentCharacteristicDescriptor
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentCharacteristic.DesignatedBy
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentIndicator common with attributes:
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentIndicator.IndicatorName
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentIndicator.Indicator
 - StaffEdOrgEmploymentAssociation.Extension.StaffEmploymentIndicator.IndicatorGroup
- Attribute extensions to the StaffEducationOrganizationAssignmentAssociation are as follows:
 - StaffEdOrgAssignmentAssociation.Extension.AssignmentConsolidatedFunded
 - StaffEdOrgAssignmentAssociation.Extension.StaffAssignmentCertificateTypeDescriptor
 - StaffEdOrgAssignmentAssociation.Extension.staffAssignmentFieldCodeDescriptor
 - StaffEdOrgAssignmentAssociation.Extension.staffAssignmentFundCodeDescriptor
 - StaffEdOrgAssignmentAssociation.Extension.StaffAssignmentSubjectMatterCodeDescriptor
- Attribute extension to the StaffSectionAssociation are as follows:
 - StaffSectionAssociation.Extension.ChwCertFieldCodeDescriptor.



Semantic Analysis

Georgia is well-aligned with the Ed-Fi data standard with 99 of 100 data elements precisely aligned semantically with the Ed-Fi core. The exception data element is listed below.

- Student.BirthData.DateEnteredUS is defined by Georgia as "The date the student first enrolled in school in the United States," where Ed-Fi defines the attribute as "For students born outside of the U.S., the date the student entered the U.S." This difference in semantics is better handled as an extension.

Also note the attribute DisciplineAction.ReceivedEducationServicesDuringExpulsion was deprecated in v4 and removed from v5 Ed-Fi core. Be advised to use the Discipline descriptor value "Expulsion with Services" instead.

Summary of Finds and Next Steps

The analysis found that Georgia created a moderate number of extensions to the Ed-Fi core in the areas that include school and section enrollments, discipline, section 504 program, special education events, and staff employment and assignments. Specific suggestions for the State are as follows.

- With regard to StudentEducationOrganizationAssociation.Extension.CountyOfResidenceDescriptor, Ed-Fi has StudentEducationOrganizationAssociation.Address.NameOfCounty
- With regard to StaffEdOrgEmploymentAssociation.Extension.AnnualSalary, Ed-Fi V5 has a new attribute AnnualWage that should be used.

In terms of the usage of the data elements in the Ed-Fi core model (aka semantic alignment), Georgia is found to be well-aligned, with only one attribute only partially aligned. Communication of these deviances for stronger alignment is recommended.

Based on these findings of the analyses, Ed-Fi would like to work closely with the Georgia Department of Education as a part of its commitment to sustaining data standards. The following are opportunities for next steps for this collaboration between the State and Ed-Fi.

- As common a need across states becomes evident, leverage the extension entities defined for section 504 programs and special education events.
- Analysis across states may identify specific common extension attributes for consideration into core where cross-state collaboration is recommended.