TNTP Extensions for Teacher Talent Management

Setup Guide

Contents

About TNTP

Formerly known as The New Teacher Project, TNTP is a revenue-generating nonprofit organization with a mission of ending "the injustice of educational inequality by providing excellent teachers to the students who need them most and by advancing policies and practices that ensure effective teaching in every classroom".[1] TNTP helps "urban school districts and states recruit and train new teachers, staff challenged schools, design evaluation systems, and retain teachers who have demonstrated the ability to raise student achievement"[2].

TNTP was founded by educator, former Chancellor of the Washington, D.C. public schools, and StudentsFirst founder Michelle Rhee in 1997 and is "driven by the belief that effective teachers have a greater impact on student achievement than any other school factor (even to the exclusion of social factors). In response, TNTP develops customized programs and policy interventions that enable education leaders to find, develop and keep great teachers. Since its inception in 1997, TNTP has recruited or trained approximately 43,000 teachers - mainly through its Teaching Fellows programs - who have taught an estimated 7 million students"[3].

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[1] http://tntp.org/about-tntp

[2] https://en.wikipedia.org/wiki/The_New_Teacher_Project

[3] https://en.wikipedia.org/wiki/The_New_Teacher_Project

About the TNTP Extensions for Teacher Talent Management

Developed and contributed by TNTP in conjunction with Educuity (now part of Certica Solutions), the extensions for Teacher Talent Management is a robust data extension to the Ed-Fi data standard focused on teacher recruitment and hiring. Use this extension to integrate data from teacher applicant tracking, instructional vacancy tracking, teacher evaluation, and survey vendors.

States, districts, and charter networks can use this extension to recruit, hire, develop, and retain great teachers. The following categories of data are supported:

- Prospects
- Applicant Tracking
- Vacancy Tracking
- Hiring / Onboarding
- Observation and Evaluation
- Teacher, Student, and Parent Survey Results

Teacher Talent Management Extension Overview

The following class diagrams provide a technical overview of the Teacher Talent Management extensions and show how the new entities relate to and extend the Ed-Fi data standard.
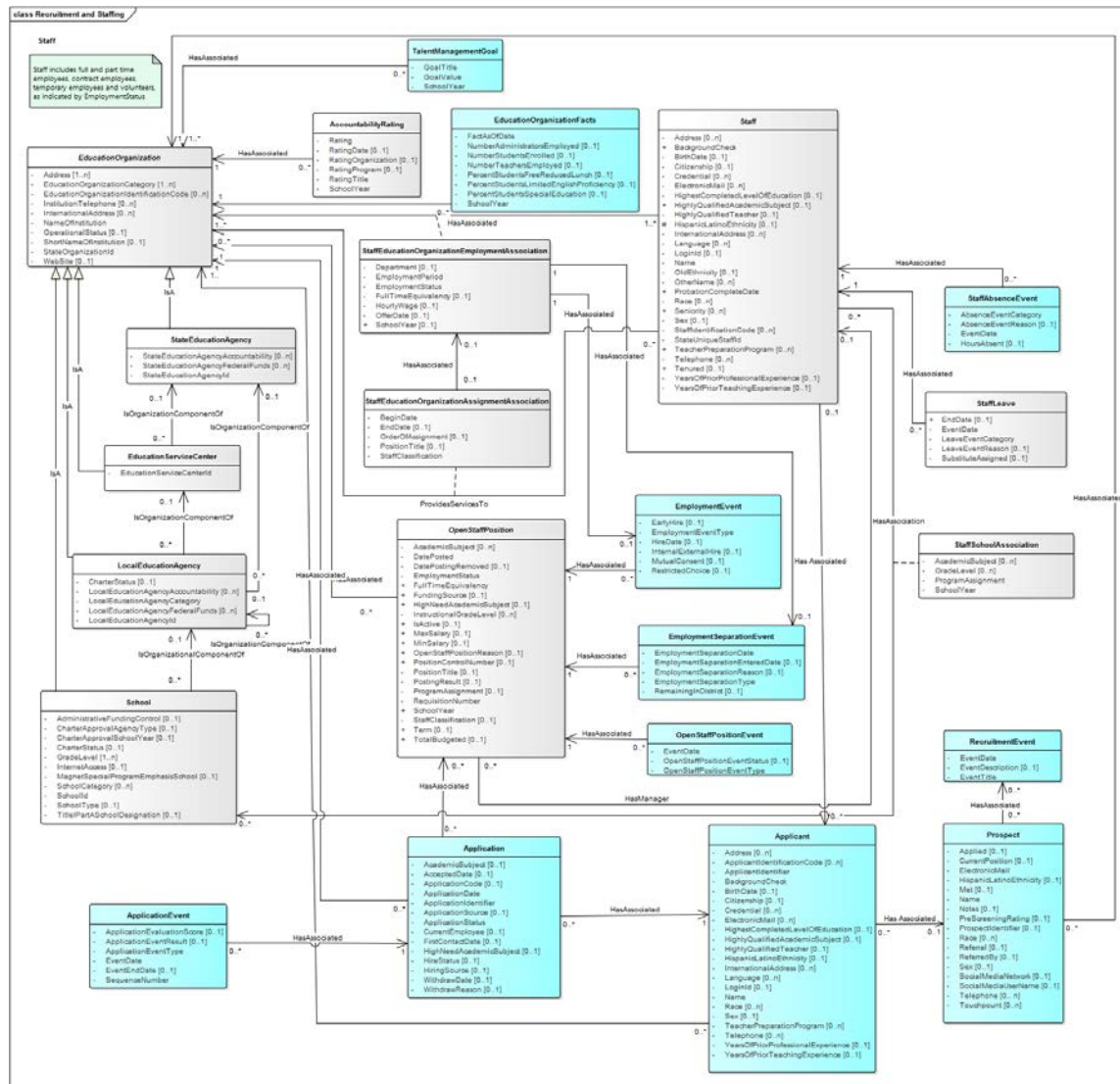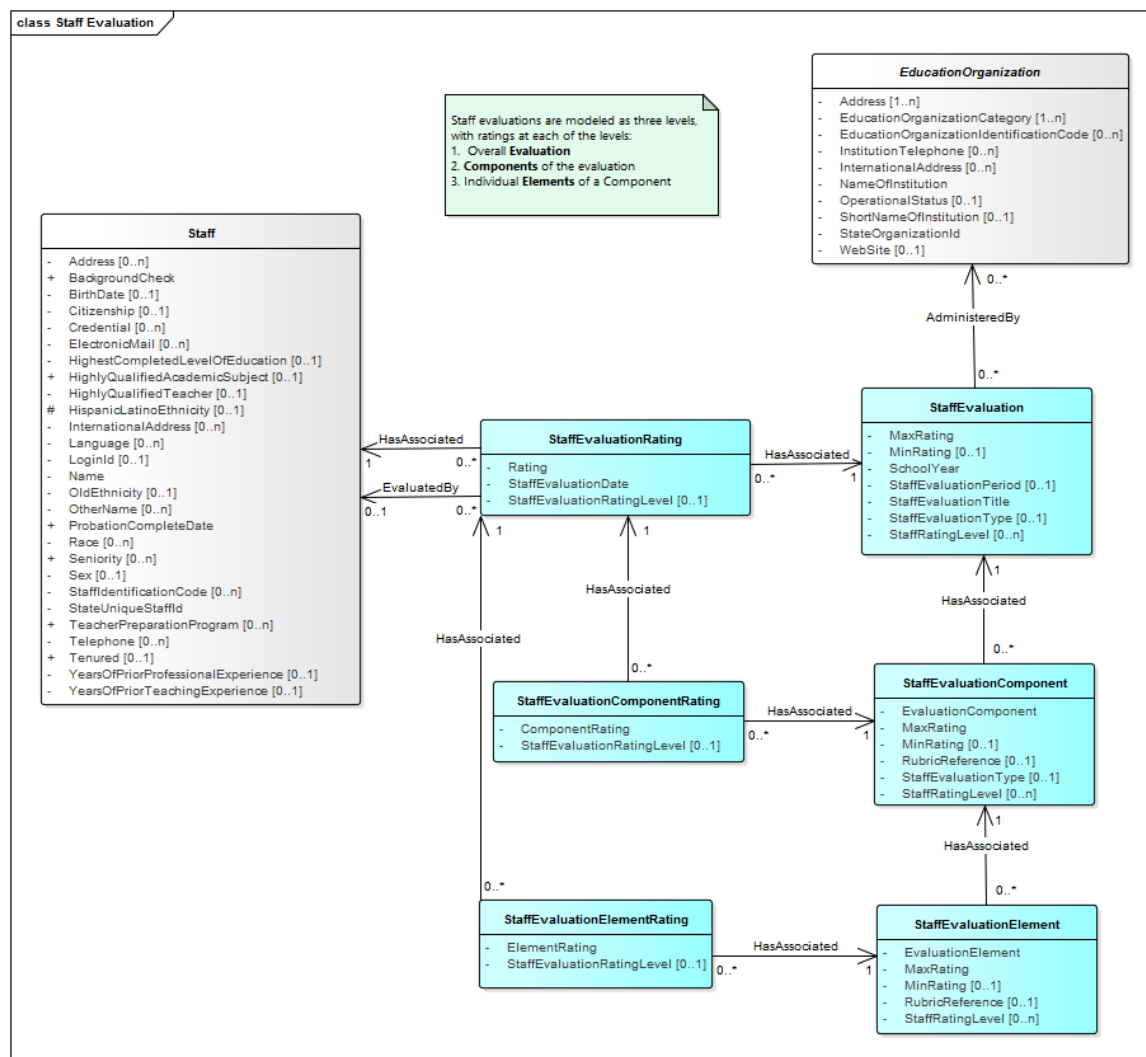
Recruitment and Staffing

Figure 1. Recruitment and Staffing Class Diagram

Staff Evaluation

Figure 2. Staff Evaluation Class Diagram

Survey Class Diagram

class Survey

A survey is a set of questions organized by section. The survey supports the following different types of questions:
1) Radio button: multiple choice, single selection;
2) Checkbox: Multiple choice, multiple selection;
3) Dropdown: multiple choice, single selection;
4) Matrix, numeric rating scale;
5) Matrix of dropdowns;
6) Ranking: a matrix of integer entries.
7) Single textbox;
8) Matrix of text boxes.

Survey responses may be from Staff, Students, Applicants, Parents, or anonymous.

EducationOrganization
- Address [1..n]
- EducationOrganizationCategory [1..n]
- EducationOrganizationIdentificationCode [0..n]
- InstitutionTelephone [0..n]
- InternationalAddress [0..n]
- NameOfInstitution
- OperationalStatus [0..1]
- ShortNameOfInstitution [0..1]
- StateOrganizationId
- WebSite [0..1]

HasAssociated   1..*   0..*

Survey
- SchoolYear
- SurveyCategory [0..1]
- SurveyIdentifier
- SurveyTitle
- Term [0..1]

SurveyResponse
- ElectronicMailAddress [0..1]
- FullName [0..1]
- Location
- ResponseDate
- SurveyResponseIdentifier

HasAssociated   0..*   1

HasAssociated   1..*

SurveySection
- SurveySectionTitle

HasAssociated

SurveySectionResponseRating
- SectionRating

HasAssociated   0..*   1

HasAssociated   1..*

SurveyQuestion
- MatrixElement [0..n]
- NumericChoice [0..n] {ordered}
- QuestionCode
- QuestionForm
- QuestionText
- TextChoice [0..n] {ordered}

SurveyQuestionResponse
- NoResponse [0..1]
- NumericResponse [0..1]
- SurveyQuestionMatrixElementResponse [0..n]
- TextResponse [0..1]

HasAssociated   0..*   1

HasAssociated   1..*

HasAssociated

Staff
- Address [0..n]
+ BackgroundCheck
- BirthDate [0..1]
- Citizenship [0..1]
- Credential [0..n]
- ElectronicMail [0..n]
- HighestCompletedLevelOfEducation [0..1]
+ HighlyQualifiedAcademicSubject [0..1]
- HighlyQualifiedTeacher [0..1]
HispanicLatinoEthnicity [0..1]
- InternationalAddress [0..n]
- Language [0..n]
- LoginId [0..1]
- Name
- OldEthnicity [0..1]
- OtherName [0..n]
+ ProbationCompleteDate
- Race [0..n]
+ Seniority [0..n]
- Sex [0..1]
- StaffIdentificationCode [0..n]
- StateUniqueStaffId
+ TeacherPreparationProgram [0..n]
- Telephone [0..n]
+ Tenured [0..1]
- YearsOfPriorProfessionalExperience [0..1]
- YearsOfPriorTeachingExperience [0..1]

Applicant
- Address [0..n]
- ApplicantIdentificationCode [0..n]
- ApplicantIdentifier
- BackgroundCheck
- BirthDate [0..1]
- Citizenship [0..1]
- Credential [0..n]
- ElectronicMail [0..n]
- HighestCompletedLevelOfEducation [0..1]
- HighlyQualifiedAcademicSubject [0..1]
- HighlyQualifiedTeacher [0..1]
- HispanicLatinoEthnicity [0..1]
- InternationalAddress [0..n]
- Language [0..n]
- LoginId [0..1]
- Name
- Race [0..n]
- Sex [0..1]
- TeacherPreparationProgram [0..n]
- Telephone [0..n]
- YearsOfPriorProfessionalExperience [0..1]
- YearsOfPriorTeachingExperience [0..1]

Student
- Address [0..n]
- BirthData
- Citizenship [0..1]
- CohortYear [0..n]
- Disability [0..n]
- DisplacementStatus [0..1]
- EconomicDisadvantaged [0..1]
- ElectronicMail [0..n]
- HispanicLatinoEthnicity
- InternationalAddress [0..n]
- Language [0..n]
- LearningStyle [0..1]
- LimitedEnglishProficiency [0..1]
- LoginId [0..1]
- Name
- OldEthnicity [0..1]
- OtherName [0..n]
- ProfileThumbnail [0..1]
- ProgramParticipation [0..n]
- Race [0..n]
- SchoolFoodServicesEligibility [0..1]
- Sex
- StudentCharacteristic [0..n]
- StudentIdentificationCode [0..n]
- StudentIndicator [0..n]
- StudentUniqueId
- Telephone [0..n]

Parent
- Address [0..n]
- ElectronicMail [0..n]
- InternationalAddress [0..n]
- LoginId [0..1]
- Name
- OtherName [0..n]
- ParentUniqueId
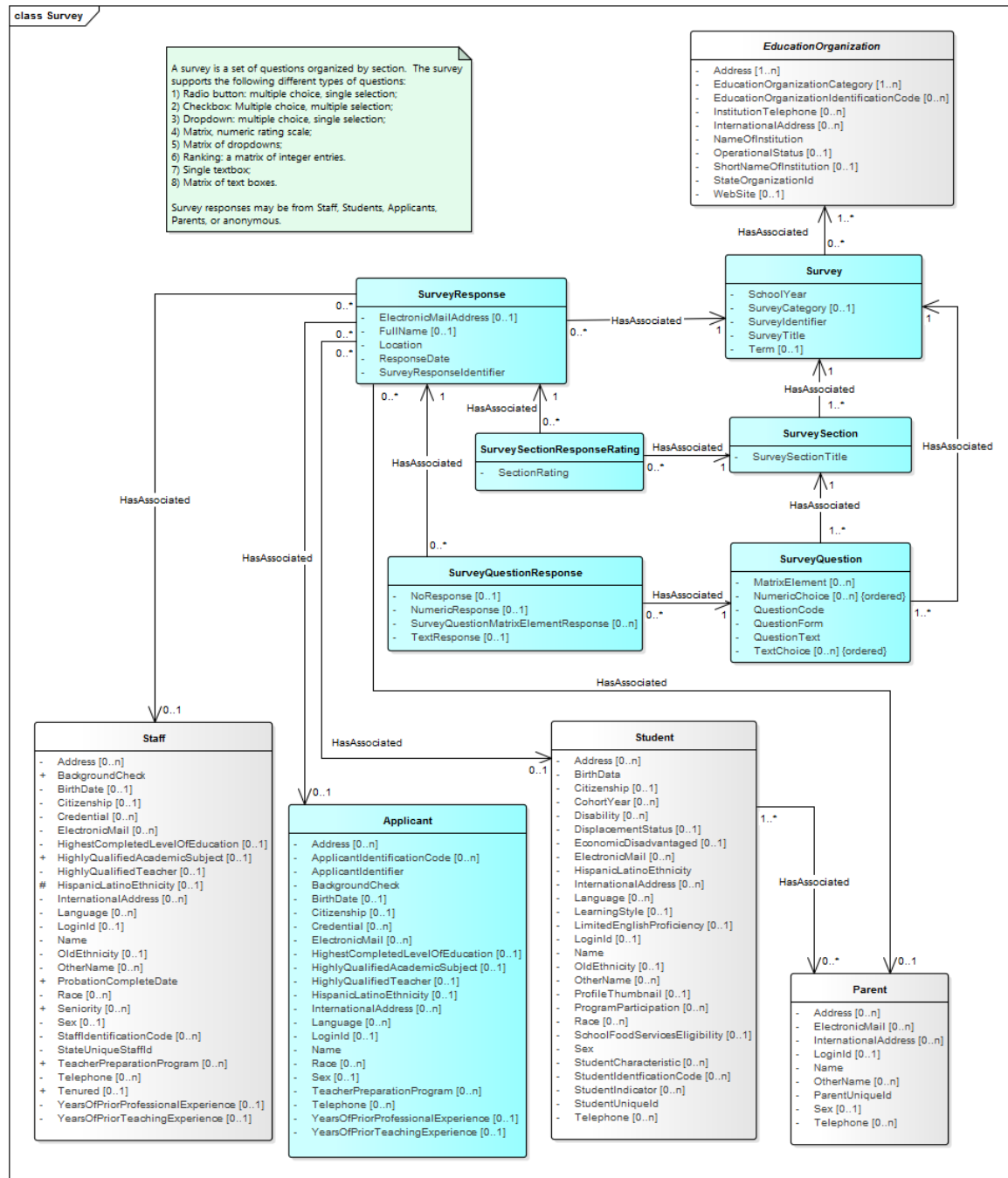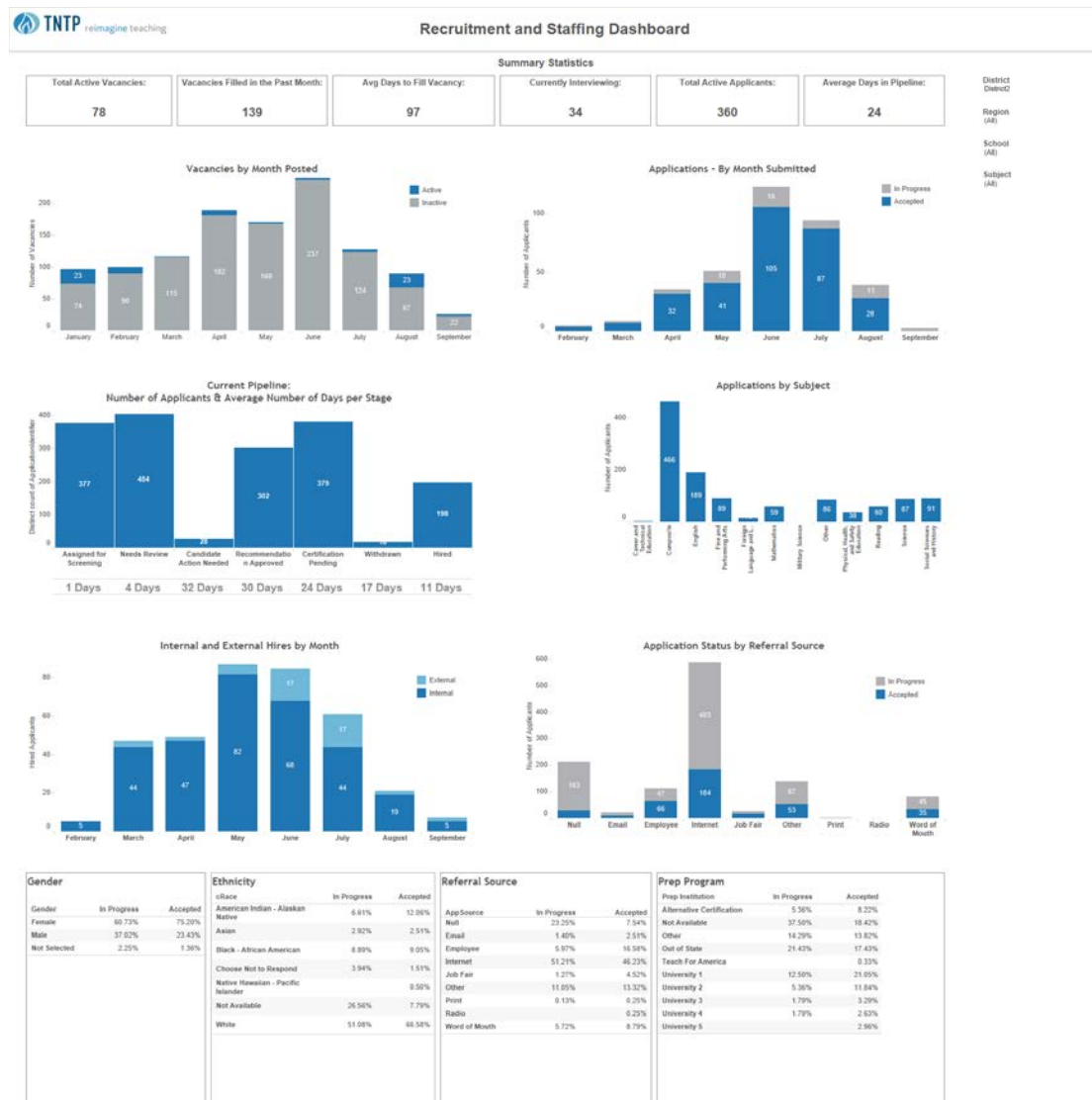- Sex [0..1]
- Telephone [0..n]
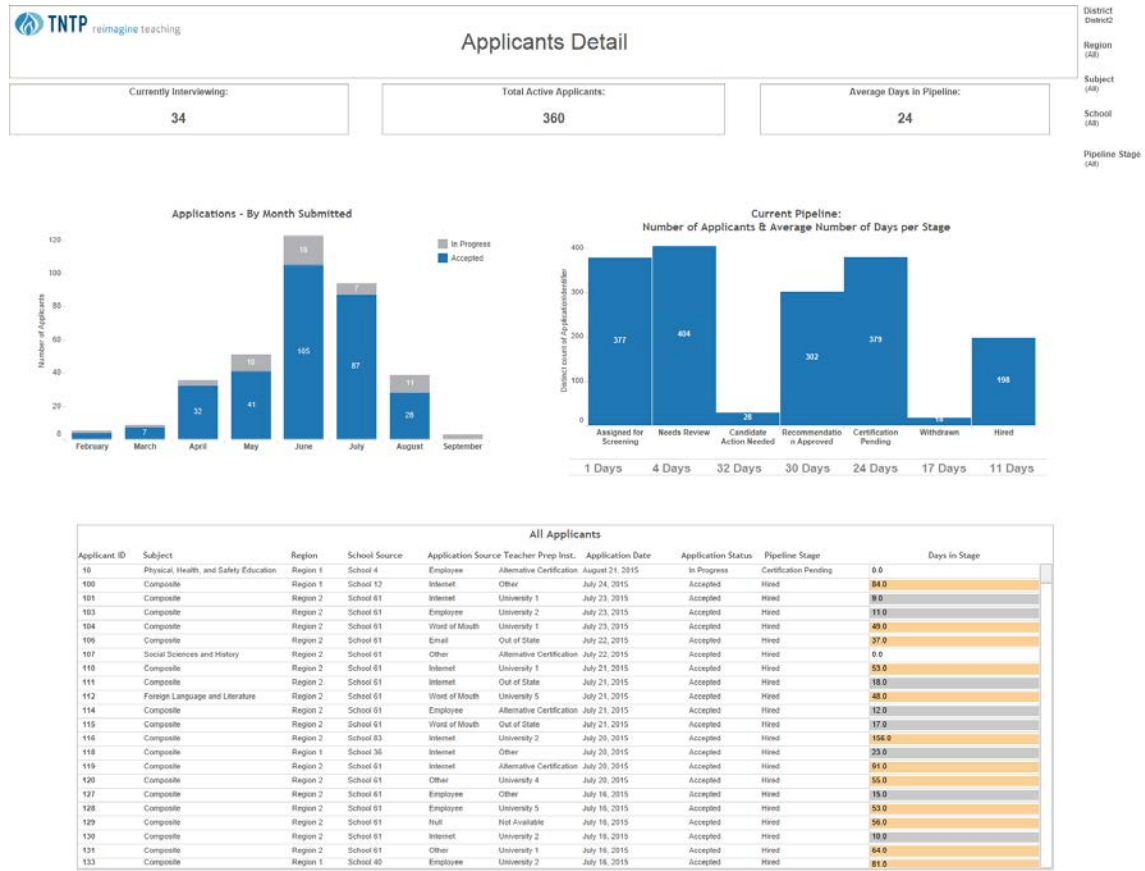
Figure 3. Survey Class Diagram

Extension Visualizations

The following screen shots provide visualizations of the Teacher Talent Management extensions that are used internally at TNTP for decision making. The visualizations are not part of the extension. They are shown for illustrative purposes only. Please contact TNTP for more details.
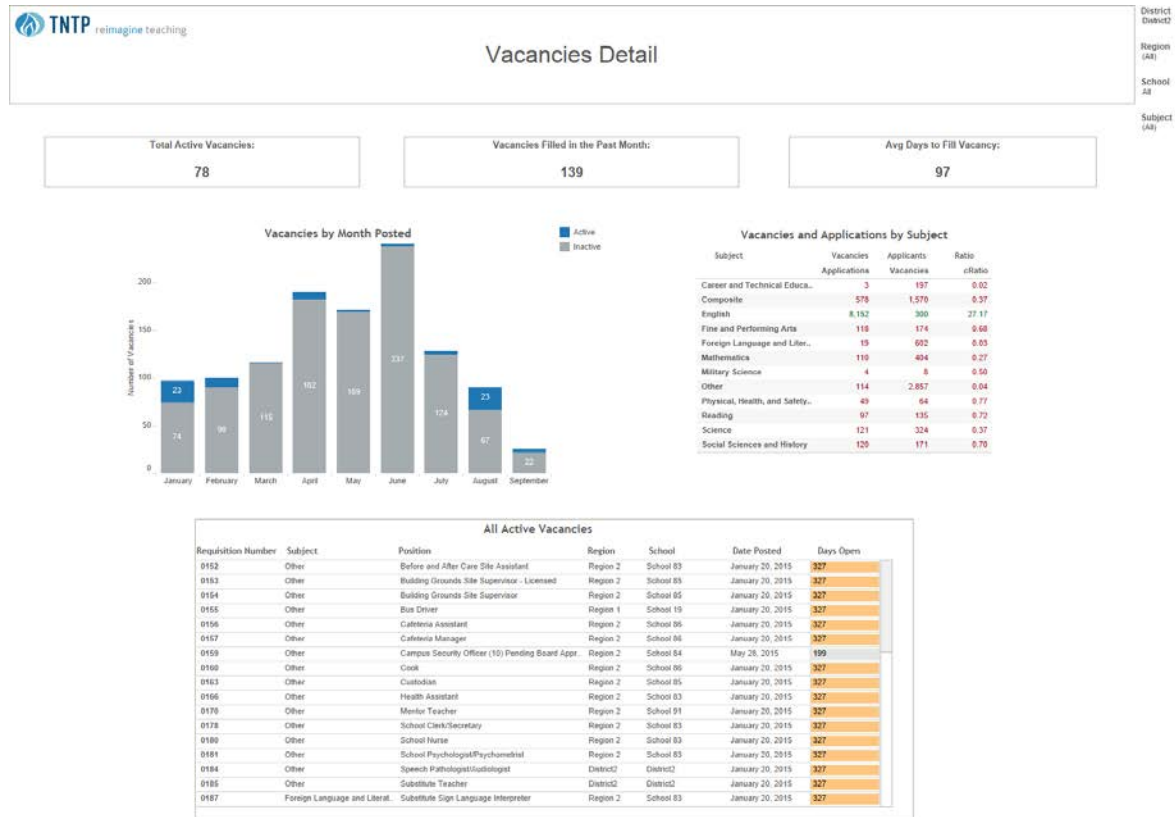
Recruitment and Staffing Dashboard

Applicants Detail

Vacancies Detail

Implementing the Extension

Follow the instructions below to apply the TNTP Extensions for Teacher Talent Management to the Ed-Fi ODS / API.

Confirm or Install the Ed-Fi ODS / API v2.1.1

Confirm that you have successfully downloaded, configured, and installed the Ed-Fi ODS / API v2.1.1, as described in https://techdocs.ed-fi.org/display/ODSAPI21/Getting+Started.

Download the Extension Zip Archive

Download the "zip" archive containing the custom interchange schema, database schema extensions, and interchange order metadata definitions from the Ed-Fi Exchange.

Extract the Zip Archive's Contents

Extract the contents of the zip file archive to a working directory.

Move the Zip Archive's Contents

The set of files that need to move moved to your Ed-Fi ODS / API location are described below. As a short cut, you can copy the entire folder, i.e. copy

\TNTP_Extensions\Ed-Fi-Implementation

to

\(Ed-Fi Path)\Ed-Fi-ODS-Implementation

Changes to Ed-Fi Core Files (for use with Ed-Fi 2.0 Standard only)

The files below are changes the Ed-Fi Data Standard and associated artifacts, that are anticipated to be released as part of the Ed-Fi Data Standard v2.1 release. In the interim, while the Ed-Fi ODS / API is aligned to v2.0 of the data standard, the following changes should be applied (and subsequently reverted when upgrading to a release of the Ed-Fi ODS / API that aligns to the forthcoming v2.1 data standard)

- **Ed-Fi Core Schema**

Source files:	\TNTP_Extensions\Ed-Fi-ODS\Application\EdFi.Ods.CodeGen\App_Packages\Ed-Fi\Schema\Ed-Fi-Core.xsd \TNTP_Extensions\Ed-Fi-ODS\Application\EdFi.Ods.Metadata\App_Packages\Ed-Fi\Schema\Ed-Fi-Core.xsd
Target folder:	(Ed-Fi Path)\Ed-Fi-ODS\Application\EdFi.Ods.CodeGen\App_Packages\Ed-Fi\Schema (Ed-Fi Path)\Ed-Fi-ODS\Application\EdFi.Ods.Metadata\App_Packages\Ed-Fi\Schema

- **Database Structure Scripts**

Source files:	\TNTP_Extensions\Ed-Fi-ODS-Implementation\ Database\Structure\EdFi 0001-Staff-HispanicLatinoEthnicity-Is-Nullable.sql 0002-Talent-Management-Enhancements-to-Ed-Fi-Core.sql 0003-Talent-Management-OpenStaffPosition-Primary-Key-Slimming.sql
Target folder:	(Ed-Fi Path)\Ed-Fi-ODS\Database\Structure\EdFi

Extension Schema Files and Metadata

The following XML schema files must be moved (or copied) as indicated below.

- **Ed-Fi Core Extension Schema**

Source files:	\TNTP_Extensions\Ed-Fi-Implementation\Extensions\Schemas\ EXTENSION-Ed-Fi-Extended-Core.xsd
Target folder:	(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Extensions\Schemas

- **Extension Interchange Schemas**

Source files:	*\TNTP_Extensions\\Ed-Fi-Implementation\Extensions\Schemas*
	Interchange-RecruitmentAndStaffing.xsd
	Interchange-StaffEvaluation.xsd
	Interchange-Survey.xsd
	Interchange-TalentMgmtDescriptors.xsd
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Extensions\Schemas*

- **Extensions Metadata**

Source files:	*\TNTP_Extensions\Ed-Fi-Implementation\Extensions\Metadata*
	DomainMetadata-Extension.xml
	InterchangeOrderMetadata-Extension.xml
	PredefinedContextMetadata-Extension.xml
	SkipReferenceMetadata-Extension.xml
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Extensions\Metadata*

Extension Database Scripts

The API build process requires database scripts to adhere to a file naming convention that uses a numerical prefix to define the execution order. You must ensure that the numbers of the scripts files brought in from the Talent Management zip archive blend appropriately with any existing files in the destination directory. For example, when you move the file named *0004- EdFi_Ods_TalentMgmt.sql* , if there is already another file with a "*0014-*" prefix in the destination directory, you'll need to increment the number on the file you are moving to ensure it is applied to the ODS correctly.

- **Extensions Database Structure Script**

Source:	*\TNTP_Extensions\\Ed-Fi-Implementation\ Database\Structure\EdFi \1004-EdFi_Ods_TalentMgmt.sql*
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Database\Structure\EdFi*

- **Database Data (Extension Types, Extension Table Initialization)**

Source:	*\TNTP_Extensions\\Ed-Fi-Implementation\Database\Data\EdFi*
	1002-Insert-Talent-Management-Types.sql
	1003-Populate-Talent-Management-Extension-Records.sql
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Database\Data\EdFi*

Extension Descriptors XML Data

- **Custom Descriptors**

Source:	*\TNTP_Extensions\ Ed-Fi-ODS-Implementation\Database\Data\EdFi\Descriptors*
	InterchangeData-TalentMgmtDescriptors.xml
	Manifest.xml
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Database\Data\EdFi\Descriptors*

PowerShell Build Scripts

- **Enable Descriptor Loading**

Source:	*\TNTP_Extensions\Ed-Fi-ODS-Implementation\Application\SolutionScripts\InitializeDevelopmentEnvironment_TNTP.psm1*
Target folder:	*(Ed-Fi Path)\Ed-Fi-ODS-Implementation\Application\SolutionScripts*

Inserting Resource Claims

The following scripts will be executed against EdFi_Security:

- Scripts\Insert_Descriptor_Resource_Claims.sql
- Scripts\Insert_Type_Resource_Claims.sql
- Scripts\Insert_talent_management_resource_claim.sql

Adding Authorization Metadata for Resource

The following script will also be executed against EdFi_Security:

- Scripts\RecruitmentEventSecurityFix.sql

Prepare the Development Environment

- Run Windows **PowerShell** as Administrator.
- Change to the **C:\Ed-Fi-ODS-Implementation** directory (or whatever is appropriate based on where you cloned/extracted the source code).
- Run the **.\Initialize-PowershellForDevelopment.ps1** script to initialize the PowerShell session with the build scripts.
- Run the **initdev** command to perform the full build process, which includes creating databases, generating source code, and compiling all projects in the solution.

Set the Startup Projects

- Per "Getting Started – Installation Steps, Step 6. Set the Startup Projects", enable the **EdFi.Ods.Admin.Web**, **EdFi.Ods.SwaggerUI**, and **EdFi.Ods.WebApi** projects in Visual Studio's Startup Project property page.

Run the Ed-Fi ODS/API Solution in Visual Studio

- Run the solution in Visual Studio by pressing **Ctl+F5**.
- Select the browser tab containing the Ed-Fi ODS/API **Swagger page**.

Verify Successful Setup

- View the Ed-Fi ODS/API using **Swagger** (see the image below). New API resources should be visible in the "Resources" section for the following subject areas:

- o Recruitment and Staffing (e.g. *applicants*, *prospects*, etc.)

- o Staff Evaluation (e.g. *staffEvaluations*, *staffEvaluationRatings*, etc.)

- o Survey (e.g. *surveys*, *surveyResponse*, etc.)