Ed-Fi Dashboards Plug-in – Early Warning System and Intervention Catalog

August 27, 2015

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Early Warning System

Introduction

The Early Warning System (EWS) was designed to provide teachers and school administrators the ability to identify middle school students at risk of dropping out of school.

While no online system alone can improve student outcomes, the goal of the Early Warning System is to provide a powerful tool for educators to identify areas of student needs and determine effective interventions to course correct trajectories for students at risk.

The system was developed through a partnership between the Pennsylvania Department of Education, the Michael and Susan Dell Foundation (MSDF), and Double Line Partners (DLP). The system was designed on the basis of research by Dr. Robert Balfanz at the Center for Social Organization of Schools, Johns Hopkins University. The Early Warning System focuses on 5 statistically significant predictors of dropout risk:

- A Daily Attendance Rate of less than 80 percent;
- More than 5 School Code of Conduct Violations;
- One or more State Reportable Offense Violations;
- A Failing Math Grade; and
- A Failing English Language Arts Grade

Dr. Balfanz's research has found that students who are off-track with one or more of the indicators may have only a 15% to 25% chance of graduating from high school on time or within one year of expected graduation.

EWS Dashboard Content

Dropout Risk Flag

Students struggling in any of the five predictors of dropout risk will be flagged as a dropout risk in the Early Warning System.



Early Warning System Student View

The Early Warning System tab for a student displays data on the five Early Warning System metrics for that student. The page shows whether that student has met the goal, is in the caution range, or is in the failing range for each Early Warning System metric.

No Image Grand Bend Dashboard a System	ISD Educator and Early Warning	B	EXPORT ALL		0 SUPPORT	E LOG OUT
Grand Bend ISD Grand I	Send Middle School			Q Sear	ch	>
Lonnie A.	Abbott		R. Larsen's Hor	meroom O	Back to list G	9 1 of 240 O
Student Information	Academic Dashboa	ard Ear	ly Warning Sys	stem	Interventio	n Catalog
EARLY WARNING SYST Jump to subcategory: <u>Dropout Ea</u>	EM Iy Warning System					
DROPOUT EARLY WARNING SYST	TEM	METRIC VALUE	TREND	STUDENT GOAL	DIFFERENCE FROM GOAL	DETAILS
Attendance (Through May 27 Percent of days student is in attendance = Dally Attendance Rate	, 2011)	89.2 %		90.0 %	-0.8 %	More 👻
Behavior (Through May 3, 201 Number of discipline incidents	1)					More 👻
State Reportable Offenses		0		o	0	More 💌
School Code of Conduct		0		3	3	More 👻
Current Course Grades (Thr Grade as of last grading period	ough Sixth Six Weeks 2010	0-2011)				More 👻
 Current Math Grade 		84	•	70	14	More 👻
Current Language Arts Grade		60	•	70	-10	More 💌
G Giffed & S Special Talented Education	604 Decignation	E 8L, LEP or Bilingual	E Late Enrollment	P Partia Trans	al 🔼 🚺	lest Accommodation
Met Goal	Below Goal	Caution	A Getting		Setting () Norse	No Change
	opout Risk Interven	tion Assigned	Intervention No	t Assigned		

Early Warning System School View

The Early Warning System tab for a school shows a view of how many students are failing and approaching failing at that school. By clicking on the "More" menu, and then selecting the student list, the user can see a list of all students at the school who are failing or approach failing each metric.

🛞 Grand	d Bend Mide	dle Schoo	I	[O Back to list	O 2 of 3 O
School Information	Academic Dashboard	Early Warning Sy	stem	Interventions	Goa	l Planning
	G SYSTEM					
Jump to subcategory: F	ailing Summary Percent Failin	g Percent Caution				
FAILING SUMMARY	•	METRIC VALUE TREND (% of students)	SCHOOL GOAL	DIFFERENCE FROM GOAL	STUDENT ATTAINMENT (# meeting student gost)	DETAIL \$
Failing Summary Percent of students failing Early	Warning Indicators					
Percent failing all 5 Inc	dicators	0.0 %	5.0 %	5.0 %	0 of 240	More 👻
Percent failing 4 or mo	ore Indicatore	0.0 %	5.0 %	5.0 %	0 of 240	More 👻
Percent failing 3 or mo	ore indicators	0.0 %	10.0 %	10.0 %	0 of 240	More 👻
Percent failing 2 or mo	ore Indicators	1.6 %	15.0 %	13.4 %	4 of 240	More 👻
 Percent failing 1 or mo 	ore indicators	25.4 %	20.0 %	-5.4 %	61 of 240	More 👻
PERCENT FAILING		METRIC VALUE TREND (% of students)	SCHOOL GOAL	DIFFERENCE FROM GOAL	STUDENT ATTAINMENT (# meeting student gosi)	DETAIL \$
Attendance - Failing Percent of students failing daily	g (Through May 27, 2011) attendance indicator					
Percent failing - Daily	Attendance Rate	0.0 %	10.0 %	10.0 %	0 of 240	More 👻
Behavior - Failing (T Percent of students failing beha	Through May 3, 2011) vior indicators					
Percent failing - State	Reportable Offenses	0.4 %	10.0 %	9.6 %	1 of 240	More 💌
 Percent failing - School Incidents 	ol Code of Conduct	0.0 %	10.0 %	10.0 %	0 of 240	More 👻
Current Course Gra Percent of students failing lange	des - Failing (Through Sixt	h Six Weeks 2010-2011))			
Percent failing langua	ge arts	15.0 %	10.0 %	-5.0 %	36 of 240	More 👻
 Percent failing mathematical 	natica	11.6 %	10.0 %	-1.6 %	28 of 240	More 👻
PERCENT CAUTION		METRIC VALUE TREND (% of students)	SCHOOL GOAL	DIFFERENCE FROM GOAL	STUDENT ATTAINMENT (# meeting student gost)	DETAIL S
Attendance - Cautio Percent of students approaching	on (Through May 27, 2011) failing on daily attendance indicator					
 Percent approaching f Rate 	falling - Daily Attendance	5.0 %	10.0 %	5.0 %	12 of 240	More 👻
Behavior - Caution (Percent of students approaching	(Through May 3, 2011) s failing on behavior indicator					
 Percent approaching t Conduct incidents 	failing - School Code of	0.0 %	10.0 %	10.0 %	0 of 240	More 👻
Current Course Gra Percent of students approaching	des - Caution (Through Six failing on language arts or mathematics	th Six Weeks 2010-201 indicator	1)			
 Percent approaching t 	falling language arts	20.0 %	10.0 %	-10.0 %	48 of 240	More 👻
 Percent approaching t 	failing mathematics	17.5 %	10.0 %	-7.5 %	42 of 240	More 👻
Gifted & S & Talented	ipeolal 604 ducation Designation	E SL, LEP or Bilingual	E Late Enrolln	nent Part	lal 🔺	Test Accommodation
Met Goal	Below Goal	Caution	-	Getting Better	Getting () Worse	No Change
	P Dropout Risk	Intervention Assigned	Interve	ention Not Assigned		

Early Warning System District View

The Early Warning System tab at the district level shows how many students are failing and approaching failing across the entire district. By clicking on the "More" menu, and then selecting the student list, the user can see a list of all schools at the district and their school-level values for each Early Warning System Metric.

Grand Bend ISD				🔍 Sea	rch	>
Mo Gr	and Bend IS	SD				
District Information	Academic Dashboard	Early Warnin	ng System	Interventions	Goa	I Planning
EARLY WARNING	SYSTEM					
Jump to subcategory: Fail	ing Summary Percent Failing	Percent Cautio	<u>n</u>			
FAILING SUMMARY		METRIC VALUE TR	DISTRICT END GOAL (% of statements)	DIFFERENCE FROM GOAL	SCHOOL ATTAINMENT	DETAIL \$
Failing Summary	Jaming Indicators					
Percent failing all 5 India	ators	0.0 %	5.0 %	5.0 %	3 of 3	More +
· Percent failing 4 or more	Indicators	0.0 %	5.0 %	5.0 %	3 of 3	More +
Percent failing 3 or more	Indicators	0.0 %	10.0 %	10.0 %	3 of 3	More 👻
 Percent failing 2 or more 	Indicators	2.3 %	15.0 %	12.7 %	3 of 3	More 👻
 Percent failing 1 or more 	e indicators	26.8 %	20.0 %	-6.8 %	0 of 3	More *
PERCENT FAILING		METRIC VALUE TR	DISTRICT END GOAL	DIFFERENCE FROM GOAL	SCHOOL ATTAINMENT	DETAILS
Attendance - Failing (Th	1rough May 27, 2011)		(4.5.10004)			
Percent of students failing daily at Percent failing - Daily At	tendance indicator	0.0 %	10.0 %	10.0 %	3 of 3	More -
Behavior - Failing (Thro	ugh May 13, 2011)					
Percent of students failing behavio	r indicators					
Percent failing - State Re	eportable Offenses	1.0 %	10.0 %	9.0 %	3 of 3	More +
Incidents	Code of Conduct	0.0 %	10.0 %	10.0 %	3 of 3	More +
Current Course Grades	- Failing (Through Sixth Six	Weeks 2010-20	11)			
· Percent failing language	arts	14.3 %	10.0 %	-4.3 %	3	More +
· Percent failing mathema	tice	13.8 %	10.0 %	-3.8 %	3	More +
		METRIC	DISTRICT		SCHOOL	
PERCENT CAUTION		VALUE TR	END GOAL	DIFFERENCE FROM GOAL	ATTAINMENT	DETAILS
Attendance - Caution (T	hrough May 27, 2011)					
 Percent of students approaching fail Percent approaching fail 	iling on daily attendance indicator	43%	10.0 %	5.7%	3 of 3	Mora +
Nate			/*			
esenavior - Caution (Thr Percent of students approaching fr	ough May 13, 2011) iling on behavior indicator					
Percent approaching fai Conduct Incidents	ling - School Code of	0.0 %	10.0 %	10.0 %	3 of 3	More +
Current Course Grades Percent of students approaching for	- Caution (Through Sixth Siz	x Weeks 2010-2	011)			
 Percent approaching fail 	ling language arts	22.5 %	10.0 %	-12.5 %	3	More +
· Percent approaching fail	ling mathematics	20.5 %	10.0 %	-10.5 %	3	More +
Girted &	olal 📻 604	ER.LEP	or 💼 Late	Parti		Test
Talented	Designation	Bilingual	Enrollin	Getting	soript 🛃 , Detting dib	Accommodation
Met Goer	Show Goal			Better	Worse	No Unange
	Dropout Risk	Intervention Assigne	od 🛑 Interve	ention Not Assigned		

Intervention Catalog feature

The Early Warning System was developed in conjunction with a complimentary Intervention Catalog feature. The plug-in available on the Ed-Fi Technology Exchange contains code/assets for both features. The functional details of the Intervention Catalog are documented below. These 2 features can function independently, however the Intervention Catalog will display a summary of any available Early Warning System information to allow a user to easily filter for interventions relating to issues flagged by the EWS.

When used together, EWS alerts when a student is at risk, and IC provides a means to track Intervention actions that are implemented to reduce the student's risk factors.

Technical Overview: Application

Solution Architecture

Procure Core Changes

In order to utilize the EWS plugin, several important updates to the Core codebase are required. In order for the plugin to work as intended the latest version of the Core codebase should be used. If the Core code being used has not been updated since July 14, 2014, the EWS plugin may not work as intended. For this reason and for completeness, below is a list of three pull requests that need to be incorporated into a dashboard application instance. This can be done by simply updating the version of core that is being used or by pulling down and applying each of these updates separately.

- PR #108 Plugin Architecture: Foundation of the Plugin Architecture
- <u>PR #120</u> Fixing Plugin architecture enhancements to EdFiControllerFactory

 <u>PR #141</u> - updated fonts, css, and javascript files to support the plugin architecture

Procure Code

The latest version of the EWS plugin code is provided in a .zip file. It is recommended that this .zip file is extracted in the same directory where the code for Ed-Fi-Alliance/Ed-Fi-Core was pulled. For example, if the Ed-Fi-Core code directory lives at C:\Code, this should also be the location for Ed-Fi-Plugins. The root directory for both repositories and the plugin code should look as below:

Name	Туре	Size
📕 Ed-Fi-Apps	File folder	
L Ed-Fi-Core	File folder	
Ld-Fi-Plugins	File folder	

Address Existing Build Order Issues

Inside the Presentation.Web project folder should live a folder named 'Plugins'. Plugin DLL files are expected to exist at this specific location relative to the executing project. Only files that live at this location are picked up by the application and included for execution.

Part of the build process for dashboard plugins is, in the post build event, to copy any DLL files from the bin directory of the plugin to the Plugins folders mentioned above. This will ensure that the executing applications will be using the most upto-date version of the plugin code.

It is possible, depending on how the references in a project are set up, and how Visual Studio decides to order the build of projects, that DLL files may be built out-of-order, or that DLL files may be purged from the Plugins folders after they are copied, but before execution begins. This will lead to unexpected, incorrect, and often difficult to diagnose behavior. The user can change the project build order by clicking on the Solution file in Visual Studio Solution Explorer, and selecting 'Project Build Order...'. By ensuring that Presentation.Web builds before any plugin assemblies are produced, and ensuring dependent assemblies are built before the post build copy step, the user can ensure the latest version of plugin DLLs are always in the Plugins folders after each build.

Technical Overview: Database/ETL

Overview

Eight ETL packages, two stored procedures and one extension table are created to generate the Early Warning System metrics and drilldowns at each domain level (District, School and Student). There are no ETL packages required for Intervention Catalog.

Database

The Dashboard database and Dashboard Data Warehouse database should be extended to accommodate Early Warning System as follows:

Two new stored procedures:

- dw.DtsxFactCourseGradesExtension
- dw.DtsxFactDiscipline

These scripts are located at \Database\Structure\DashboardDW and include:

- Create-SP-StudentGradePerSubjectPerPeriod.sql
- DtsxFactDisciplineTempTableUpdate.sql

One new table to store historical grades (pulled by student, school, period, subject):

• dw.FactStudentGradesExtension

This script is located at \Database\Structure\DashboardDW and includes:

Create-FactExtension-Table-FactStudentGradesExtension.sql

Dashboard

Four new dashboard packages:

- StudentEarlyWarningSystemMetrics
- SchoolEarlyWarningSystemMetrics
- LocalEducationAgencyEarlyWarningSystemMetrics
- ContextContainerMetricsExtensions

The ContextContainerMetricExtensions package can be merged into the existing Core ContextContainer package or renamed as desired.

Dashboard Data Warehouse

Four new fact packages (name conflicts with Core would need to be resolved):

- FactEarlyWarningIndicators
- FactAttendance
- FactDiscipline
- FactCourseGrades

ETL Load

Dashboard

SSIS ETL package 1. This package reads student data from attendance, behavior and grade domains from DDS (calculated by Core) to calculate and power student level Early Warning System Metrics and drill-downs. This package is located at *\Etl\EdFi.Etl.Dashboard.Extensions.EWS* and includes:

• StudentEarlyWarningSystemMetrics.dtsx

SSIS ETL package 2. This package will roll up data from student level metrics to power school level metrics and drilldowns. This package is located at *\Etl\EdFi.Etl.Dashboard.Extensions.EWS* and includes:

SchoolEarlyWarningSystemMetrics.dtsx

SSIS ETL package 3. This package will roll up data from school level metrics to power district level metrics and drilldowns. This package is located at *\Etl\EdFi.Etl.Dashboard.Extensions.EWS* and includes:

LocalEducationAgencyEarlyWarningSystemMetrics.dtsx

SSIS ETL package 4. This package will apply refresh dates to Early Warning Metrics at each level. This package is located at *\Etl\EdFi.Etl.Dashboard.Extensions.EWS* and includes:

ContextContainerMetricsExtension.dtsx

Dashboard Data Warehouse

SSIS ETL package 5. This package calculates and stores student and school level Early Warning Indicators in the Dashboard Data Warehouse to support historical drilldowns. This package is located at *\Etl\EdFi.Etl.DW.Extensions.EWS* and includes:

• FactEarlyWarningIndicators.dtsx

SSIS ETL package 6. This package calculates and stores student and school level Early Warning Attendance in the Dashboard Data Warehouse to support historical drilldowns. This package is located at *\Etl\EdFi.Etl.DW.Extensions.EWS* and includes:

• FactAttendance.dtsx

SSIS ETL package 7. This package calculates and stores student and school level Early Warning Discipline in the Dashboard Data Warehouse to support historical drilldowns. This package is located at *\Etl\EdFi.Etl.DW.Extensions.EWS* and includes:

• FactDiscipline.dtsx

SSIS ETL package 8. This package calculates and stores student and school level Early Warning Course Grades in the Dashboard Data Warehouse to support historical drilldowns. This package is located at *\Etl\EdFi.Etl.DW.Extensions.EWS* and includes:

• FactCourseGrades.dtsx

Execution Order

If Ed-Fi provided Execution order is used to run Dashboard Packages, above mentioned packages should be added to graph as mentioned below:

- Run the Dashboard packages listed under SSIS ETL package 1, SSIS ETL package 2, SSIS ETL package 3, SSIS ETL package 4 in the same order.
- Run the Dashboard DW package listed under SSIS ETL package 5, SSIS ETL package 6, SSIS ETL package 7, SSIS ETL package 8 in any order.

Intervention Catalog

Introduction

The Intervention Catalog was designed to provide teachers and school administrators with real-time, actionable data information about student performance at the middle school level. An Intervention Catalog will help educators provide meaningful programs for at-risk students. The goal is to provide a powerful tool for educators to identify areas of student need and determine effective interventions for students at risk.

The interventions incorporated into the Intervention Catalog may include a range of attendance, behavioral, academic, and social-emotional programs that are offered in each district. Under each category, the interventions detailed for the catalog could include the following:

- 1. Attendance: Truancy elimination services, attendance monitoring
- 2. **Behavior:** Positive behavior supports, character education resources, anti-bullying, anger management
- 3. Academic: Tutoring, afterschool programs, IEP, 504 services, career planning
- 4. **Social-emotional:** Social workers, counseling, SAP teams, mental health, substance abuse education and services, and mentors

Some mandated interventions may also be available to all districts including the Student Assistance Program, truancy elimination programs supported by the county courts, and various mental health and drug and alcohol abuse services. Each district will need to work with their community partners and district staff to determine the appropriate interventions to include in the Intervention Catalog. The Intervention Catalog is built to be a district specific list of records. However, a system admin has the ability to import interventions from one district to another. The import creates a separate record for the new district and they are not linked in any technical means.

Intervention Catalog Dashboard Content

Additional Items Added for Intervention Catalog

The actions highlighted in black were added to support the Intervention Catalog.

	View my Metric	View my Students	View all Metrics	View all Students	View all Teachers	View Operational Dashboard	Assign Intervention	Manage Intervention Catalog	Administer Dashboard	Manage Goals	Access Organization	Impersonate Users
Staff	Х											
Specialist	х	х										
Leader	х	х		х			X					
Administra tion	х	х	х	х			X					
Principal	х	х	х	х	х	х	X	X				
Superinte ndent	х	х	х	х	х	х	X	X		х		
System Administra tion	х	х	х	х	х	х	×	X	х	х	х	х
Interventio n Administra tion	х							X				

Viewing Interventions

District Overview Page

Intervention administrators can view and manage all district interventions from the Interventions tab. The Intervention Catalog is accessed by clicking on the Intervention tab.

No Image	Gra	and E	Bend				
District Informa	tion	Academic	Dashboard	Early Warning System	Interve	entions	Goal Planning
Overview	Atten Dis	dance and scipline	State Assessment	Local s Assessments	Grades and Credits	Advanc Academ	ed College and Career ics Readiness
2012 Accounta	bility Ra	i ting: Recogr	nized				
	RY			PERFORMANCE SUM	MARY I	METRIC STATU	s
 Attendance a Student attendance Attendance Daily and class Discipline Discipline incid 	nd Disc and discip period atten ents and act	ipline line patterns idance ions		10 metrics met go 4 metrics met goa	al I		
• State Assess State examinations • State Stand Performance and	and assess and assess ardized progress o	ments Assessmen n state standardiz	ts ed tests	2 of 8 metrics met g	oal		
 Local Assess Local examination Benchmark Performance and 	s and assess Assess progress o	sments S ments n local benchmar	k assessments	0 of 1 metric met go	pal	1	
 Grades and C Student progressio Course Gra Performance and Course Gra Performance and 	Credits n in course des: Se progress in des: Pri progress in	work condary a coursework mary a subject areas		4 of 8 metrics met g 0 of 4 metrics met g	oal		

District Intervention List

All available district interventions can be viewed by clicking on the Intervention tab. By clicking on the name of the intervention more details can be viewed for any intervention.

No Image Gra	and Bend					
Site Configuration	Claim Sets	Metric Sett	ings	Photo M	anagement	Interventions
Intervention L	ist	Search Interve	ntions		Impor	t Interventions
						+ ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOC	ATION	INTERVENTION LEVEL	
A Social Work ★★★★★ (1)	Dee Keena	General Population	Grand E School, G Middle Sc Bend Eleme	Bend High Brand Bend hool, Grand entary School	Tier 3	More 🔻
<u>Access</u> 含含含含含 <u>(0</u>	Lori Chuba	General Population	Ref	ferral	Tier 3	More 🔻
After School Program	m) Christina	General Population	Ref	ferral	Tier 1, Tier 2	More 🔻
After School Tutorin 文文文文文	ug) Jim Smith	General Population	Grand B Sc	end Middle hool	Tier 1	More 🔻
<u>Barbs</u> 含含含含含(0) Barb Conville	General Population	Ref	ferral	Tier 2	More 🔻
<u>Caught Being Good</u> <u>Program</u> ☆ ☆ ☆ ☆ ☆ ☆ (0)	Intervention Coordinator	General Population		,	Tier 1	More 🔻

Intervention Details

An expanded view of the intervention with additional details will display by clicking on the intervention name.

te Configuration	Claim Sets	Metric Set	tings	Photo M	lanagement	Intervention
Intervention List		Search Interv	entions		Impo	ort Interventions
					I	+ ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOCA	ATION	INTERVENTION LEVEL	N
A Social Work ★★★★★ (1)	Dee Keena	General Population	Grand B School, G Middle Sch Bend Eleme	end High rand Bend nool, Grand entary School	Tier 3	More 🔻
Intervention Details						×
A Social Work						
Intervention Contact: Dee Keena dk@battlinminers.com 570-544-1400		Intervention Lev Tier 3: Individual/Sr Specialist)	els: nall Group	(with	Gender: Both	
Improvement Areas: Behavior Other		Population: General Population			Duration: 1 Day(s)	
School Availability: <u>Grand Bend High Schoo</u>	Ī	Location: Grand Bend High S Grand Bend Middle Grand Bend Eleme	ichool School ntary Scho	ol	Grade level K-12	:
Eligibility: No Eligibility Requirements	3	Cost: No Cost			Parent Pern Required:	nission

Searching Interventions

Search Interventions Page

In the Interventions section click on the Search Interventions tab to search for available interventions.

Site Configuration Claim Sets Metric Settings Photo Management Intervention Intervention List Search Interventions Import Interventions Import Interventions Keyword: School Availability: Grand Bend High School Coation: Population: Eligibility Grand Bend High School Grand Bend Middle School Grand Bend High School Special Education Parent Permission Required Grand Bend Grand Bend English Language School English Language Learner Improvement Areas: Grade Levels: Intervention Level: Gender Specific: Attendance Kindergarten Tier 1: Whole Class Not a Gender Specific: Mathematics Second Grade Tier 2: Small Group (with Teacher) Premale	Mo Image Gra	and Bend				
Intervention List Search Interventions Import Interventions Keyword: School Availability: Location: Population: Eligibility Grand Bend High School Referral General Population: Cost Grand Bend Middle School Grand Bend Middle School Grand Bend High School Special Education Parent Permission Required Grand Bend Improvement Areas: Grade Levels: Intervention Level: Gender Specific: Mathematics Kindergarten Tier 1: Whole Class Not a Gender Specific: Not a Gender Specific:	Site Configuration	Claim Sets	Metric Settin	js Photo	o Manageme	nt Interventions
Keyword: School Availability: Location: Population: Eligibility Grand Bend High School Special Education Parent Permission Required Grand Bend Grand Bend Flowenter: Grand Bend Flowenter: Thervention Level: Gender Specific: Improvement Areas: Grade Levels: Intervention Level: Gender Specific: Attendance Kindergarten Tier 1: Whole Class Not a Gender Specific: Mathematics Second Grade Tier 2: Small Group (with Teacher) Not a Gender Specific:	Intervention L	ist	Search Intervent	ns	, i	Import Interventions
Eligibility School Grand Bend High Grand Bend High Cost Grand Bend Middle School School Solution Parent Permission Grand Bend Middle Grand Bend Middle School Solution Grand Bend Grand Bend School Grand Bend Middle School Solution Improvement Areas: Grade Levels: Intervention Level: Gender Specific: Attendance Kindergarten Tier 1: Whole Class Not a Gender Specific: Behavior Second Grade Tier 2: Small Group Female	Keyword:	School Avai	lability: Lo	ation:	P	Population:
Improvement Areas: Grade Levels: Intervention Level: Gender Specific: Attendance Kindergarten Tier 1: Whole Class Not a Gender Specific: Behavior First Grade Tier 2: Small Group (with Teacher) Female	 Eligibility Cost Parent Permissic Required 	School Grand Ben School Grand Ben School	d Middle	Srand Bend Hig ool Grand Bend Mi ool	gh iddle 0 ↓ L	Special Education 504 Designation English Language Learner
Language Arts Third Grade Other Fourth Grade	Improvement Areas Attendance Behavior Mathematics Language Arts Other	Grade Level Kindergarte First Grade Second Gra Third Grade Fourth Grade	s: Int en ade (w e Gr	rvention Lev ier 1: Whole C ier 2: Small G h Teacher) ier 3: Individua up (with Speci	vel: G Class roup I al/Small ialist)	Sender Specific: Not a Gender Specific Intervention Female Male

Intervention Search Results

Interventions can be searched by keyword, eligibility requirements, cost, parent permission required, school availability, location, population, improvement area, grade level, intervention level, and gender-specific. Interventions can also be edited, deleted, or assigned to a watch list.



Assigning Interventions to a Watch List

Assigning an Intervention to Watch List

When assigning an intervention to a watch list, the system creates a separate instance of the intervention for each student on the watch list.



Add Intervention Button

In the Interventions section, a new intervention can be added to the Intervention Catalog by clicking on the "Add Intervention" button.

No Image Gra	and Ben	d			
Site Configuration	Claim Sets	Metric Sett	ings Photo M	anagement	Interventions
Intervention	List	Search Interve	ntions	Impo	rt Interventions
				l	+ ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOCATION	INTERVENTION LEVEL	
<u>A Social Work</u> ★★★★★ (1) Dee Keena	General Population	Grand Bend High School, Grand Bend Middle School, Grand Bend Elementary School	Tier 3	More 🔻

Add Intervention Page

Enter values for each field and select "Add Intervention" at bottom of page to create a new intervention.

ite Configuration	Claim Sets	Metric S	ettings	Photo Manage	ment	Intervention
Intervention List		Search Inte	erventions		Impoi	t Interventions
Add Intervention Intervention Name: Intervention Contact:	* D	escription:				
ntervention Contact E .g. you@email.com	mail:					
ntervention Contact P a.g. 555-555-1212	hone:					
Eligibility Requireme No Yes Unknown	nts: * Ci	* Cost Requirements: No Yes Unknown		 Parent Permission No Yes Unknown 		iission Require
Duration:	* Interventio	n Levels:	* Gender S	pecific:	* Imp	provement Area
 No Specific Duration Specific Duration Unknown 	Tier 1: Wh Tier 2: Sm (with Teacher Tier 3: Individual/Sm	ole Class A all Group r) all Group	 Not a Ger Specific Inte Female Male Unknown 	rvention	At Be Ma La	tendance ehavior athematics inguage Arts ther
School Availability:	* Location:		* Populatio	n:	* Gra	des:
Entire District Grand Bend High School Grand Bend Middle School	 Referral All Schools Grand Ber School Grand Ber 	All Schools Grand Bend High chool Grand Bend Middle		Population ducation ination anguage	Ceve Leve Ki Fii	oen To All Grade Is ndergarten rst Grade econd Grade

Add Intervention Page – Required Fields

Enter values for all fields except for "Intervention Contact Email" and "Intervention Contact Phone". Select "Unknown" if the information is not known.

	and Bend	b					
Site Configuration	Claim Sets	Metric Se	ettings I	Photo Manager	ment	Interventions	
Intervention L	ist	Search Inter	rventions		Import	t Interventions	
Add Intervention * Intervention Nam * Intervention Conta e.g. you@email.com Intervention Conta e.g. 555-555-1212	e: act: ct Email: ct Phone:	* Description:					
* Eligibility Require No Yes Unknown	ements:	* Cost Requireme No Yes Unknown	ents:	* Paren No Yes Unkn	t Perm	ission Required:	
* Duration: O No Specific Duration Specific Duration Unknown	* Interver	Mole Class Small Group cher)	* Gender Sj O Not a Gen Specific Inter Female Male Unknown	pecific: Ider rvention	* Imp Att Be Ma Lai Ott	rovement Areas endance havior athematics nguage Arts her	•
* School Availabilit Entire District Grand Bend High School Grand Bend Middle School	ty: * Location Referra All School School Grand B	n: al ^ ools Bend High Bend Middle •	* Population General P Special Ed 504 Desig English La Learner	n: 'opulation ducation ination anguage	* Gra Op Level Kir Fir Se	des: en To All Grade s ndergarten st Grade cond Grade	•
* denotes a require	d field	ADD INTERVENTION	N CANCEL				

Editing Interventions

Editing an Intervention

An intervention can be edited by clicking on the "More" drop down button and selecting "Edit".

Site Configuration Claim Sets Metric Settings Photo Management Interventions Intervention List Search Interventions Import Interventions Import Interventions INTERVENTION CONTACT POPULATION LOCATION INTERVENTION LEVEL A Social Work Dee Keena General Population Grand Bend High School, Grand Bend Middle School, Grand Bend Bend Elementary School Tier 3 More * Access (0) Lori Chuba General Population Referral Tier 3 Import Interventions After School Program ******* Christina General Population Grand Bend Middle Bend Elementary School Tier 1, Tier 2 After School Tutoring ************************************		nd Bend				
Intervention List Search Interventions Import Interventions INTERVENTION CONTACT POPULATION LOCATION INTERVENTION LEVEL A Social Work Dee Keena General Population Grand Bend High School, Grand Bend Middle School, Grand Bend Middle School Tier 3 More * Access (0) Lori Chuba General Population Referral Tier 3 E Assign to Watch Lis After School Program ******** (1) Christina General Population Referral Tier 1, Tier 2	Site Configuration	Claim Sets	Metric Sett	ings Photo M	lanagement	Interventions
INTERVENTION CONTACT POPULATION LOCATION INTERVENTION LEVEL A Social Work Dee Keena General Population Grand Bend High School, Grand Bend Bend Elementary School Tier 3 More ▼ Access (0) Lori Chuba General Population Referral Tier 3 Image: Christina General Population Referral Tier 3 Image: Christina General Population Referral Tier 1, Tier 2 Image: Christina General Population Grand Bend Middle Image: Christina Image: Christina General Population Grand Bend Middle Image: Christina Image: Christina General Population Grand Bend Middle Image: Christina Image: Christina Image: Christina General Population Grand Bend Middle Image: Christina <	Intervention List		Search Interve	entions	Import	Interventions
INTERVENTION CONTACT POPULATION LOCATION INTERVENTION LEVEL A Social Work					6	ADD INTERVENTION
A Social Work Dee Keena General Population Grand Bend High School, Grand Bend Bend Elementary School Tier 3 More ▼ Access (0) Lori Chuba General Population Referral Tier 3 Image: Comparison of the	INTERVENTION	CONTACT	POPULATION	LOCATION	INTERVENTION LEVEL	
Access [] Details (0) Lori Chuba General Population Referral Tier 3 [] Reviews After School Program Christina General Population Referral Tier 1, Tier 2 I dit After School Tutoring Jim Smith General Population Grand Bend Middle School Tier 1 More ▼	<u>A Social Work</u> ★ ★ ★ ★ ★ <u>(1)</u>	Dee Keena	General Population	Grand Bend High School, Grand Bend Middle School, Grand Bend Elementary School	Tier 3	More 🔻
After School Program Christina General Population Referral Tier 1, Tier 2 ✓ Edit ★★★★★(1) Christina General Population Referral Tier 1, Tier 2 ✓ Edit After School Tutoring Jim Smith General Population Grand Bend Middle School Tier 1 More ▼	<u>Access</u> ★ ★ ★ ★ ★ <u>(0)</u>	Lori Chuba	General Population	Referral	Tier 3	E1 Details E1 Reviews E Assign to Watch List
After School Tutoring Jim Smith General Population Grand Bend Middle School Tier 1 More •	After School Program	Christina	General Population	Referral	Tier 1, Tier 2	Edit Delete
	After School Tutoring 会会会会会会会会会。 (0)	Jim Smith	General Population	Grand Bend Middle School	Tier 1	More *

Edit Intervention Page

The intervention can be edited and after making changes, click the "Save Intervention" button.

Site Configuration	Claim Sets	Metric Set	ttings Ph	ioto Managen	nent Interventions
Intervention List Edit Intervention Intervention Name: A Social Work Intervention Contact Dee Keena Intervention Contact E dk@battlinminers.com Intervention Contact F 570-544-1400	* Do Gen Email:	Search Intervention:	rentions	led school socia	Import Interventions
Eligibility Requireme No Yes Unknown	ents: * Co	ost Requireme No Yes Unknown	nts:	* Parent No Yes Unknow	t Permission Required
Duration: No Specific Duration Specific Duration 1 Day(s)	* Intervention	on Levels: ole Class all Group r) all Group	Gender Specific Interve Female Male Unknown	er ention	* Improvement Areas Attendance Behavior Mathematics Language Arts Other
School Availability: Carand Bend High School Grand Bend Middle School	 Cocation: Referral All Schools Grand Ber School Grand Ber 	s nd High	General Population: General Population: Special Edu 504 Designa English Lan Learner	pulation ication guage	 Grades: Ø Open To All Grade Levels ✔ Kindergarten ✔ First Grade ✔ Second Grade

Deleting Interventions

Deleting an Intervention

In the Intervention Catalog select the "More" button and then "Delete".

No Image Gra	and Bend				
Site Configuration	Claim Sets	Metric Sett	tings Photo I	Management	Interventions
Intervention	List	Search Interve	entions	Import	t Interventions
					+ ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOCATION	INTERVENTION LEVEL	
<u>A Social Work</u> ★★★★★ (1) Dee Keena	General Population	Grand Bend High School, Grand Bend Middle School, Grand Bend Elementary Schoo	Tier 3	More 🔻
<u>Access</u> ☆ ☆ ☆ ☆ ☆ ☆ (0) Lori Chuba	General Population	Referral	Tier 3	Details Reviews En Assign to Watch List
After School Progra	m) Christina	General Population	Referral	Tier 1, Tier 2	Assign to watch List Edit Delete
After School Tutorin ★ ★ ★ ★ ★ <u>(0</u>	ng Jim Smith	General Population	Grand Bend Middle School	Tier 1	More 🔻

Deleting an Intervention – Confirmation

A pop up window will ask you to confirm your action. Once you confirm the deletion it cannot be recovered.

	and Bend				
Site Configuration	Claim Sets	Delete Interver Are you sure t	i tion hat want to DELETE		Interventions
Intervention L	ist			mport l	nterventions
		CONF	IRM CANCEL	E	ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOCATION		
A Social Work ★★★★★ ★ (1	Dee Keena	General Population	Grand Bend High School, Grand Bend Middle School, Grand Bend Elementary School	Tier 3	More 👻
<u>Access</u> ☆☆☆☆☆☆ <u>(0</u>	Lori Chuba	General Population	Referral	Tier 3	More 🔻

Assigning Student Level Interventions

Assigning an Intervention – Search

On a student's "Intervention Catalog" page an intervention can be searched and assigned provided you have proper security access.

4 👩 Lonr	nie A. Al	obott	R.1	Larsen's Homeroo	m	
Student Information	Academic Dash	board Early W	/arning System	Intervention (Catalog	Transcript
Student Intervention	o ns <u>5 Metric Summary I</u>	nterventions Sear	ch Interventions			
EARLY WARNING SYST	EM INDICATORS					
ATTENDANCE	SCHOOL CODE OL CONDUC	F RI	STATE EPORTABLE OFFENSES	MATHEMAT	ics L	ANGUAGE ARTS
89.2 %	0		0	84		60
INTERVENTIONS	STA	EXPEC RT DATE COMPL DAT	cted Etion Level Fe	ASSIGNED BY	DATE COMPLE	TED SECURITY
Tutoring	NOTES 02	/13/2015 05/29/	2015 Tier 2	Kurt McCarthy		On
Perfect Attendance Reward	S NOTES 09	/09/2014 09/25/	2014 Tier 1	Kurt McCarthy		On
READ 180	NOTES 09	/18/2014 09/20/	2014 Tier 2	Kurt McCarthy		On
Student Council Partners	NOTES 09	/11/2014 09/19/	2014 Tier 3	Kurt McCarthy		On
Math and Literacy Night	NOTES 09	/17/2014 09/18/	2014 Tier 1	Kurt McCarthy	06/05/2015	On
SEARCH INTERVENTIO	NS					
Keyword:	School	Availability:	Location	:	Populatio	on:
 Eligibility Cost Parent Permission Required 	Gran School Gran School Gran School	d Bend High d Bend Middle d Bend	Referra Grand School Grand School	al ABend High Bend Middle	Genera Special 504 De English Learner	I Population Education signation Language

Assigning an Intervention

Locate the intervention to assign and select "Assign Intervention".



Assigning an Intervention – Confirmation

Fill in the planned start date, end date, and the goal of the intervention for the student. Click "Confirm".

SEARCH INTERVENTIONS			
Keyword: SAP Eligibility Cost Parent Permission	School Availability:	Location: Referral Grand Bend High School	Population: General Population Special Education 504 Designation
Required	Grand Be	ervention	English Language .earner
Improvement Areas: Attendance Behavior Mathematics Language Arts Other SEARCH Search Results	Grade Leve Kindergar First Grad Second G Third Grad Fourth Grad Goal Please enter for this stud	on Name: gram on Level: Individual/Small Group cialist) 3/2015 Completion Date: r the goal and/or intervention plan ent.	ender Specific: Not a Gender Specific htervention Female Male
SAP Program ★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★★	mance Behavior m to assess for An interve	ntion goal is required.	Assign intervention
食食食食食 (<u>0)</u>	J		ASSIGN INTERVENTION
Improvement Areas: Atten SAP is designed to assist health issues which pose a barriers in order that they to mobilize school resource school staff and liaisons fro trained to identify problem school and to make recom of the school, the SAP tea	dance Behavior Mathematics school personnel in identifying a barrier to a student's success may achieve, remain in schoo es to remove barriers to learn om community alcohol and dru s, determine whether or not th mendations to assist the stud m will assist the parent and st	Language Arts issues including alcohol, tobad s. The primary goal is to help s l, and advance. SAP is a syste ing. The program uses profess ag and mental health agencies. the presenting problem lies withi ent and the parent. When the p udent so they may access serv	cco, other drugs, and mental tudents overcome these mic process using techniques ionally-trained team, including SAP team members are n the responsibility of the problem lies beyond the scope rices within the community. C
Colonial Interver	ntion Assistance (C	:IA)	
会会会会会 <u>(0)</u>			ASSIGN INTERVENTION
Improvement Areas: Atten Students who are flagged Grades in English/Math wi	dance Behavior Mathematics by the dashboard system sho II receive interventions based	Language Arts wing deficiencies in Attendance on reported criteria. Interventio	e, Behaviors and Course ins may include referrals to

Student Level Notes

By clicking on the "Notes" button, the user has the ability to track progress or any other comments about the student and the intervention. The goal will be the first note displayed.

6	👩 Lonnie A	A. Abbott	R. I	arsen's Homeroom		
Stude	nt Information Acade	mic Dashboard Earl	v Warning System	Intervention Cata	log Transcript	
Stu	Intervention Notes: S	AP Program			Export	
Jum; EAF	Intervention Goal Kurt McCarthy 7/13/2015 4:55:07 PM	This intervention is pla	nned to improve the stu	dent behavior.	^	
INTE					т	
<u>SAI</u> Tut						
Per					- 10	
RE						
<u>Stu</u>	Add New Note:					
Ma						
SE4			OTE	CEL		
rtey.	irora.	Grand Bend High	A Deferra	al 🔺	General Population	

Completing an Intervention

When the user clicks the "Not Completed" button they will see the below pop up to complete the intervention. The use has the ability to review the effectiveness of the intervention. The reviews will be displayed to all users within the district as the star rating.



Intervention Security

Since some interventions have privacy concerns, the person that assigned the intervention will have the ability to limit the users that will be able to see the intervention. If you click the "Security" button and switch it to "Restricted", you can select individual users to have access to the intervention. Any user that does not have access will not be able to see any intervention that is assigned and the number by the student's image will not count any restricted interventions.

6 🚺 Loni	nie A. Abbo	tt R.I	arsen's Homeroom	
Student Information	Academic Dashboard	Early Warning System	Intervention Catalog	Transcript
Student Interventi Jump to subcategory: EW	ons / <u>S Metric Summary</u> Interventio	ons Search Interventions		
EARLY WARNING SYS ATTENDANCE 89.2 %	Edit Security for Assigned In Intervention Name: SAP Program Security Level	ntervention		LANGUAGE ARTS 60 PLETED SECURITY
SAP Program	Available Staff Esther Gallegos Gerard Sexton Ismael Stafford Jenna Graham Josephine Stephens Julius Barrera Raul Larsen	View/E	dit Privileges	ETED Off
Perfect Attendance Rew READ 180 Student Council Partners	CO	NFIRM CANCE		
Math and Literacy Night	NOTES 09/17/2014	09/18/2014 Tier 1	Kurt McCarthy 06/0	15/2015 On

View Assigned Interventions

After it is created the intervention will appear in the list of interventions. Please note the student's count of open interventions is now 5 next to their image. Click on one of the assigned interventions.

5 💽 Lonn	ie A. Abb	ott	R. L	arsen's Homeroon	1			
Student Information	Academic Dashboar	d Early Warnin	ng System	Intervention C	atalog Tra	inscript		
Student Interventions Jump to subcategory: EWS Metric Summary Interventions Search Interventions								
EARLY WARNING SYST	EMINDICATORS							
ATTENDANCE	SCHOOL CODE OF CONDUCT	STA REPOR OFFEN	TE TABLE SES	MATHEMATIC	CS LANGU AR	JAGE TS		
89.2 %	0	0		84	60			
INTERVENTIONS	START DA	EXPECTED TE COMPLETION DATE	LEVEL	ASSIGNED BY	DATE COMPLETED	SECURITY		
SAP Program	NOTES 07/13/201	5 07/31/2015	Tier 3	Kurt McCarthy		Off		
Tutoring	NOTES 02/13/201	5 05/29/2015	Tier 2	Kurt McCarthy	NOT COMPLETED	On		
Perfect Attendance Rewards	8 NOTES 09/09/201	4 09/25/2014	Tier 1	Kurt McCarthy	NOT COMPLETED	On		
READ 180	NOTES 09/18/201	4 09/20/2014	Tier 2	Kurt McCarthy	NOT COMPLETED	On		
Student Council Partners	NOTES 09/11/201	4 09/19/2014	Tier 3	Kurt McCarthy		On		
Math and Literacy Night	NOTES 09/17/201	4 09/18/2014	Tier 1	Kurt McCarthy	06/05/2015	On		

View an Intervention Student List

Intervention Student List More Menu

The "More" menu offers several options to choose from. In this example click "Student List".

Mo Image Gran	nd Bend					
District Information Ac	ademic Dashboard	Early Warning	System	Interv	entions	Goal Planning
Inter	vention List			S	earch Interventior	IS
					•	+ ADD INTERVENTION
INTERVENTION	CONTACT	POPULATION	LOCA	TION	INTERVENTION LEVEL	
<u>A Social Work</u> ★★★★★ (1)	Dee Keena	General Population	Grand B School, G Middle Sch Bend Eleme	end High rand Bend nool, Grand ntary School	Tier 3	More 🔻
<u>Access</u> ☆ ☆ ☆ ☆ ☆ ☆ <u>(0)</u>	Lori Chuba	General Population	Ref	erral	Tier 3	E Details E Reviews E Assign to Watch List
After School Program	Christina	General Population	Ref	erral	Tier 1, Tier 2	 Edit Delete
After School Tutoring 合合合合合合(0)	Jim Smith	General Population	Grand Be Sch	nd Middle	Tier 1	≡ Student List
<u>Barbs</u> 含含含含含(0)	Barb Conville	General Population	Ref	erral	Tier 2	More 🔻
<u>Caught Being Good</u> <u>Program</u> ☆ ☆ ☆ ☆ ☆ <u>(0)</u>	Intervention Coordinator	General Population		,	Tier 1	More 🔻
<u>Character Education</u> 会会会会会(<u>0</u>)	Intervention Coordinator	General Population	Unkr	nown	Tier 1	More 🔻
Chestnut Ridge Counseling: Family Based Mental Health Services	Intervention Coordinator	General Population	Ref	erral	Tier 3	More 🔻
Colonial Intervention Assistance (CIA)	s Intervention CoordinatorLa	General Population, Special Education, 504 Designation, English anguage Learner, Ove Age, Economically Disadvantaged, Gifted and Talented	r Refe	erral	Tier 3	More *

Intervention Student List

The list of students assigned to the intervention will appear below the intervention.

No Image Gr	and Bend						
District Information	Academic Dashboard	Early Warning	System	Interve	ntions	Goa	l Planning
	Intervention List			Sea	arch Interventio	ons	
						+ ADD INT	TERVENTION
INTERVENTION	CONTACT	POPULATION	LOCA	TION	INTERVENTION LEVEL	N	
<u>A Social Work</u> ★★★★★	1) Dee Keena	General Population	Grand Be School, Ge Middle Sch Bend Eleme	end High ·and Bend ool, Grand ntary School	Tier 3	N	Nore 🔻
A Social Work As	ssigned Students				EARLY WAR	NING INDIC.	ATORS
STUDENT A	GRADE DESIGNA LEVEL DESIGNA	TIONS Metrics Failing	Metrics Caution	Inter- ventions Assigned?	Daily Attendance Rate	School Code of Conduct Incidents	State Reportal Offense
Alvarado, Tracy	10th	1	0	7	100.0 %	0	0
Ryan, Whitney Darcy	y 9th	1	1	1	89.8 %	0	1
		4					
<pre> < < Page 1 of 1 > > </pre>	Rows	per page: 10 20 50 1	00				Total rows: 2
M State Assessm	nent-M Att State Assessm	ent-Alt 🔺 Te	est Accommod	lation C	State Assess	sment-Comm	ended

Intervention Import

A system administrator will have the ability to import interventions from one district to another. The image below does not have any other districts to select but the user would select the district they want to import interventions from and then select which interventions they wish to copy to the new district.

Grand Bend							
Site Configuration	Claim Sets	Metric Settings	Photo I	Management	Interventions		
Intervention List		Search Interventions		Import Interventions			
Select a District to View							
INTERVENTION	CONTACT	POPULATION LO	CATION	INTERVENTION LEVEL			
No data currently available.							
		Import Selected Intervent	tions				
G Gifted & S Spec Talented S Edu	cial 504 cation 504 Designation	ESL, LEP or Bilingual	Late Enrollment	Partial Transcript	A Test Accommodation		
Met Goal	Below Goal	Caution	A Getting	g Getting Worse	No Change		
陀 Dropout Risk 🛛 🕘 Intervention Assigned 🛑 Intervention Not Assigned							

Technical Overview: Application

Solution Architecture

Procure Core Changes

In order to utilize the Intervention Catalog plugin, several important updates to the Core codebase are required. In order for the plugin to work as intended the latest version of the Core codebase should be used. If the Core code being used has not been updated since July 14, 2014, the Intervention plugin may not work as intended. For this reason and for completeness, below is a list of three pull requests that need to be incorporated into a dashboard application instance. This can be done by simply updating the version of core that is being used or by pulling down and applying each of these updates separately.

- PR #108 Plugin Architecture: Foundation of the Plugin Architecture
- PR #120 Fixing Plugin architecture enhancements to EdFiControllerFactory
- PR #141 updated fonts, css, and javascript files to support the plugin architecture

Procure Code

The latest version of the Intervention Catalog plugin code is provided in a .zip file. It is recommended that this .zip file is extracted in the same directory where the code for Ed-Fi-Alliance/Ed-Fi-Core was pulled. For example, if the Ed-Fi-Core code directory lives at C:\Code, this should also be the location for Ed-Fi-Plugins. The root directory for both repositories and the plugin code should look as below:

Name	Type Size		
📕 Ed-Fi-Apps	File folder		
L Ed-Fi-Core	File folder		
Ed-Fi-Plugins	File folder		

Address Existing Build Order Issues

Inside the Presentation.Web project folder should live a folder named 'Plugins'. Plugin DLL files are expected to exist at this specific location relative to the executing project. Only files that live at this location are picked up by the application and included for execution.

Part of the build process for dashboard plugins is, in the post build event, to copy any DLL files from the bin directory of the plugin to the Plugins folders mentioned above. This will ensure that the executing applications will be using the most upto-date version of the plugin code.

It is possible, depending on how the references in a project are set up, and how Visual Studio decides to order the build of projects, that DLL files may be built out-of-order, or that DLL files may be purged from the Plugins folders after they are copied, but before execution begins. This will lead to unexpected, incorrect, and often difficult to diagnose behavior.

The user can change the project build order by clicking on the Solution file in Visual Studio Solution Explorer, and selecting 'Project Build Order...'. By ensuring that Presentation.Web builds before any plugin assemblies are produced, and ensuring dependent assemblies are built before the post build copy step, the user can ensure the latest version of plugin DLLs are always in the Plugins folders after each build.

About the Ed-Fi Exchange

The Ed-Fi Exchange is a hub of innovation for technologies aligned to the Ed-Fi Data Standard. States, Districts, and the Ed-Fi Alliance contribute solutions to the Ed-Fi Exchange that may be downloaded by other Ed-Fi Licensees.

Ed-Fi Exchange contributions may take the form of Data Standard Extensions, ODS and API Extensions, and Dashboard Plugins. In addition, higher-level contributions such as Technical White Papers and Implementation Project Overviews may be contributed to assist other licensees implementing Ed-Fi. The goal is to make the Ed-Fi Community greater than the sum of its parts by openly sharing innovations aligned to the Ed-Fi Data Standard.

For more information, visit <u>http://exchange.ed-fi.org</u>.