



## EARLY WARNING: HOW IT WORKS

The most common approach to dropout prevention is a threshold model built on research-based benchmarks. For example, schools will flag students as "at risk" who miss a certain percentage of school or fail a certain number or type of classes.

While threshold models can help, research shows that risk prediction is significantly enhanced when it takes the interconnectivity among factors and the organization's unique profile into account. That is, while absenteeism is a well-established risk factor, how important it is when compared to other factors and exactly what limits constitute "high risk" can vary from district to district.

To achieve this level of analysis, BrightBytes in partnership with Mazin Education developed Early Warning. Early Warning is a research-backed, algorithmic-approach to dropout prevention that uses your district's historic student data to develop predictive models specific to each grade level in your district. Here's how it works:

1. **Developing a "Picture":** Early Warning integrates with your Student Information System (SIS) and organizes the relevant data from your historic student records into 24 research-based areas, called success indicators. These indicators are grouped into four domains.

Domain	Success Indicators
Academics	Assessments: District • Assessments: State • Credits Earned Annually • Academic Indicator: All Courses • Academic Indicator: Core Academic Courses • Grade Retention • Pass Rate: All Courses • Remedial Courses
Attendance	Attendance: First 30 Days • Attendance: Total • Tardies
Behaviors	Behaviors: Major • Behaviors: Minor • Disciplinary Referrals • Expulsions • Suspensions
Demographics	Age • Ethnicity • Gender • Free/Reduced Lunch • 504 Status • Special Education (IEP) • Limited English Proficiency • Mobility

2. **Picking the Models:** Next, Early Warning analyzes the organized data and selects and customizes grade-level specific risk prediction models for your organization.
3. **Assessing Risk:** Finally, Early Warning compares the records of current students to the models and determines risk levels.

Early Warning continues to monitor your student data, allowing you to assess progress over time.

**WV Early Warning Access (Use your Office 365 login credentials)**

<https://wv.clarity.brightbytes.net/>

## EARLY WARNING: HOW TO NAVIGATE THE DASHBOARD

Painting a complete picture of your organization requires looking at the “big picture” as well as the “fine grained” details. Early Warning (EW) provides immediate access to both types of information through the dashboard, ensuring that you can both target the highest risk students or schools (the fine details) while also assessing and measuring progress towards organization-wide improvements (the big picture).

The dashboard is broken into five major sections, each providing a key piece of data. Throughout, you’ll find the use of a three color-coded risk level scale—**red for high risk, yellow for moderate risk, green for low risk**—plus grey for no prediction available. Here’s what’s in each section. (*NOTE: The district’s dashboard and school dashboards contain the same sections and general information with some context-specific changes.*)

- 1. Risk Prediction:** On the top left you’ll find a section that displays information about your schools (district dashboard) or students (school dashboard). A donut chart and corresponding key on the left show the information organized by risk level. For districts, the list on the right highlights the five schools with the most at risk students; for schools, the list shows the five most at risk students. Clicking on the blue “Risk Prediction Tool” bar takes you to the full list of schools or students.
- 2. Success Indicators:** Under the “Risk Prediction” section are the 24 success indicators EW analyzes organized into four domains—Academics, Attendance, Behaviors, and Demographics. For the 16 indicators grouped into Academics, Attendance, and Behaviors, EW assigns each a risk level (and associated color). The fourth domain, Demographics, runs along the bottom of the page.
- 3. Graduation Rate:** On the top right of the dashboard you’ll find the percentage of students who graduated in the most recently recorded academic year. When viewing from a district, elementary, or middle school’s dashboard, the number will reflect the overall graduation rate for the district.
- 4. Warning Signs:** Below graduation rate you’ll find the “Warning Signs” section. Early Warning selects three indicators for this section based on how many students in your school, or how many schools in your district, are high risk. Put another way, Early Warning calls out the three indicators with the greatest high-risk percentages.
- 5. Improve Analysis:** The bottom right section highlights up to three success indicators where there is something noteworthy about the data, such as the data set is missing or incomplete or it falls outside the expected thresholds. Typically, though not always, these will align with success indicators marked with grey dots.

## Academics

Credits Earned Annually  
Academic Indicator - All Courses  
Academic Indicator - Core Academic Courses  
Grade Retention  
Pass Rate - All Courses

Remedial Courses  
Assessments - State  
Assessments - District

## Attendance

Attendance - First 30 Days  
Attendance - Total  
Tardies



## Behaviors

Behaviors - Major  
Behaviors - Minor  
Disciplinary Referrals  
Expulsions  
Suspensions

## Demographics

Age	504 Status
Ethnicity	Limited
Gender	English
Free & Reduced Lunch	Proficiency
Special Education (IEP)	Mobility