

Early Warning Systems:
Developing and Monitoring Effective
Systems and Interventions for
Students At Risk of Dropping Out



Module 1
EWS Data Literacy

Core Ideas of Early Warning Systems

1. To graduate, college- and career-ready, students need to successfully navigate several key transitions and acquire a set of academic behaviors - they need to learn how to succeed at school.



2. Students signal that they are on- or off-track toward these outcomes through their behaviors



Core Ideas of Early Warning Systems

3. By tracking Early Warning Indicators, it is possible to identify when students are beginning to fall off-track, providing time to intervene and alter their trajectory through school and beyond.
4. Using EWS, schools can be organized to apply school-wide preventative, targeted and intensive interventions until students are on-track.



Early Warning Systems

Indicators

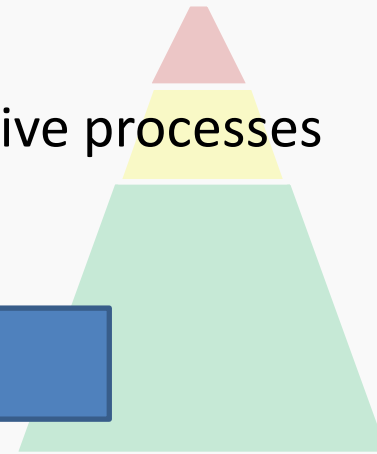
- Reliable, valid, and predictive
- Each indicator adds information for action
- Easily accessed and organized

0	0	100%	0	C	F	C	D
1	1	97%	0	C	C	C	D
10	0	74%	0	B	C	C	C

Facilitation and Teams

Support and response system

- Whole school/classroom, small group, and individual initiatives and interventions
- System for monitoring/follow-up
- Reflective processes



Module 1 – EWS Data Literacy

- **Part 1: What are early warning indicators of student success and why are they useful? (≈ 20 minutes)**
- **Part 2: The ABCs (≈ 20 minutes)**
- **Part 3: Looking for patterns in data (≈ 20 minutes)**



Module 1 – Part 1

WHAT ARE EARLY WARNING INDICATORS OF STUDENT SUCCESS AND WHY ARE THEY USEFUL?

Characteristics of Early Warning Indicators

- **Are reliable and valid**-They flag students who without effective intervention would not have a good result.
- **Are practical and useful for school personnel**- For example, they identify a significant number of students who without effective intervention have high odds of dropping-out.
- **Are selective**- Each indicator adds additional and actionable information that is not provided by another indicator.

Determining On- and Off-Track Indicators

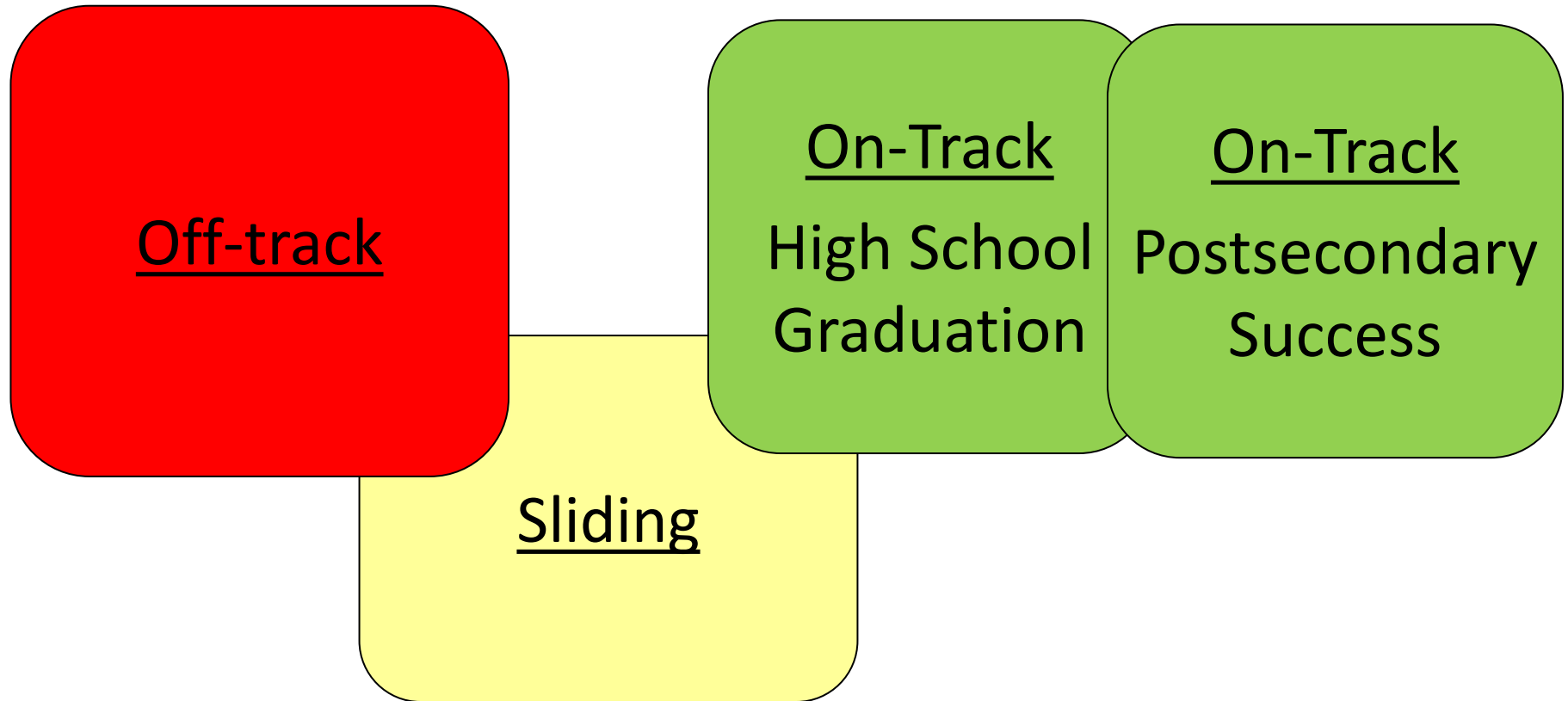
9 th Grade	10 th Grade	11 th Grade	12 th Grade	Expected Graduation

Off-track

- Research Based
- Need Intervention
- High Probability
- Majority of Students

On-Track

On and Off-Track Indicators



EWS Lessons from the Field: Early Warning Flags

- Indicate that a student is moving towards off-track status or away from on-track status
- Are research based, but also need to be grounded in common sense
 - For example, if attendance, behavior, or course performance dips it is important to know why and to address it quickly

EWS Lessons from the Field: Organizing

- **Be Selective:** Center efforts around a few high yield indicators.
- **Provide Early Response:** Design systems that respond to student behaviors before triggers for the more intensive interventions are reached.
- **Put Students First:** Rapid identification is important but so is designing interventions that are built on student strengths.

Why EWS Matters: What has been Learned from Research

- Students in high-poverty schools who successfully navigate grades 6 to 10, on-time and on-track, by and large, graduate from high school.
- Students in high-poverty schools who struggle and become disengaged in the early secondary grades and in particular have an unsuccessful 6th- and/or 9th- grade transition do not graduate (often 25% or less graduation rates).



Applying an EWS: Students Change at Different Grade Levels and Require Different Supports

- **Pre-K and Elementary Grades-** Core academic competencies and socialized into the norms of schooling in a joyful manner
- **Middle Grades-** Intermediate academic skills (reading comprehension and fluency, transition from arithmetic to mathematics) and a need for adventure and camaraderie
- **High School-** Transition to adult behaviors and mind set with a path to college and career readiness, as well as, the appropriate extra support for students with below grade level skills

Activity – Mini-quiz

1. What are the four important characteristics that define an off-track indicator?
2. What are the key transitions (grade levels) for students?
3. What are the differences between on- and off-track indicators?
4. Why is the above information (answers to 1, 2, 3) important for your school?



Module 1 – Part 2

ATTENDANCE, BEHAVIOR, COURSE PERFORMANCE- THE ABC'S

Indicators and Influencers?

Poor attendance
Overage: 1-2 years, 2
year+

Course failure
Core courses
Elective courses

Poor behavior
Repeaters
9th graders

Behavior marks
Suspensions

Special education
English Language Learners
Standardized test scores

Gender
Socio-economic status
Parental education



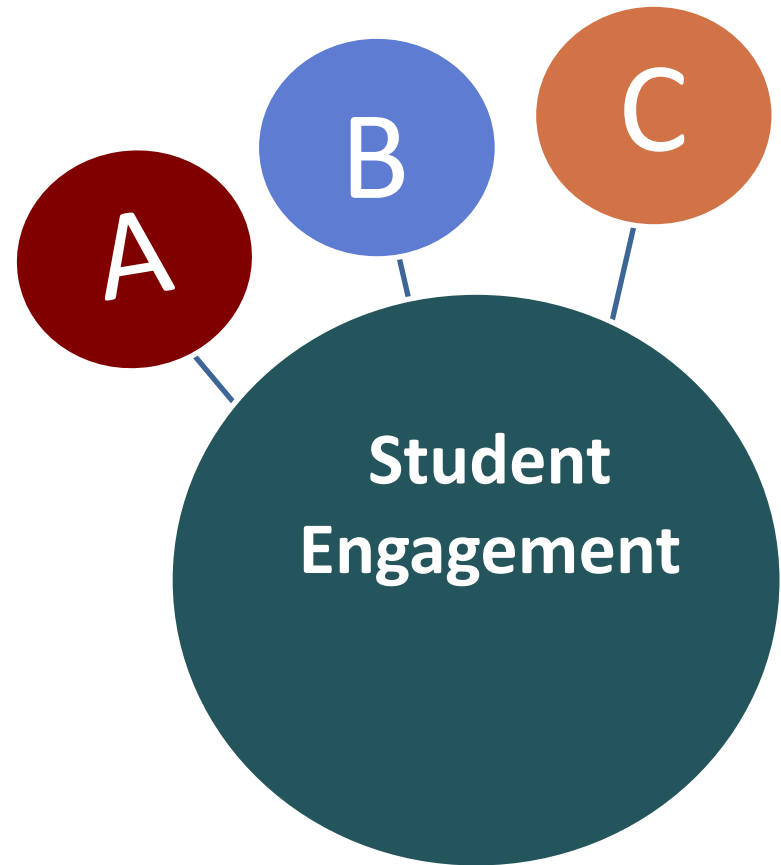
Most Consistent Predictors of Student Success are the ABC's

Attendance

Behavior

Course

Performance

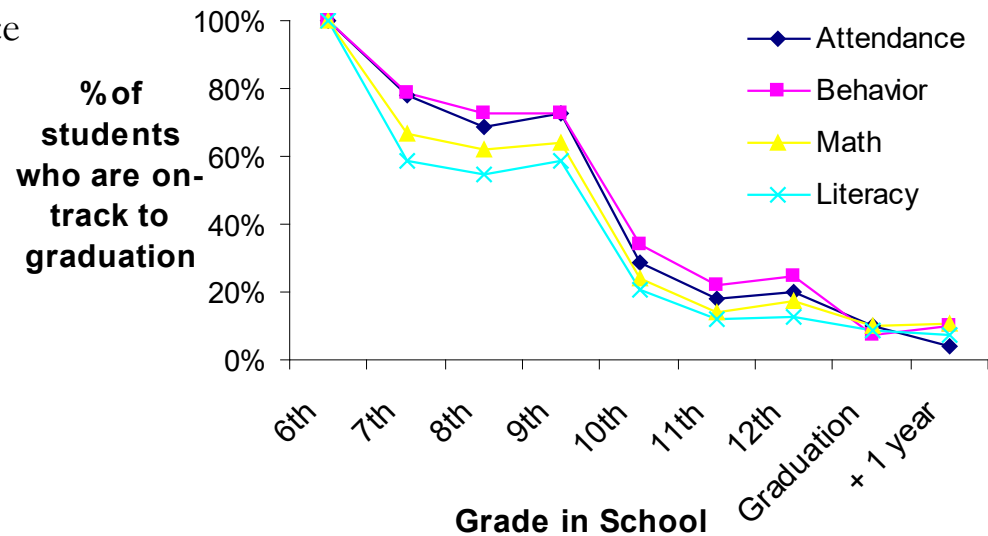


For Half or More of Eventual Dropouts the Path to Exiting School Without a Diploma Begins as Early as the 6th Grade

The Primary Off-Track Indicators for Potential Dropouts:

- **A**ttendance: < 80% school attendance
- **B**ehavior: “unsatisfactory” final behavior mark in at least one class
- **C**ourse Performance: A final grade of “F” in Math or English

**Sixth Graders (1996-97) with an
Early Warning Indicator**



Sixth-grade students in high poverty environments with one or more of the indicators may have only a **10% to 20% chance of graduating** from high school on time or within one year of expected graduation.

Source: Balfanz and Herzog, Johns Hopkins University and Philadelphia Education Fund, 2007

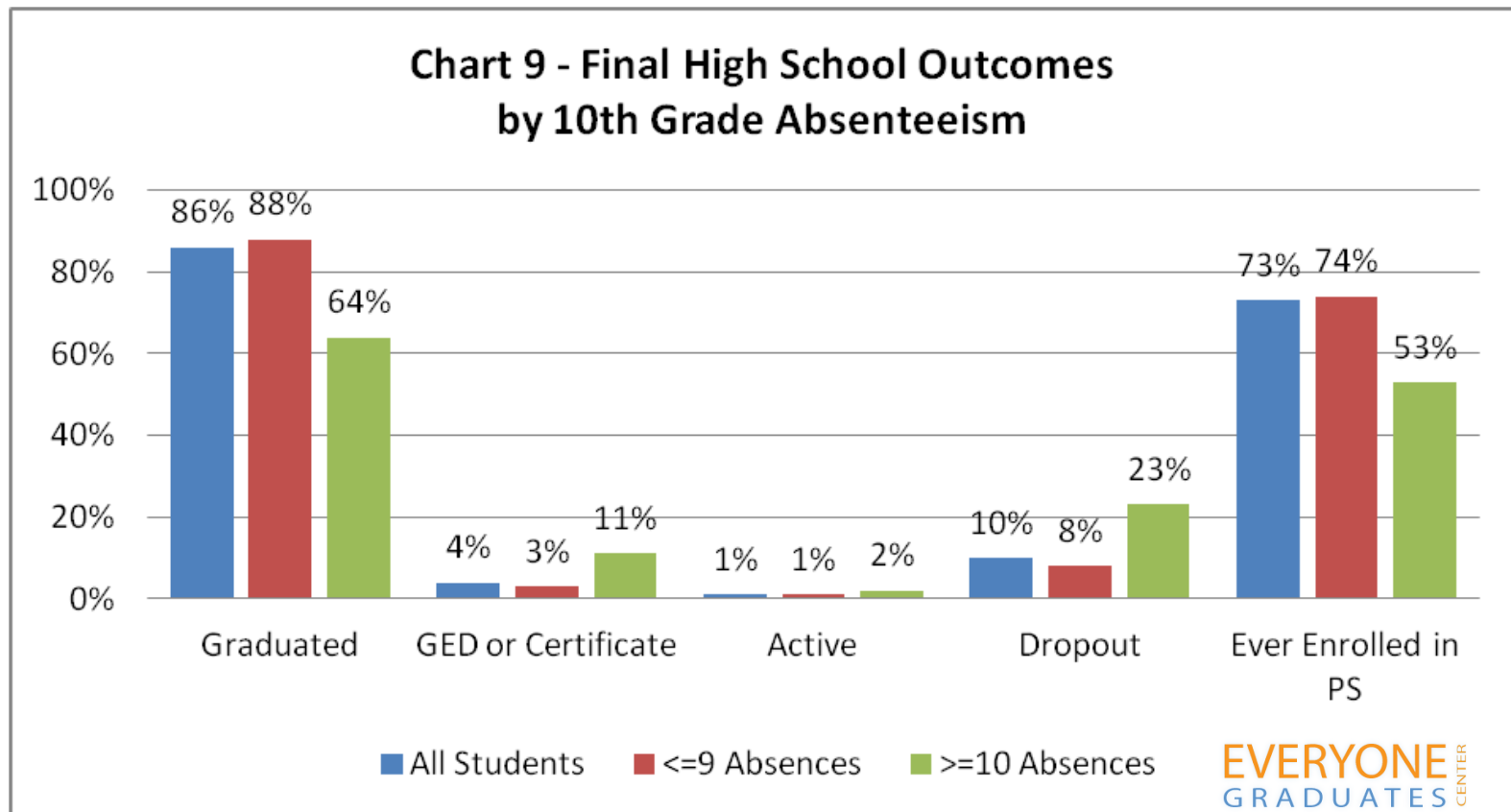


See
research
studies
under
Module 1
resources

What Do we Know about Attendance Indicators?

- Students who miss 10% or more days in a school year need intervention.
- Students who miss 5 or fewer days in the school year thrive.
- Some attention should also be paid to students who miss more than 5 days but less than 10% (i.e. check-in and monitor) because they have the potential to slide off-track.

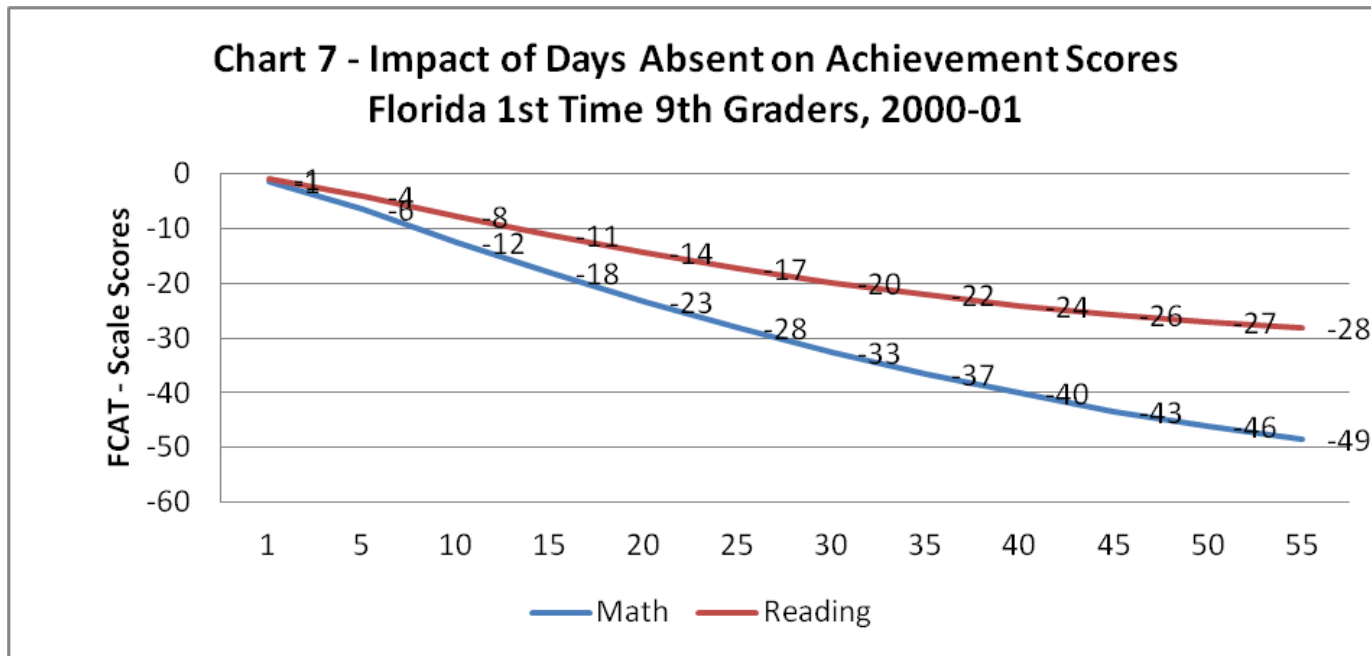
Impact of Attendance on High School Graduation and Post-Secondary Enrollment



Source: *Education Longitudinal Study of 2002 (ELS:2002)*



Impact of Attendance on Standardized Test Scores



Source: *Sent Home and Put Off-Track*, Balfanz, Fox, and Byrnes, 2012



Focus on the ABC's-Attendance

- Schools and communities need to measure and act on chronic absenteeism
 - # of students who miss 10% or more of school
 - # of students who miss a week or less
- Organize efforts built around knowledge that student absenteeism is driven by a combination of:
 - Student choice, school factors driving students away, and out-of-school factors pulling them away

Focus on ABC's-Attendance

Let's Make Students Excited about Coming to School

- Most engaged secondary grade students are involved in cognitively rich activities which combine teamwork with performance (robotics, debate, drama, etc.)
- Build an attendance problem solving capacity which may involve external partnerships who can provide supports for the out-of-school challenges that students face.

What Do We Know About Behavior Indicators

- First, it is important to track minor as well as major incidents.
- Students with sustained mild misbehavior fall off-track in large numbers.

We Need Alternatives to Suspensions

- Students with one or more suspensions need intervention to make sure they are not suspended again and/or fall off-track.
- In Florida, being suspended in the 9th grade once, increased the odds of dropping out; being suspended two or more times greatly increased the odds.

– **Source:** *Sent Home and Put off-Track*, Balfanz, Fox, and Byrnes, 2012

Focus on ABC's- Student Effort Also Matters

- In Chicago, student effort was found to have greater impact on course passing than demographic variables.
 - **Source:** What Matters for Staying on-Track and Graduating in Chicago Public Schools, Allensworth and Easton, 2007
- ACT tested over 14,000 students at 48 postsecondary institutions. Results show that motivation, social engagement and self-regulation are key factors in students' success in high school and college.
 - **Source:** Enhancing College and Career Readiness and Success: The Role of Academic Behaviors, Robbins, Allen, Casillas, Peterson, & Le, 2006; Allen, Robbins, Casillas, & Oh, 2008

Focus on ABC's-Behavior and Effort

- Model and teach resiliency, self-management and organization skills.
- Implement school-wide positive behavior support programs and alternatives to suspensions.
- May need to re-examine disciplinary policies
- Work to insure that students' experience consistent academic and behavioral norms as they travel from class to class.
- Need adults to look at what they can do to make students successful.

What Do We Know About Course Performance Indicators?

- Course performance is as important for students long term success as test scores.
- 6th and 9th graders with multiple D's and F's seldom graduate unless interventions are applied and take place consistently.
- 6th and 9th graders with B or better averages typically succeed in high school and are on-track for future college success.

Focus on ABC's- Course Performance

- Course performance is comprised of a wide variety of things ranging from assignment completion, preparation for tests and quizzes, prior preparation, and classwork.
- Students need support and sometimes even advocacy to succeed in their learning, as well as, tutoring, mentoring and other support programs.
- Schools should offer effective second chance and credit recovery programs which hold students accountable but provide a reason for them to keep trying.

Focus on ABC's – Course Performance Course Credit

- The courses that a student passes (i.e., what subjects) becomes more important in high school.
- Credit accumulation should be examined alongside course passage.

6th – 9th Grade Window

6th Grade

9th Grade

On-track and On-Time

Activity: Examining the Data

There are four slides that contain ABC data to examine.

(If you have a group of four, have each person examine one and then share with the group.)

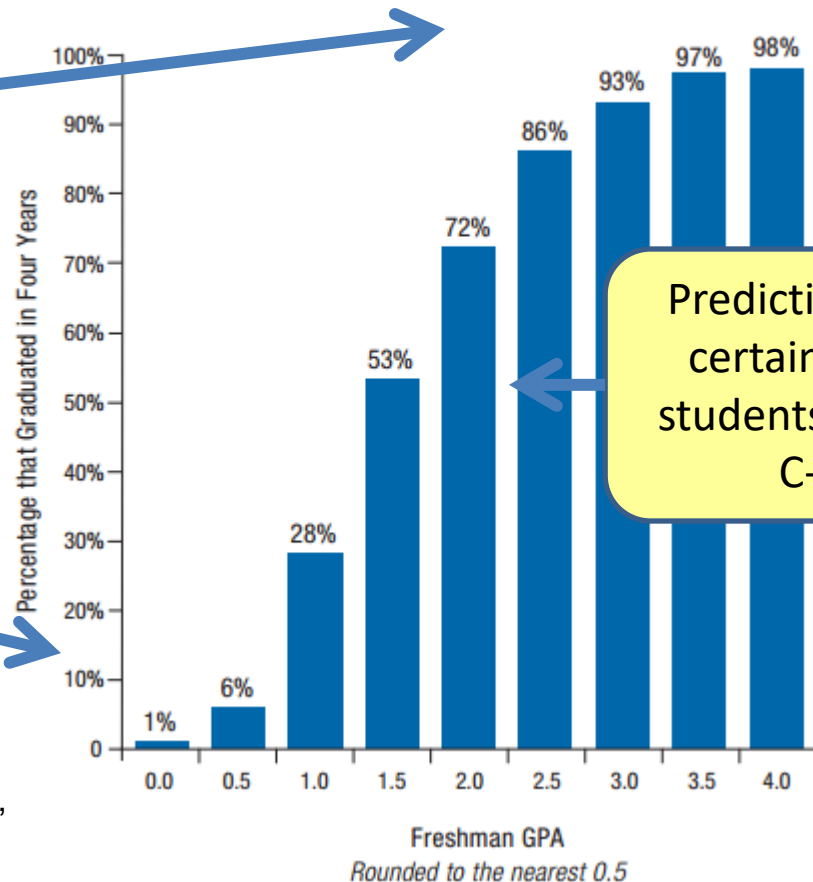
What does it say?

- What is each data slide showing?
- What are the implications for your school?

HS Freshman Grades Matter

FIGURE 6

Four-Year Graduation Rates by Freshman GPA



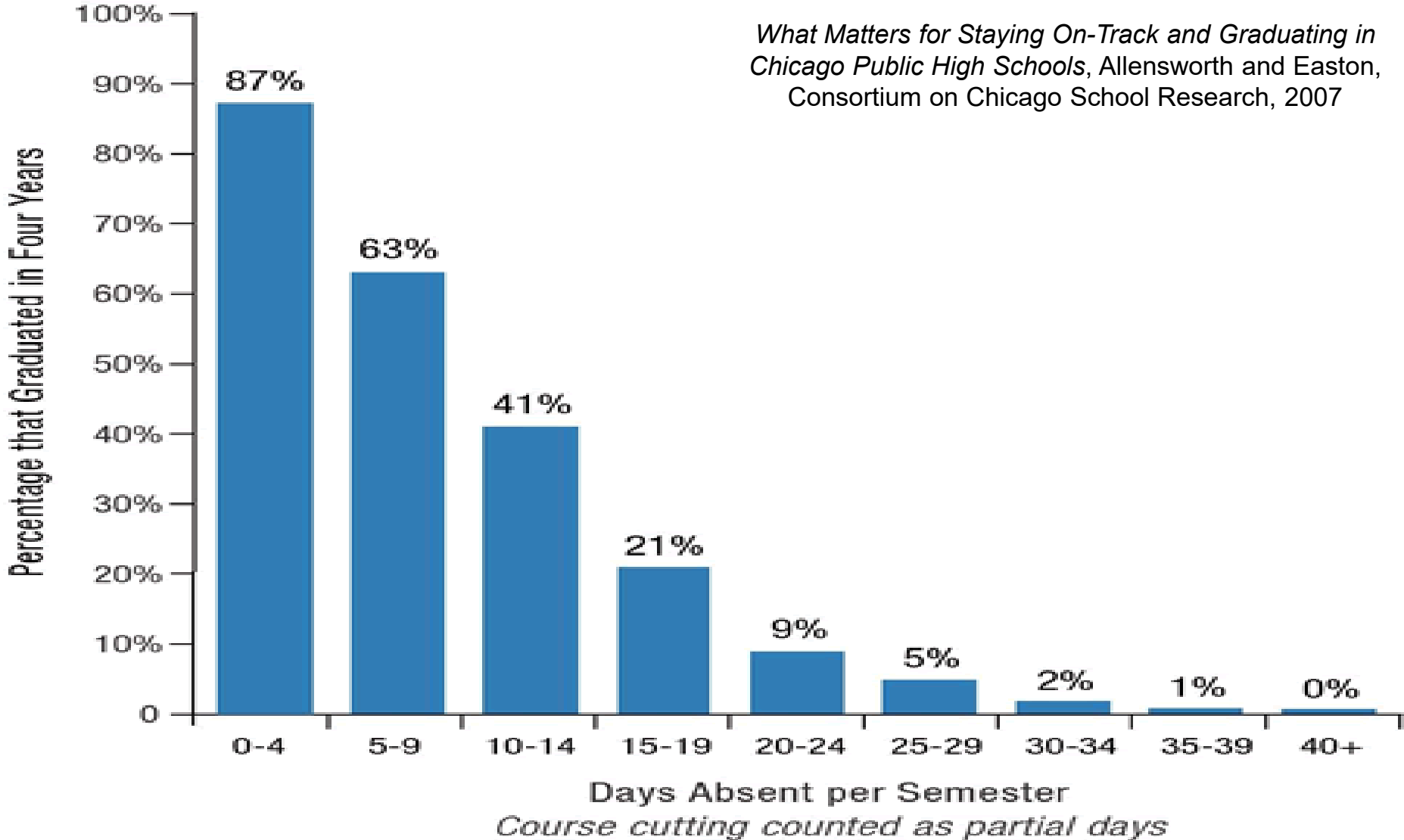
Virtually all students with a “B” avg. or higher graduate in 4 years

Virtually all students with less than a “D” avg. fail to graduate

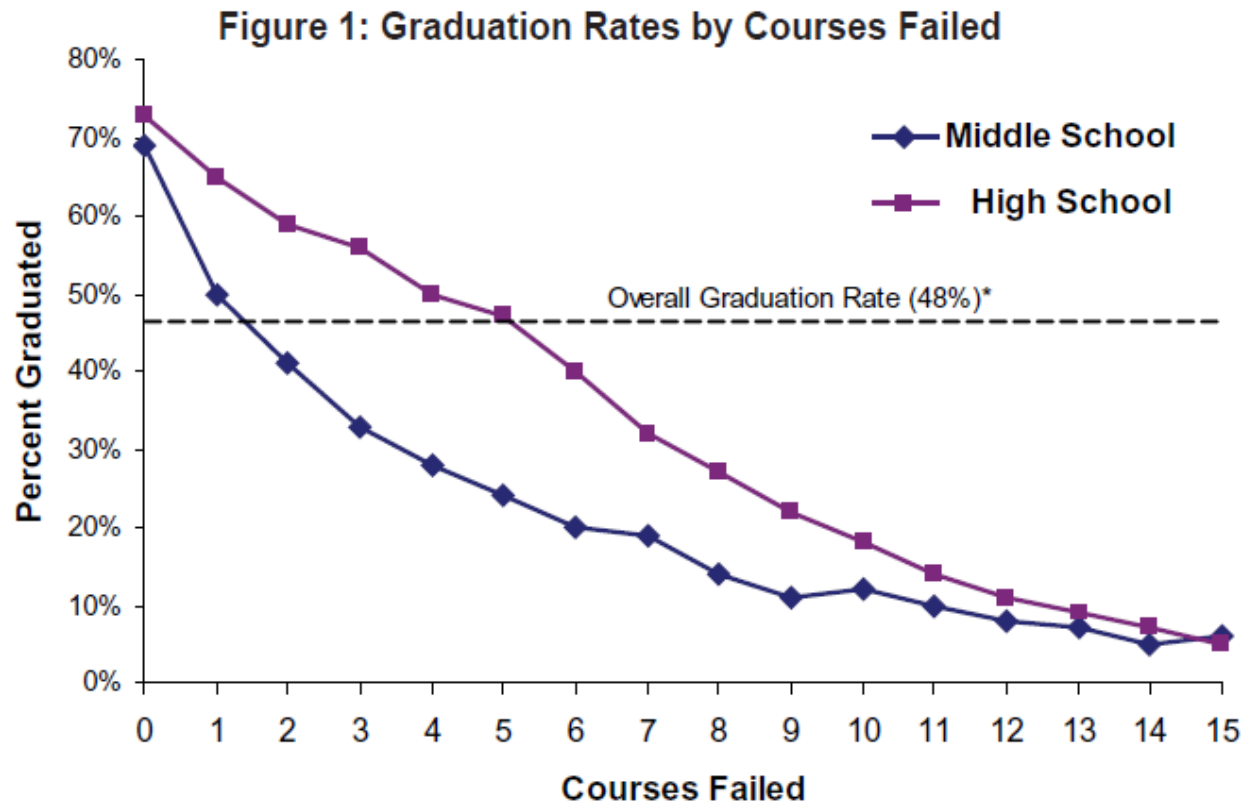
Prediction is less certain among students with D+, C-, C

What Matters for Staying On-Track and Graduating in Chicago Public High Schools, Allensworth and Easton, Consortium on Chicago School Research, 2007

Four-Year Graduation Rates by Freshman Absence Rates



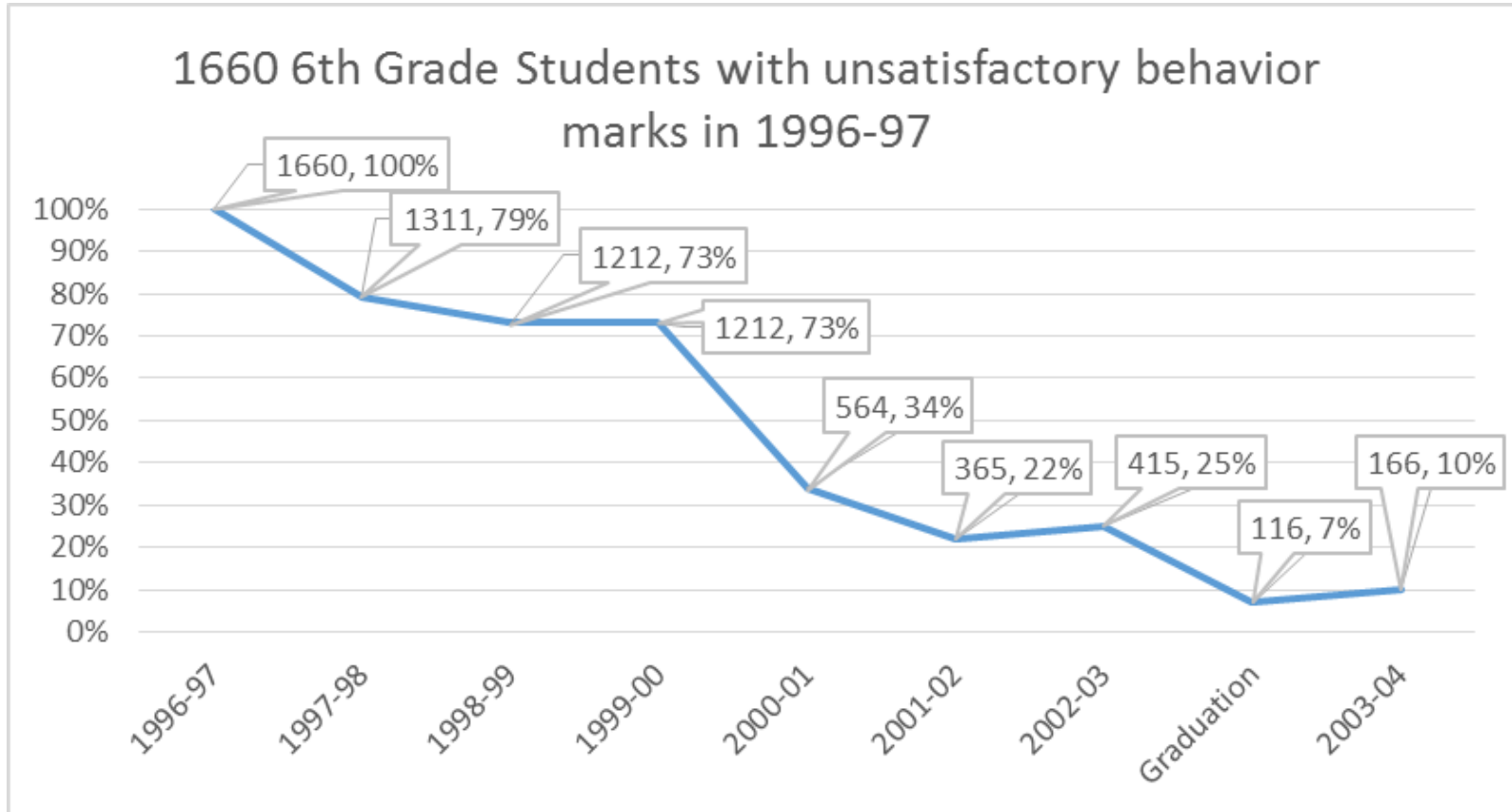
Los Angeles Course Failure



* Graduation rates in this report refer to first-time 9th graders in September, 2001 who graduated by June, 2005.

What Factors Predict High School Graduation in the Los Angeles Unified School District?
Silver, D., Saunders, M. (University of California, Los Angeles), Zarate, E. (University of California, Irvine)

Sixth graders with poor behavior (earning an unsatisfactory final behavior mark) have a 1 in 4 chance of making it to the 12th grade on time. Only 17% graduate on time or within one extra year.





Module #1 – Part 3

LOOKING FOR PATTERNS IN DATA



pennsylvania
DEPARTMENT OF EDUCATION

EVERYONE
GRADUATES
CENTER



JOHNS HOPKINS
SCHOOL of EDUCATION

Understanding Patterns

- To understand patterns in attendance, behavior, and course performance, the EWS indicators need to be studied and monitored.
- Ways to look at EWS data:
 - Individual student patterns
 - Class, grade, school patterns
- These variant patterns can lead to different solutions and interventions.

Examining Patterns

- At the student level (over time and across indicators)
- Across the ABC's
- Across students

	Attendance	Behavior	Course Performance
Off-Track	Less than 90%	1+ suspension and/or mild sustained misbehavior	Failing ELA and/or Math
On-Track	Greater than 90%	No suspensions or mild misbehavior	Passing ELA and/or Math
College Ready	Greater than 95%		B or Better

4 Diagnostic Questions About Students

- Are they regularly attending school? If not, why not?
- Are they able to focus on schoolwork in school?
- Are they productively persistent, i.e., trying in an effective manner?
- Do they connect school effort to life success?


Examine Individual Student Data


Student	Attendance		Behavior (referrals)		Course Performance			
	13-14 year	Sept	13-14 year	Sept	Math Q4	Math Sept.	ELA Q4	ELA Sept
#John	96%	5 days	7	0	B	68%	A	77%
#Adrian	93%	0	2	4, 1 Susp.	A	88%	C	53%
#Samuel	99%	0, 10 Tardy	14	2	B	82%	D	55%
#Erica	81%	5	1	1	C	56%	B	87%

Looking for Patterns at Student Level

- Are there trends up or down in any one indicator over time?
- Is the student off-track in more than one indicator? Which ones?
- Is there any relationship between indicators?
- Are there major differences in indicators that give you an idea of a student's strengths (for example, strong in academic performance but low attendance)?
- What additional questions do you have to learn about this student? How could you find out?

Sample Classroom Level Data Display- Off-Track Indicators




































Getting Better 

Getting Worse 



No Change

↓ CUSTOMIZE VIEW

STUDENT ^	EARLY WARNING INDICATORS				ATTENDANCE / DISCIPLINE		
	School Code of Conduct Incidents	State Reportable Offenses	Mathematics Grade	Language Arts Grade	Last Four Weeks Attendance	Last Eight Weeks Attendance	Year To Date Attendance
 Acevedo, Melba Kathleen	0	0	60 	61 	95.0 % 	97.5 % 	97.7 %
 Bowers, Calvin Victor	0	0	99 	82 	95.0 % 	97.5 % 	97.7 %
 Dennis, Tina	0	0	87 	74 	100.0 % 	97.5 % 	88.7 %
 Haney, Freddie Jeff	0	0	46 	34 	95.0 % 	97.5 % 	97.7 %
 Richards, Ronald Javier	0	0	90 	87 	95.0 % 	90.0 % 	93.2 %
 Sims, Camille Jenna	0	0	62 	82 	95.0 % 	97.5 % 	97.7 %
 Vincent, Katie Lillie	0	1	91 	88 	100.0 % 	100.0 % 	100.0 %

Off-Track Indicators Plus Student Survey Resiliency Data

EWI Data

DIPLOMAS NOW

Q1

Talent Development

Success Highways

Gender	Grade	Talent Development				Success Highways							Academic Risk Index			
		Absent	Tardy	Present	Suspensions	ELA	Math	Science	Soc Stud	Education	Confidence	Connections		Stress	Well-Being	Motivation
F	6	10	0	74%	0	B	C	C	C	3	3	1	1	1	3	
M	6	1	0	98%	1	B	C	F	C	1	3	3	3	3	3	

Activity








Gender	Grade	Absent	Tardy	Present	Suspensions	ELA	Math	Science	Soc Stud	Education	Confidence	Connections	Stress	Well-Being	Motivation	Academic Risk Index
F	6	0	0	100%	0					1	1	1	1	3	1	
M	6	0	0	100%	0	C	F	C	D	1	1	1	2	3	1	60-69%
M	6	1	1	97%	0	C	C	C	D	1	1	2	1	2	1	
F	6	10	0	74%	0	B	C	C	C	3	3	1	1	1	3	
F	6	2	0	92%	0			F	C	3	3	3	3	3	3	
M	6	1	0	98%	0	C	D	C	C	3	3	1	2	2	3	
M	6	1	0	98%	1	B	C	F	C	1	3	3	3	3	3	
F	6	2	0	94%	0	A	A	B	B	2	3	3	3	2	3	
M	6	1	0	97%	0	C	B	F	C	1	1	2	2	3	2	
M	6	1	0	97%	0	C	B	F	C	1	1	2	2	3	2	
M	6	9	2	71%	1	F	F	F	F	1	1	1	1	1	2	80-100%
F	6	5	0	87%	0	B	C	A	B	3	2	2	3	2	3	
M	6	0	0		0											

Follow-up to Activity

Gender	Grade	Absent	Tardy	Present	Suspensions	ELA	Math	Science	Soc Stud	Education	Confidence	Connections	Stress	Well-Being	Motivation	Academic Risk Index
F	6	0	0	100%	0					1	1	1	1	3	1	
M	6	0	0	100%	0	C	F	C	D	1	1	1	2	3	1	60-69%
M	6	1	1	97%	0	C	C	C	D	1	1	2	1	2	1	
F	6	10	0	74%	0	B	C	C	C	3	3	1	1	1	3	
F	6	2	0	92%	0			F	C	3	3	3	3	3	3	
M	6	1	0	98%	0	C	D	C	C	3	3	1	2	2	3	
M	6	1	0	98%	1	B	C	F	C	1	3	3	3	3	3	
F	6	2	0	94%	0	A	A	B	B	2	3	3	3	2	3	
M	6	1	0	97%	0	C	B	F	C	1	1	2	2	3	2	
M	6	1	0	97%	0	C	B	F	C	1	1	2	2	3	2	
M	6	9	2	71%	1	F	F	F	F	1	1	1	1	1	2	80-100%
F	6	5	0	87%	0	B	C	A	B	3	2	2	3	2	3	
M	6	0	0		0											

▲ Getting Better
 ▼ Getting Worse
 ◀▶ No Change

↓ CUSTOMIZE VIEW

STUDENT ^	EARLY WARNING INDICATORS				ATTENDANCE / DISCIPLINE		
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 Acevedo, Melba Kathleen	0	0	60 ◀▶	61 ◀▶	95.0 % ▼	97.5 % ◀▶	97.7 %
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 Haney, Freddie Jeff	0	0	46 ◀▶	34 ◀▶	95.0 % ▼	97.5 % ▼	97.7 %
 Richards, Ronald Javier	0	0	90 ◀▶	87 ◀▶	95.0 % ▲	90.0 % ▼	93.2 %
 Sims, Camille Jenna	0	0	62 ◀▶	82 ◀▶	95.0 % ▼	97.5 % ▲	97.7 %
 Vincent, Katie Lillie	0	1	91 ◀▶	88 ◀▶	100.0 % ◀▶	100.0 % ◀▶	100.0 %












Student List:

English Language Arts(ELA-02) - English Language Arts, Grade 2 (01 - Traditional) Spring S

Data View:

Subject Specific

CUSTOMIZE VIEW

STUDENT ^	ATTENDANCE / DISCIPLINE		ASSESSMENTS	GRADES
	Last Four Weeks Attendance	School Code of Conduct	Benchmark	Class Grade
 Gutierrez, Javier	100.0 % ◀▶	0	80 %	73 ◀▶
 Hampton, Jordan	100.0 % ◀▶	0	60 %	95 ◀▶
 Harding, Tommy Jeffery	100.0 % ◀▶	0	80 %	80 ◀▶
 Larsen, Johanna Allison	100.0 % ◀▶	0	10 %	62 ◀▶
 Munoz, Frederick Peter	95.0 % ◀▶	0	80 %	100 ◀▶
 Myers, Carlos	100.0 % ◀▶	0	40 %	79 ◀▶
 Pratt, Peter Wade	100.0 % ◀▶	0	10 %	100 ◀▶
 Schmidt, Janine	100.0 % ▲	0	30 %	31 ◀▶
 Shelton, April	100.0 % ◀▶	0	40 %	96 ◀▶