

TeachME Professional Development

Using Data and Early Warning Systems to Improve Student Outcomes

Chapter 1: Introduction to Early Warning Systems

1. Students with at least a high school diploma are more likely to be employed and to have higher median weekly earnings, while individuals who drop out of high school are at risk of poorer health and a shorter lifespan in comparison to those who have graduated.

- A. True
 - B. False
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Early Warning Systems

2. An early warning system identifies those who are at risk of dropping out of school by applying predictive analytics to student data to determine their risk level in relation to:

- A. Likelihood of risk evolving through time
 - B. Level of preparedness
 - C. Predefined indicators and thresholds
 - D. Response capability
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Early Warning System Planning Process

3. Early warning systems require time, money, and effort, and according to the authors, the functions of a continuous improvement process include each of the following EXCEPT:

- A. To ensure that the early warning system is designed to support agency needs
 - B. To ensure that it is used appropriately and effectively in decision making
 - C. To ensure it is responsive to changes in student populations, data practices, and agency processes
 - D. To ensure that the early warning system is customized and refined based on the best available research and evidence
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Form a Planning Team

4. As a first step in the planning process, planning teams should work together to conduct a needs assessment that identifies agency and stakeholder needs, and to identify and validate early warning indicators, data elements, and analytical models.

- A. True
 - B. False
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Chapter 2: Early Warning System Indicators, Data, and Analytics

5. Early warning indicators measure the extent to which a student is likely to be at risk of dropping out of school, and indicator identification may occur through an analysis of preexisting internal longitudinal data, a review of external research conducted by other education agencies and organizations, or a combination of both.

- A. True
 - B. False
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Commonly Used Early Warning Indicators

6. Early warning systems commonly include indicators such as attendance, behavior, and course performance, and some early systems, particularly at the state level, include:

- A. Assessment performance indicators and mobility indicators
 - B. Student success indicators associated with teacher characteristics
 - C. Demographic and enrollment data indicators
 - D. Student achievement indicators linked to participation in specific instructional programs
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Early Warning System Data

7. The use of a given indicator is predicated on whether the related data are valid, reliable, and:

- A. Effective
- B. Available
- C. Targeted

D. Strategic

Develop a Culture of Data Quality

8. Systems that assess student risk using frequently updated data may be most useful for identifying elementary school-age students that demonstrate future risk of dropping out.

- A. True**
 - B. False**
-

Collect Accurate and Timely Data

9. Although some data already exist and remain relatively constant, other data are generated through one-time or recurring events and activities, and while existing data need to be mapped to or aligned with the early warning system before being imported or uploaded, new data will need to be collected as students progress through school.

- A. True**
 - B. False**
-

Demographic Data

10. When considering if it appropriate to use demographic data as an early warning system indicator, planning teams must determine whether there is a strong correlation between these data and on-time graduation after adjusting for student risk level based on:

- A. Previous school histories**
 - B. Educational expectations**
 - C. Adverse community and family circumstances**
 - D. Behavioral data**
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Interpret Data

11. Interpreting early warning system data with data captured in a different system, such as a student information system (SIS), can point to the underlying causes of individual student risk, help staff better understand the specific needs of individual students, and enable the development of interventions that directly address:

- A. How to merge response-to-intervention efforts**
 - B. Connecting interventions to thresholds**
 - C. Students' individual challenges and barriers**
 - D. Research-based indicators**
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Next Generation Early Warning Systems, Indicators, Data, and Analytics

12. Which of the following is NOT a true statement about linking early warning systems and college readiness systems/indicators?

- A. The alignment of an early warning system with college and career readiness (CCR) initiatives should be complementary, meaning that the system's ability to identify students in need of intervention should not be compromised to support improvements to CCR initiatives**
 - B. Incorporating CCR indicators such as an individualized or personalized learning plan, enrollment in a career/technical education pathway program or a dual high school/college credit course , or Advanced Placement course taking into an early warning system could be a useful way to support student success post-graduation**
 - C. The decision to use an early warning system in this manner should be made carefully to ensure that this approach does not negatively affect the primary purpose of a system, which is to provide a technology platform that will encourage agency and stakeholder participation**
 - D. Early warning systems can be linked to a CCR information system to alert counselors when a student's GPA falls below the threshold needed for entrance into the student's college of choice**
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Next-Generation Data

13. Many SEAs and LEAs have access to more sophisticated data now than in previous years, including data related to student satisfaction with school, student engagement, and social-emotional learning, and these types of data may be useful for identifying students at risk of dropping out.

- A. True**
 - B. False**
-

Chapter 3: Effective Practices in Early Warning Systems Development,

Implementation, and Use-Technical Development and Implementation

14. Once early warning indicators and elements have been identified, they can be used to create detailed, documented technical specifications and system requirements, and establishing written requirements can help assess the appropriateness of different system development options.

- A. True**
 - B. False**
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Develop and Provide Staff Training

15. The introduction of an early warning system to an agency should be supported thorough training, and the goals of such training should include helping staff understand the purpose of an early warning system, teaching staff how to collect, report, analyze, and interpret data using a system, and prompting staff to use a system and its data:

- A. In alignment with state and local level goals**
 - B. In decision-making processes**
 - C. To track educational milestones**
 - D. To select targeted interventions**
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Report and Share Timely Data

16. The need for data-informed actions and interventions should be emphasized when reporting and sharing data, and the authors recommend load balancing within a system to make it easier for users to review individual student data and provide targeted interventions.

- A. True**
 - B. False**
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Evaluate System Effectiveness

17. Regular evaluation of an early warning system should focus on system accuracy, system performance, intervention effectiveness, and:

- A. Detailed system reports**
- B. Mapping of indicators**

- C. System and intervention constraints
 - D. System utility and actionability
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Chapter 4: Case Studies From State and Local Education Agencies

18. Since statewide early warning systems include data on more students than local early warning systems, they can reveal important trends that wouldn't be visible at the LEA level.

- A. True
 - B. False
-

Case Study: Fairbanks North Star Borough School District, AK

19. The Dropout Risk Model, which was developed with the intent to identify students in need of services, uses eight early warning indicators to calculate each student's dropout probability including each of the following EXCEPT:

- A. Attendance rate, difference between high school credits and number of years in high school, and district assessment performance
 - B. Former dropout, grade point average (GPA) and retention
 - C. Level of engagement with school and parental involvement in education
 - D. State test performance and out-of-school suspensions
-

Case Study: Montana Office of Public Instruction

20. The Montana Office of Public Instruction created a voluntary statewide early warning system, Montana EWS, to help schools lower their dropout rates and encourage data use among schools, which uses a logistic regression analytical model to produce a percentage chance of not graduating from high school on time based on a dropout probability score for each student.

- A. True
 - B. False
-

Case Study: Metro Nashville Public Schools, TN

21. Interpreting early warning data in combination with related datasets enriches understanding of the data and can prompt more effective interventions at the student or

school level.

- A. True
 - B. False
-

Case Study: Wisconsin Department of Public Instruction

22. The Wisconsin Department of Public Instruction (DPI) created the Dropout Early Warning System (DEWS) to identify students in grades 6-9 who are at risk of not graduating from high school on time by addressing early interventions needed, accuracy of identification, transparency, reproducibility of predictions, and:

- A. System scalability
 - B. Implementation processes
 - C. Customized approaches
 - D. Communication and feedback
-

Conclusion: Lessons Learned From Case Studies

23. Lessons learned from SEAs and LEAs that have implemented or are in the process of implementing an early warning system include drawing on professional learning communities and the experiences of colleagues to learn about the barriers, strategies, and successes other states and districts have faced in developing, implementing, and using an early warning system.

- A. True
 - B. False
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24. Experts recommend budgeting sufficient time to develop the system's analytical model, balancing the model's complexity and transparency, and clearly and objectively explaining to users the capabilities, limitations, and accuracy of the analytical model and its:

- A. Applicability
 - B. Scope
 - C. Innovative capacity
 - D. Predictive abilities
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25. System use recommendations include supporting each step of the early warning process by integrating early warning system use with intervention mapping, reporting, and validating.

- A. True**
 - B. False**
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