Four Signs Your District is Ready for an Early Warning System

REL PACIFIC

Regional Educational Laboratory for Mid-continent Research for Education and Learning

A DISCUSSION GUIDE

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Purpose of the guide

Although high school graduation rates continue to rise in the United States, reaching 81 percent in the 2012–2013 school year (U.S. Department of Education, 2015), dropout remains a pervasive issue for education systems across the nation. In recent years, Early Warning Systems (EWS), which utilize administrative data to identify students at risk of dropout and help target interventions to help students graduate, have become increasingly popular among districts. At its core, an EWS can provide direction for teams of education administrators, researchers, counselors, parents and community members working together to help students stay in school.[1]

For districts without an EWS in place, this guide is intended to focus conversations and decisions about whether the district is ready for an EWS and when and how to proceed with EWS implementation if the district is ready. The discussion guide will help readers assess the degree to which each of four readiness signs exist within their districts and data systems. If these signs are present, districts may be well-positioned to successfully implement an EWS. Otherwise, completing the guide can help readers identify additional information and next steps their districts can take to enhance their readiness.

Who should use the guide

The guide is designed to be flexible and accommodate districts of varying size and structure, but may be most useful to small- or mid-sized districts that have not had an EWS in the past and are exploring whether or not to implement an EWS to address a dropout problem. EWS teams can be composed of stakeholders from the district or school level, or a combination of both, and can include district administrators, researchers, information technology staff, counselors, students, parents, and community representatives, depending on the needs of the district, school, or community. Whatever the composition of the group, there should be a core EWS team that includes key decisionmakers who are committed to taking part in each discussion in this guide.[2]

How to use the Discussion Guide

The guide provides a framework for facilitating four discussions—one for each of the four EWS readiness signs. For each discussion there is a one to two-page handout (pages 6–13) that includes references to recommended readings and a series of guiding questions that will be used to guide the discussion. At the end of each discussion, participants are asked to rate their confidence as a group that the "readiness sign" is present within the district and list the key conclusions from their discussion that justify their rating. There is no established "cut point" on this confidence scale that the district must meet in order to be deemed "ready." Instead, these ratings are designed to provide a quick snapshot of district readiness in that area to inform decisionmaking.

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[1] For more information on EWS in general, see Bruce, M., Bridgeland, J. M., Fox, J. H., & Balfanz, R. (2011). On Track for Success: The Use of Early Warning Indicator and Intervention Systems to Build a Grad Nation. Washington, DC: Civic Enterprises. Retrieved from http://www.civicenterprises.net/MediaLibrary/Docs/on_track_for_success.pdf

[2] For more information on creating an EWS team, see Frazelle, S. & Nagel, A. (2015). A practitioner's guide to implementing early warning systems (REL 2015–056). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. Retrieved from http://ies.ed.gov/ncee/edlabs/projects/project.asp?ProjectID=396

There are no limits to the number of participants to include in each discussion. With the exception of the core team, participants may differ from one discussion to the next, depending upon which district or school level staff are best equipped to answer the discussion questions and assess the district's status on each readiness sign. For some districts it might make sense to convene a single, two-hour meeting in which the same group of participants would conduct all four discussions at once. For other districts, the meetings may involve different participants and be scheduled separately over a multi-week period.

Follow the five steps below to facilitate each readiness discussion:

Step 1: **Designate a facilitator** who will be responsible for scheduling the readiness discussion, leading the participants through the discussion questions, and taking notes. This individual does not have to be an expert in the discussion topic, but should have experience in meeting facilitation, and some basic knowledge of an EWS in order to drive follow-up questions as needed.

Step 2: **Identify and recruit participants**. As you create your list of participants, refer to each readiness discussion (pages 6, 8, 10 and 12) to determine what areas of expertise should be represented in specific discussions related to participant's expertise. Then, identify specific individuals who have expertise in one or more of those areas to be invited to the discussion. For example, for the readiness discussion on Tiered Interventions, you may decide you will need to invite individuals with on-the-ground experience in providing student interventions, familiarity with the current process for identifying students in need of interventions, knowledge of effective intervention strategies, etc., and then ask one or more school guidance counselors and intervention specialists to take part in the discussion.

Step 3: **Share the discussion sheet (pages 5–12) with participants** at least one week in advance of the readiness discussion so they have time to review the recommended readings and discussion questions and come prepared for an engaging discussion on the district's readiness for an EWS.

Step 4: **Facilitate the discussion.** Begin the readiness discussion with a review of the "Considerations" section and then move through the discussion questions, allowing time for all the individuals who participate to share insights and draw upon what they learned from the recommended readings. You should allow at least thirty minutes for each readiness discussion.

Step 5: **Summarize the conclusions of the readiness discussion** by asking the group to agree on a confidence rating regarding whether the district displays the sign of readiness that was discussed. Provide a written rationale for the confidence rating by summarizing key takeaways from the discussion.

Four signs your district is ready for an Early Warning System

Researchers at Regional Educational Laboratory (REL) Pacific reviewed the research literature regarding implementation of EWS and identified four organizational conditions, or "readiness signs," that promote successful implementation.

(1) *A clear vision for addressing the dropout problem*: District leaders along with participants who have been identified to be part of the readiness discussions have defined the nature and underlying causes of the district's dropout problem including the prevalence of dropout in the district, whether dropout rates are rising or falling over time and how the risk of dropout differs among student subgroups. District leaders and EWS teams are also ready to investigate the root causes of the dropout problem and articulate a clear and shared vision that includes specific goals for improving graduation rates and a coherent strategy for how an EWS would support those goals (Therriault et al., 2013; Jerald, 2006).

(2) *A high quality data system*: The district has the data management tools and technical capacity to track student outcomes over time. This includes the ability to collect, clean, verify, organize, and link longitudinal student-level records from multiple data sources, including attendance data, discipline records, report cards, and graduation outcomes (Bruce et al., 2011; Frazelle & Nagel, 2015).

(3) *Access to expertise in data analytics*: The district has access to an individual or partner who can conduct the statistical calculations necessary to identify or validate a set of 9th grade indicators that accurately predict high school dropout for its students (Heppen & Therriault, 2008; Stuit et al., 2016).

(4) *Capacity to deliver a tiered intervention system*: The district has the resources and capacity to implement a tiered intervention system that delivers schoolwide, targeted (small group), and individualized interventions that are differentiated based on the specific needs of students identified as at risk by the EWS and the ability to track the implementation and effectiveness of these interventions over time (Therriault et al., 2013; Frazelle & Nagel, 2015).

Discussion 1: Do we have a clear vision for reducing high school dropout rates?

Readiness Sign #1
Clear vision for addressing the dropout problem

Considerations

A clear written vision statement will help motivate and guide the work of everyone involved in implementing the EWS (Waters, Marzano, & Mcnulty, 2003; Elmore, 2003). A clear vision statement for an EWS will have three defining features:

(1) It will be based on a thorough understanding of the nature of the dropout problem, including knowledge of how prevalent dropout is within the district, whether dropout rates are rising or falling over time, how the risk of dropout differs across student subgroups, and readiness for an investigation of the root causes of the dropout problem.

(2) It will include concrete goals for reducing dropout rates and improving graduation rates. These goals should be written and articulate specific improvement targets and a timeline for meeting them.

(3) It will detail the strategy for how an EWS will help the district achieve these goals.

Recommended Readings

On Track for Success: The Use of Early Warning Indicator and Intervention Systems to Build a Grad Nation
Civic Enterprises & The Everyone Graduates Center at Johns Hopkins University (Particularly pp. 9-19)

Vision, Leadership, and Change
SEDL Issues about Change. Volume 2, 3.

Logic Models: A Tool for Designing and Monitoring Program Evaluations
REL Pacific

One way to ensure that your district has a clear vision for an EWS and is able to monitor progress towards reducing dropout is to build a logic model. A logic model can describe how the resources and activities involved in implementing an EWS are expected to impact short-, medium-, and long-term student outcomes. For interactive applications to build logic models and evaluate outcomes, link to http://relpacific.mcrel.org/resources/elm-app/.

Discussion Questions

(1) What do we know about the dropout problem in our district? What are our district's cohort graduation and dropout rates? How are dropout rates trending over time? What students are most likely to drop out and why? (Problem Definition)

(2) What are our specific goals for reducing high school dropout rates in the future? What improvement do we expect to see and by when? Are these goals realistic? (Goal Clarity)

(3) What is our vision for how an EWS will help us meet our goals for reducing dropout rates? How would an EWS help us in setting new goals in this area over time? (Strategic Vision)

(4) What additional information would we need to gather or what additional actions would we need to take in order to improve our readiness in this area?

Conclusions

Based on this discussion, how confident are you that the district has a clear vision for how an EWS will be used to reduce dropout rates and improve graduation rates? (Circle One)

Not at all confident Somewhat confident Confident Very Confident

Please explain your response. What takeaways from the discussion led you to assign the above confidence rating?

Discussion 2: Do we have the data system required to build a set of early warning indicators and quickly identify students who are at risk of dropout?

Considerations

Your data management system will need to perform two functions in order to effectively support an EWS:

(1) Indicator Selection: Produce a longitudinal student-level data set that will be used for the statistical analysis required to identify accurate early warning indicators. This data set should include student-level records for all students who enrolled as incoming freshmen for the first time for two cohorts of students whose expected graduation dates have passed (e.g., the freshmen cohort that entered in the fall of 2008 and was expected to graduate in the spring of 2012).

At a minimum, this data should include 9th grade attendance, behavior, and coursework records, which the literature suggests as a starting point for indicators, along with demographic information and a way to link these data to the students' graduation or dropout status and verify the validity of the data. See the recommended readings for more information.

If you do not currently have the longitudinal data necessary to validate indicators for your district, you can consider adopting indicators and thresholds that have been used by other districts, and then adjust these indicators and thresholds in the future when you have sufficient local data. For examples of indicators and thresholds used by other districts, see *What Matters for Staying On-track and Graduating in Chicago Public High Schools* and pages 5–8 of REL Northwest's *A Practitioner's Guide to Implementing Early Warning Systems*, two of the recommended readings.

Recommended Readings

A Practitioner's Guide to Implementing Early Warning Systems
REL Northwest
(Particularly "Identifying accurate indicators", starting on p. 5)

Traveling Through Time: The Forum Guide to Longitudinal Data Systems
National Forum on Education Statistics

What Matters for Staying On-track and Graduating in Chicago Public High Schools
Consortium on Chicago School Research at the University of Chicago

(2) Risk Classification: Be capable of applying the early warning indicators to fall semester data on currently enrolled 9th grade students so that the students who are at risk of dropout can be identified and practitioners, parents, and students can be notified of their at-risk status by early in the spring semester of 9th grade at the latest. For example, if an early warning indicator classifies all students with attendance rates below 90 percent as at risk, the data system must be able to access the fall semester attendance data and assign flags to all students who fall below the 90 percent threshold in time to place these students in interventions for the spring semester. The earlier the system can identify students, the better.

Discussion Questions

(1) Do we have the capacity to construct a historical longitudinal data file that can be used to identify accurate 9th grade predictors of dropout? If not, do we have the ability to create a longitudinal data file to allow us to track current 9th graders going forward? (Indicator Selection)

(2) Do we have the capacity to apply the early warning indicators to data on currently enrolled students and quickly identify students who are classified as at risk based on those indicators? If

so, how quickly? What tools, such as a dashboard or spreadsheet, are we using to identify students? (Risk Classification)

(3) What additional information would we need to gather or what additional actions would we need to take in order to improve our readiness in this area?

Conclusions

Based on this discussion, how confident are you that the district has the necessary data systems in place to be able to identify predictive indicators of dropout for 9th grade students and track student results on those indicators? (Circle One)

Not at all confident Somewhat confident Confident Very Confident

Please explain your response. What takeaways from the discussion led you to assign the above confidence rating?

Discussion 3: Do we have the capacity to analyze our data and identify a set of 9th grade early warning indicators that accurately predict dropout?

Readiness Sign #3
Access to expertise in data analytics

Considerations

To implement an EWS, your district must establish a set of 9th grade early warning indicators that accurately predict which students will drop out of high school. While research shows that the "ABC" indicators (attendance, behavior, and coursework) are consistently accurate predictors of dropout for students in multiple contexts (Hartman, Wilkins, Gregory, Gould, & D'Souza, 2011; Norbury, et al., 2012), it is important to verify that this is the case for your particular student population. If your indicators are not accurate, the EWS will not be able to identify the students who are truly at risk of dropout and most in need of support.

There are several methods to identify accurate early warning indicators available to you and your team. Two commonly used approaches are the CART method, which is explained further in the report and infographic by REL Southeast and logistic regression, which is explained in more detail in Appendix B of the REL Midwest report. See the recommended readings for more about these methods and how they have been used to develop EWS indicators. If your district does not have the capacity to identify accurate EWS indicators, two additional options are to seek external partners that can help identify and validate EWS indicators, or determine whether your state or other districts within your state have an EWS tool that could be accessed. If your state or another district within your state does have an EWS tool, it will be important to determine whether the students used to verify those specific indicators and cut points were similar or different from students in your district. If the students used to verify those indicators were different, it is possible that those indicators or cut points may not be accurate for your district.

Recommended Readings

Developing Early Warning Systems to Identify Potential High School Dropouts
National High School Center

Comparing Methodologies for Developing an Early Warning System: Report and Infographic
REL Southeast

Identifying Potential Dropouts: Key Lessons for Building an Early Warning Data System
Achieve, Inc. American Diploma Project Network

Identifying Early Warning Indicators in Three Ohio School Districts: Report and Infographic
REL Midwest

Discussion Questions

(1) Does our staff have the capacity to conduct the analysis that is required to identify a set of early warning indicators that accurately predict dropout for our students? (Internal Analytic Capacity)

If your staff does have this capacity:

a. What individuals or departments have this capacity?

If your staff does not have this capacity:

b. Does our state or other districts within our state offer an EWS tool that we could access? If so, are the indicators and cut points used in that system verified to be accurate predictors of dropout for our particular students?

c. Do we know of any external organizations that could partner with us to help identify and validate our indicators and if necessary modify our EWS?

(2) What additional information would we need to gather or what additional actions would we need to take in order to improve our readiness in this area?

Conclusions

Based on this discussion, how confident are you that the district has access to an individual or partner with the analytic skills to identify and validate a set of 9th grade indicators that accurately predict high school dropout in your district?

Not at all confident Somewhat confident Confident Very Confident

Please explain your response. What takeaways from the discussion led you to assign the above confidence rating?

Discussion 4: Are we prepared to deliver a tiered intervention system that provides differentiated support to the students who are identified as at risk of dropout by the early warning system?

Readiness Sign #4
Capacity to deliver a tiered intervention system

Considerations

Once students are identified as at risk of dropping out, they need to be matched with effective interventions that address their specific risk factors. As defined in the recommended reading, *A Practitioner's Guide to Implementing Early Warning Systems*, interventions are "programs and policies…in place to help students succeed in school" (p. 10). For example, if the district uses attendance, behavior, and coursework indicators to predict which students are at risk of dropout, the district will need to make interventions available that can address each of those factors.

Recommended Readings

A Practitioner's Guide to Implementing Early Warning Systems
REL Northwest
(Particularly pp. 10-14)

High School Early Warning Intervention Monitoring System Implementation Guide National High School Center at the American Institutes for Research
(Particularly pp. 21-24)

The Institute of Education Sciences' What Works Clearinghouse (WWC) is a good resource for identifying interventions for a variety of student needs. The WWC reviews the existing research on different programs, products, practices, and policies in education. Its goal is to provide educators with the information they need from high-quality research to make evidence-based decisions, such as whether to adopt a specific type of program or policy.

Fully implementing an EWS includes the use of a tiered intervention system, with students who are most at risk of dropping out receiving additional layers of support. School-wide interventions are used to address risk factors that are systemic for most or all students in the school. Targeted interventions are delivered to a subset of the entire student population (approximately 15–20 percent of students in a school or a specific grade level). Intensive interventions are provided to the students who are most severely at risk of dropout (approximately 5-10 percent of students in a school or a specific grade level) and commonly occur in small-group or one-on-one settings. Without the capacity to deliver a tiered intervention system directed at specific student needs, the district will not be able to use EWS information for its intended purpose: getting at-risk students back on track to graduate.

Districts also need to be able to evaluate the implementation and effectiveness of their dropout interventions in order to improve their offerings over time. Districts should track which interventions each student receives and how their performance on the EWS indicators changes over time. By looking at this information across students and student subgroups, the EWS team can monitor trends in the effectiveness of interventions. While these trends do not provide a definitive answer as to whether or not student improvement was driven by participation in particular interventions, they can provide some indication of whether interventions are meeting the needs of students and help districts make adjustments to the interventions they offer. For districts that wish to perform their own in-depth evaluation of an intervention, RCT-YES is a free, user-friendly tool that can help districts conduct a more rigorous assessment of the intervention's impact.

Discussion Questions

(1) What interventions do we currently have in place to address risk factors identified through potential dropout indicators such as attendance, behavior, or coursework? Do we have the capacity to identify and implement multiple evidence-based intervention strategies at the school, targeted (small group), and individualized levels that are differentiated based on the needs of students identified as at risk by the EWS? (Dropout Prevention Resources)

(2) What do we know about the use of multi-tiered intervention systems and how they are used within EWS? What do we need to learn more about? (Understanding of Tiered Interventions)

(3) Do we have the capacity to monitor and evaluate the implementation and effectiveness of our intervention strategies and act on that information? (Ability to Monitor Effectiveness of Interventions)

(4) What additional information would we need to gather or what additional actions would we need to take in order to improve our readiness in this area?

Conclusions

Based on this discussion, how confident are you that district has the capacity to implement a tiered intervention system that addresses the different needs of all students who are identified as at risk of dropout by the EWS? (Circle One)

Not at all confident Somewhat confident Confident Very Confident

Please explain your response. What takeaways from the discussion led you to assign the above confidence rating?

Next Steps

Based on the discussions in this guide, EWS teams should now have a better understanding of whether their districts have a clear vision for addressing the dropout problem, a high-quality data system and access to expertise in data analytics that will allow them to accurately predict which students are at risk of dropping out, and the capacity to deliver a tiered intervention system to meet the needs of students.

The next step is to review the conclusions from the four discussions and prepare to debrief key stakeholders on the district's overall readiness for an EWS.

Step 1: Summarize your team's findings from across the four discussions, including the confidence ratings that your team agreed upon regarding each readiness sign.

Step 2: List and describe the action steps that the district would need to take to improve its readiness in each of the areas discussed. You may have found that there are very few action steps needed in relation to some areas while others need more attention. You may have action steps to take even if you found that your team was "Very Confident" that the readiness sign was present in your district.

Step 3: Develop a timeline for accomplishing these action steps that shows how long it would take to implement each step and an overall estimate of how long it would take for the district to develop each of the four signs of readiness.

Step 4: Meet with key stakeholders, such as the district superintendent to report on your findings, action steps, and timeline and assess the interest in moving forward with pursuing an EWS.

If a district is not yet ready to implement an EWS, but is still interested in pursuing one in the future, it can further refine the action steps and timeline that its team developed and create a plan for achieving them. Drawing on the "Recommended Readings" can help districts refine their plans.

If a district is ready to implement an EWS, there are a number of resources that can help it get started. Two that provide detailed information to guide districts through the process are *A Practitioner's Guide to Implementing Early Warning Systems* and the *High School Early Warning Intervention Monitoring System Implementation Guide*. The readiness discussions may have identified opportunities to enhance your district's capacity to implement a high-quality EWS, and you can use these findings to inform your implementation efforts.

Whether a district is ready to implement an EWS in the near-term or needs to further develop its readiness before putting an EWS in place, the Early Warning Systems Learning Series provided by the Regional Educational Laboratory Program has several resources that can help you learn more about EWS, on topics ranging from *Developing a Culture of Data Use to Maximize the Use of an Early Warning System* to *Considering the Best EWS Model to Fit Your Needs* to *Going Districtwide: Implementation Lessons for Using Early Warning Systems and Local Risk Indicators*.

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