EARLY WARNING SYSTEMS

SOUND THE ALARMS! IN 2015, OVER 1.2 MILLION 16-19-YEAR-OLDS WERE NOT IN SCHOOL NOR DID THEY WORK (KIDS COUNT DATA CENTER, HTTP://DATACENTER.KIDSCOUNT.ORG). SCHOOLS ISSUED 3.5 MILLION IN-SCHOOL SUSPENSIONS AND ALMOST AS MANY OUT-OF-SCHOOL SUSPENSIONS (U.S. DOE, WWW.OCRDATA.ED.GOV/DOWNLOADS/CRDC-SCHOOL-DISCIPLINE-SNAPSHOT.PDF). HOW MANY OF THESE AT-RISK STUDENTS WOULD REALIZE ACADEMIC SUCCESS IF EVERY SCHOOL DISTRICT USED AN EARLY WARNING SYSTEM (EWS) TO EASILY NOTIFY AND DISPATCH EDUCATORS *BEFORE* STUDENTS ACT OUT, OPT OUT, OR DROP OUT?

Baseline EWS Indicators

Most literature reviews find recommendations focused on using ABCs as the main set of baseline EWS indicators. The ABCs are:

A—Attendance. For decades, research has shown a strong correlation between attendance and graduation. Students with high numbers of absences run the risk of falling behind in their learning. This measure also sometimes indicates socio-economic or health issues.

B—Behavior. Generally, districts track behavior by the number of incidents (e.g., in- or out-of-school suspensions and/or expulsions) and/or the number of students who have a Behavioral Improvement Plan (BIP).

C—Course Performance (Grades). Students' overall grade point averages along with the number of course failures are obviously strongly correlated to whether or not students successfully transition to the next grade or graduate from high school.

Extended EWS—Root Cause Analysis

The new education legislation, Every Student Succeeds Act (ESSA), fully supports and encourages extending EWSs to include nonacademic measures. So, now is the perfect time to select and implement assessments that when combined with ABC data provide a more in-depth picture of what is really going on with the student. These extended datasets identify the root causes and answer the *Why* question related to each ABC (i.e., *Why* is the student missing so much school/misbehaving/failing?). Often these tools provide both aggregated and disaggregated data related to areas such as test-taking confidence, connectedness to parents, financial stress, and whether or not the student sees school as relevant and meaningful.

Keys to Selecting EWS Providers

Administrators will see greater buy-in, resulting in increased usage, when they select an EWS that meets specific criteria:

- Evidence-Based. Very few nonacademic measures have a long history of research-based proof statements. Look for EWS tools with longitudinal studies and high correlation rates. Any provider can develop the product and then apply the research or collect evidence. Look for assessments that evolved from the evidence.
- Malleable Skills. How well can the indicators that are measured be translated into instruction. Simply put, are these teachable skills?
- Universal. Educators and parents worry when schools start getting too clinical. A nonacademic EWS should be easily applicable and actionable without a psychology degree. Look for assessments that measure characteristics such as academic resiliency.
- Monitor All Levels. Strong Early Warning Systems ensure that district administrators see aggregate views, building leaders see local trends, and teachers/counselors see classroom and individual student data.
- Easy to Administer/Interpret. If training takes several days or using the EWS data requires a PhD, we are creating a wall of resistance. After all, we should spend our time answering the question "Now what?" instead of trying to find the just-right report.

This edition of the *National Dropout Prevention Center/Network Newsletter* focuses on Early Warning Systems. Two program profiles highlight different applications of putting EWS data to work. One program profile focuses on a school-level application of EWS to complement trauma-informed education practices while the other focuses on benefits of a systems-level application. A research profile identifies key EWS publications. It also provides readers with a high-level introduction to a wealth of EWS resources for further exploration. Finally, both the opinion piece and the book review challenge us to think about EWS as integral to saving the educational lives of our students. Early Warning Systems can make the difference between a student staying in school and dropping out. For that reason, it truly is time to sound the EWS alarms.

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2016 Crystal Star Awards of Excellence in Dropout Recovery, Intervention, and Prevention

The National Dropout Prevention Network Crystal Star Awards of Excellence in Dropout Recovery, Intervention, and Prevention identify and bring national attention to those individuals and programs that represent an abiding commitment to education and that have served to help keep children and youth in school to graduation. NDPN presented awards to an outstanding group of recipients who have brought attention to the issues of dropout prevention, intervention, and recovery at the international, national, state, and local levels.

In additional to bringing attention to these issues, in some instances the 2016 individual and program recipients provided schools and districts throughout the country with effective research-based strategies that can be replicated. Others further research and expand best practices and knowledge related to service-learning, youth engagement, and other areas. We are pleased to present the 2016 Crystal Star Awards of Excellence recipients.

Dr. Lateshia Woodley, principal of McClarin Success Academy, Fulton County School System, GA; National Dropout Prevention Specialist; author; speaker; transformational leader—Recipient of Individual Crystal Star Award of Excellence in Dropout Recovery, Intervention, and Prevention

Program Recipient Crystal Star Award of Excellence in Dropout Recovery, Intervention, and Prevention– buildOn, Stamford, CT, an international service learning organization. Accepted by buildOn Founder, President, and CEO, Jim Ziolkowski

Program Recipient Crystal Star Award of Excellence in Dropout Recovery, Intervention, and Prevention– Oakland Opportunity Academy, Wixom, MI. Accepted by Dr. Marlana Krolicki, Dean, Oakland Opportunity Academy

Program Recipient Crystal Star Award of Excellence in Dropout Recovery, Intervention, and Prevention– Hart County School System Grad Dog Initiative, Hart County, GA. Accepted by Kevin Gaines, Principal, Hart County High School

Mr. Terry Pickeral, Bellingham, WA, president of Cascade Educational Consultants; NDPC/N Research Fellow; training and technical assistance facilitator; research and policy leadership contributions in youth engagement, school climate, service-learning, and other practices to sustain quality education reform—Recipient of Crystal Star Award of Excellence for Distinguished Leadership and Service

Meet Our Guest Editor

■ LeAnn Stewart has over 25 years of experience in K-12 and postsecondary education, with extensive experience in product management and instructional technology. She also served in various positions with the University of Missouri, University of Louisville, Missouri Department of Education, and with leading instructional technology companies. LeAnn has provided consultative services to the Hawaii Department of Education's Adult Education Unit, Pennsylvania Department of Corrections, and various national organizations, including the National Dropout Prevention Center/Network. She is currently Vice President of Curriculum and Instruction at AdvancePath Academics. LeAnn is a creative, visionary leader with expertise in educational technology, professional development, and blended learning for K-12, adult, postsecondary, and workforce environments. She willingly shares her expertise in delivery-model design, policy/procedure, and tool development, as well as instructional content integration and systemic educational change.

NDPC/N Partners With SC School Districts

■ NDPC/N, Clemson University, and the University's College of Education announce a 5-year partnership with Jasper County School District and Marlboro County School District, both located in South Carolina. The partnership is designed to maximize each school district's existing dropout prevention efforts by capitalizing on expertise that further enhances the districts' efforts. As a part of the partnership, Scholastic Incorporated will identify high-impact strategies most likely to attain desired student achievement and graduation rate outcomes. Additionally, Scholastic will provide ongoing support for school leaders and teams in strategy implementation and evaluation of impact.

NDPC/N will provide the Jasper County School District and the Marlboro County School District with separate sequences of tiered services and support specific to each district over a 5-year period. After initially delivering low-cost or no-cost services and resources that shore up each district's already strong dropout prevention foundation, later efforts by NDPC/N and Clemson University College of Education will focus on seeking resources and funding to underwrite at-cost services to each school district.

NDPC/N Online Courses Available

■ NDPC/N offers online courses on the 15 Effective Strategies for Dropout Prevention. Courses are self-paced, interactive, independent, and available to be completed individually or combined with conference attendance as part of NDPC/N's National Dropout Prevention Specialist certification requirements. Courses may be used for CEU credits, pending your district's requirements. Go to www.dropoutprevention.org/shop for course descriptions, FAQs, and to register.

Upcoming *Solutions to the Dropout Crisis*

■ Join *Solutions to the Dropout Crisis* webcast on the second Tuesday of every month from 3:30 to 4:30 PM (ET) to hear experts in the field of dropout prevention discuss successful dropout prevention initiatives. *Solutions* is available for viewing free at dropoutprevention.org/webcast. Archived sessions are always available for viewing.

NDPC/N *JARI* Editorship

■ NDPC/N bids a fond farewell to long-time *The Journal of At-Risk Issues* editor Rebecca Robles-Piña, PhD, who, after almost a decade of dedicated service, has turned over editorship of the peer-reviewed academic journal to Gregory Hickman, PhD, a faculty member in Walden University's Barbara Solomon School of Social Work and Human Services.

Dr. Robles-Piña seamlessly spearheaded manuscript reviews, editing, and research design verification while maintaining the refereed journal's biannual production schedule. For Dr. Robles-Piña's service, dedication, and commitment, NDPC/N is deeply appreciative.

Dr. Hickman assumes the role of editor for the upcoming issue of *JARI* scheduled for publication in early fall. Specifications for manuscripts are available at dropoutprevention.org/resources/journals/journal-of-at-risk-issues-call-for-manuscripts/ and manuscripts may be sent to gregory.hickman@waldenu.edu for consideration of inclusion in an upcoming issue.

For more information, visit our website at www.dropoutprevention.org/conferences

Recognizing the Needs of Wounded and Credit-Deficient Students at Burchell High School

by Dan Hietala

Burchell is a high school of 285 students that began as a way to reach out to students whose lives became too complicated for traditional school. Whether it was assisting with day care for students with kids or offering a flexible schedule for students who had to work to support themselves or their families, Burchell has always been about partnering with students to accomplish something that many of them had given up on, something that many of their parents have never achieved—graduation.

Most students who first enter the doors of Burchell are juniors, seniors, or dropouts who are, on average, two to three years behind in credits. They come broken, desperate, nearly hopeless, and homeless—about 60%. The greatest challenge, however, is providing a system where depression, PTSD, and emotional trauma are identified and supported in a sensitive and effective way. As many as 90% - 100% of the students have experienced some kind of trauma in their lives, many beyond comprehension.

In response, the school has committed to implementing the trauma-sensitive model of instruction that is being exported from such states as Michigan and touted by experts like Joe Hendershott. Trauma-informed instruction encourages systems thinking and learning that benefits more than just the wounded student. It is also a preventative measure, creating a culture where students are not re-traumatized or taken for granted, where the way people talk to each other is just as important as what they talk about.

For many of these wounded students, Burchell is their last stop, and often they are one bad semester, quarter, or even week from dropping out. The sooner their needs are identified and addressed the better. First of all, every student is screened for motivation, depression, drug use, and adverse living situations. The school has a partnership with a third-party counseling clinic that sends therapists to the school every day to meet with students identified with a need for counseling.

The school's nurse is on the front lines every day, seeing the symptoms and warning signs of trauma and poverty. She provides showering and laundry services, as well as sets up appointments for students to see a physician assistant who comes in weekly for students who do not have access to health care. She coordinates with a social worker who works specifically with students-in-transition (homeless) and provides students with food, gas, and clothing vouchers.

When a student sleeps through class or blows up at a teacher or classmate for no apparent reason, students can be referred, or refer themselves, to what is called The Haven, a large room dedicated to allowing students to decompress or relieve their anxiety by talking with The Haven's counselor, or by simply spending some time coloring. Sometimes students need just to work on their academics in peace and quiet before returning to class.

To accommodate students' credit needs, Burchell provides two programs: Core Path and AdvancePath. Core Path has a block schedule and is on a quarter system where students can accelerate in credits. Every student takes an academic assistance class that provides tutoring and homework time.

A blended learning environment, AdvancePath provides three different sessions for a student to choose. Each student is assessed academically and through ScholarCentric Academic Resiliency Assessments. This leads to individualized learning plans that address the whole needs of each learner. Students clock in, turn in their cell phones and electronics, and work on one to two classes at a time, either at their own pace or in small groups.

Despite every preventative measure taken, students still struggle with attendance, grades, progress, depression, and addiction. What makes Burchell special is the way that the staff communicates weekly in "triage" meetings, where the teachers, nurse, counselor, and principals go over their concerns and paint a full picture of the red-flagged students so that the staff, as a team, is helping each student as a person.

Ultimately, the goal for each student is graduation. When it happens at Burchell, each graduate is thrown a bell-ringing ceremony in their honor to make sure no one misses the fact that despite everything going on outside of school, that despite everything that has happened in the past, people can survive. People can overcome. And even the most hopeless students have a place where they can graduate.

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Research Supports Early Warning Systems

by Jennifer Scala

Schools, districts, and states are increasingly using early warning systems (EWS) to identify at-risk students and provide them with the academic and nonacademic support necessary to get them back on track. A critical component of an early warning system is the set of indicators used to determine which students are identified as being at risk.

Early warning indicators are typically based on measureable, malleable (teachable) student behaviors and characteristics (e.g., factors that can be changed such as attendance and confidence), aligned with the idea that changes in these behaviors and academic resiliency factors (overcoming academic struggles) are symptomatic of being at risk or not at risk of graduating. The intent of an EWS is not only to identify students who are at risk, but also to provide correlated, proven supports to get them back on track. Therefore, exploring behaviors and risk factors, rather than focusing on underrepresented youth, is a more efficient way not only to identify students who are at-risk but also use resources efficiently. A review suggests that there are as many as 110 early warning indicators that have been used to predict which students are at risk of failing to complete high school (Bowers, Sprott, & Taff, 2013). The majority of these indicators draw from readily available data typically focused on student attendance and course performance (Allensworth & Easton, 2007; Frazelle, Nagel, & Northwest, 2015; Allensworth & Easton, 2005; Solberg, Close, & Metz, 2000). Adding evidence-based academic resiliency indicators expands educators' access to quality EWS information and insures academic resiliency is addressed as an integral part of meeting students' needs (Solberg, Close, & Metz, 2000).

Attendance is one of the most practical predictors for identifying students who are in need of interventions (Allensworth & Easton, 2005; Heppen & Therriault, 2008; Uekawa, Merola, Fernandez, & Porowski, 2010). Poor course performance is one of the most consistent predictors of not graduating high school, whether measured through grades, test scores, credit accumulation, or course failure (Allensworth & Easton, 2007; Allensworth & Easton, 2005; Solbert, Close, & Metz, 2000). Taking only ABC data into consideration, the table below summarizes common indicators and cut points at which students are off track for high school graduation. For more information about early warning systems, please see www.earlywarningsystems.org or www.scholarcentric.com.

Indicator	Cut Point*
Instructional time missed	10% or more
Grade point average	2.0 or lower on 4.0 scale
Course failure (any course)	One or more
On-Track Indicator	Credit deficient for promotion to 10th grade AND one or more failures in core courses

*Allensworth & Easton, 2005

References

Allensworth, E. M., & Easton, J. Q. (2005). *The on-track indicator as a predictor of high school graduation.* Chicago, IL: University of Chicago Consortium on Chicago School Research. Retrieved from https://consortium.uchicago.edu/sites/default/files/publications/p78.pdf

Allensworth, E. M., & Easton, J. Q. (2007). *What matters for staying on-track and graduating in Chicago public high schools: A close look at course grades, failures, and attendance in the freshman year.* Chicago, IL: University of Chicago Consortium on Chicago School Research. Retrieved from http://ccsr.uchicago.edu/sites/default/files/publications/07%20What%20Matters%20Final.pdf

Bowers, A. J., Sprott, R., & Taff, S. A. (2013). Do we know who will drop out? A review of the predictors of dropping out of high school: Precision, sensitivity, and specificity. *The High School Journal, 96*(2), 77–100.

Frazelle, S., Nagel, A., & Northwest, E. (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.

Heppen, J. B., & Therriault, S. B. (2008). *Developing early warning systems to identify potential high school dropouts.* Washington, DC: National High School Center. Retrieved from http://files.eric.ed.gov/ fulltext/ED521558.pdf

Solberg, V. S., Close, W., & Metz, A. J. (2000, March). *Building success pathways to improve outcomes.* Symposium conducted at the annual School of Education Research Conference, Milwaukee, WI. Conference Paper, Refereed, Presented, 03/2000.

Uekawa, K., Merola, S., Fernandez, F., & Porowski, A. (2010). *Creating an early warning system: Predictors of dropout in Delaware* (REL Mid-Atlantic Technical Assistance Brief, REL MA 1.1.75- 10). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Mid-Atlantic.

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Early Warning Systems: Beyond the ABCs

by Veronique Zimmerman-Brown

Addressing the needs of at-risk students takes shifting the mindset and practices of the school. The use of data to make decisions should help facilitate the process. However, there is a need to understand school-related data, its implications, and the identification of appropriate interventions/strategies in order to truly make the shift. Early warning systems help schools to be more proactive in identifying students in need of assistance. Typically, ABC (attendance, behavior, coursework) data are used as the only early warning indicators. But extended data can help schools better identify and understand less obvious factors. In support of its districts with this effort, GEAR UP Alabama (GUA), a 7-year federal grant supporting 21 school districts and over 9,700 students in the Alabama Black Belt Region, is providing student resiliency data (AdvancePath Academic's ScholarCentric Assessments) and technical assistance visits (Southern Regional Education Board; SREB).

Early Warning Systems Identify Root Causes

All of the GEAR UP Alabama cohort schools administer academic resiliency assessments designed to identify the root causes of student disengagement. Research and evidence-based practices have identified six measurable, teachable areas of resiliency, including importance of education, confidence, connections, stress, well-being, and motivation.

Assessment results are reported in aggregate and disaggregate formats for district, school, and student-level decision-making purposes. The reports help school teams identify strategic school-level initiatives/ interventions and create action plans. The school positive support teams and teachers also use individual, student-level data for additional needed support. Data are provided for the duration of the grant and help schools evaluate the effectiveness of selected interventions and plans.

Data Used in Technical Assistance Visits

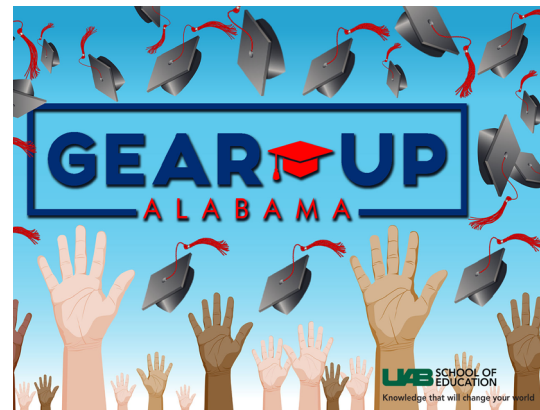Another service provided to all GUA schools is a Technical Assistance Visit (TAV) led by SREB. First, SREB creates desktop audit reports identifying longitudinal trends and subgroup data covering academic, behavior, absentee, and state assessments. During the TAV, teams conduct classroom observations and interview students, parents, teachers, counselors, and administrators to help determine a school's college and career readiness (as per the GUA metrics). Readiness is further gauged by the school's alignment with SREB's six design principles for High Schools That Work:

- Design Principle 1: Prepare All Students for College and/or Careers

- Design Principle 2: Redefine How Time Is Used to Connect Academic, Career Pathways and Workplace Learning

- Design Principle 3: Provide Time and Support for Students to Achieve College- and/or Career-Readiness Standards

- Design Principle 4: Use Career Pathways to Remove the Lines Between Secondary, Postsecondary and Workplace Learning, Business and Industry Partners

- Design Principle 5: Provide Students With School- and Community-Based Experiences to Help Set Future Career and Educational Goals

- Design Principle 6: Make School and Instruction Work for Students

A comprehensive report of these findings is provided for each school; the report includes promising practices, evidence of needs, recommended actions, and resources.

Blueprint for Success

GUA sponsors regional professional development where representatives from AdvancePath Academics and the Southern Regional Education Board work with school teams to train them on early warning indicators, reading/analyzing their data reports, identifying corresponding interventions, prioritizing needs, and creating action plans. Through group activities, school teams engage in thoughtful discussions about what their data reveal, if current initiatives/interventions appear to be working based on the data, and if there should be additions or changes.

GEAR UP Alabama's Hope

It is GUA's hope for schools to shift their mindset about what data-driven decision making really is. By design, GEAR UP cohorts start in the 6th/7th grade. This provides an opportunity for the early identification of needs and time to address district and school culture/climate. Effective early warning systems are sustainable through cohesive efforts built around data use, aligned interventions, and engaged school teams who know how to create, implement, evaluate, and adjust. Through consistent data collection, comprehensive reports, and training, GUAs is expecting its schools to increase the efficiency of their early warning system efforts by properly connecting ABC, resiliency, and college-career readiness indicators. We must go beyond.

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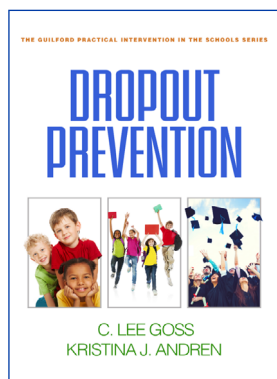
Dropout Prevention, The Guilford Practical Intervention in Schools Series. (2014). C. Lee Goss and Kristina J. Andren. New York and London: The Guildford Press, 176 pages [ISBN: 978-1462516209 (pbk.), 1462516203 (ebook)]

A part of The Guilford Practical Intervention in Schools Series, *Dropout Prevention* helps readers connect the dots from the national prevention landscape to local activities. Very carefully researched, each section includes case studies along with big idea summaries. The appendices, resource list (limited), and references take up 30 pages but provide only two sample forms.

Steeped in the language of Response to Intervention (RTI) and Multi-Tiered Systems of Support (MTSS), the book takes the reader along an implementation journey from laying the systemwide foundation (Part I); to elementary school intervention (Part II); and finally, middle and high school dropout prevention implementation (Part III). Along the way, the authors help readers to see the interconnectedness of academics, behaviors, engagement (including parents/communities), assessments, and instruction. Think big pictures with best practice sharing.

In Part II (elementary), the bulk of the information focuses on reading and math with cursory treatment of nonacademic measures. Early Warning Systems (EWS) discussions are absent from the elementary school section. There is some treatment of very simplistic behavior management but nothing that would provide consistent, usable EWS data.

One of the rare publications with a chapter dedicated to Early Warning Systems, this part of the book seems to fall short of the mark. Part III, Dropout Prevention in Middle School and High School, begins with the focus on EWS. Here, however, the authors fall victim to following the research and limiting their focus to attendance, behavior, and academic performance. The chapter becomes a restatement of EWS research that is readily available from organizations such as American Institutes for Research or one of the regional educational laboratories and does not take the reader any further than that.

While the book misses on the EWS front, it hits the target as a generalist resource or as a source for best practice ideas that connect dropout prevention to RTI and MTSS.

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R E S O U R C E S

American Institutes for Research—information on building an early warning system, online tools, and professional development opportunities related to early warning systems
www.earlywarningsystems.org

AmericasPromise.org—resources on EWS, including a guidebook for developing early warning and recovery systems, links to additional resources for addressing tiered interventions, and additional searchable state-by-state statistics on high school graduation rates
http://guidebook.americaspromise.org/section/developing-early-warning-and-recovery-systems-supported-by-community-involvement

National Governors Association—best practices, innovative solutions, and priority issues regarding matters of public policy that includes access to a presentation by the Everyone Graduates Center at Johns Hopkins University
www.nga.org/files/live/sites/NGA/files/pdf/1110EARLYDROPBALFANZ.PDF

Response to Intervention Network (RTINetwork.org)—step-by-step resources and tools for developing, implementing, and evaluating a response to intervention plan as well as best practices and networking opportunities
http://www.rtinetwork.org/learn/rti-in-secondary-schools/early-warning-systems-moving-from-reaction-to-prevention

U.S. Department of Education—includes a comprehensive issue brief on early warning systems with links to additional related information and resources
www2.ed.gov/rschstat/eval/high-school/early-warning-systems-brief.pdf

E V E N T S

April 27–28, 2017   Greenville, SC
Clemson University Office of Inclusion and Equity Men of Color National Summit *Closing the Achievement Gap for African-American and Hispanic Males*
http://www.clemson.edu/inclusion/summit/

May 23–24, 2017   Independence, OH
ASCD (Association for Supervision and Curriculum Development) *Leading Your Instructional Coaches: Getting the Best Results*
http://www.ascd.org/professional-development/institutes/leading-instructional-coaches-institute.aspx

July 15-17, 2017   Orlando, FL
International Literacy Association Conference includes world-renowned speakers and offers access to hundreds of peer-reviewed sessions and workshops
https://literacyworldwide.org/conference

VIEWPOINT

How do we move the needle on improving graduation rates and ensure that every student receives the support that student needs to successfully graduate high school?

As an educational researcher who has spent nearly 25 years evaluating the effectiveness of interventions designed to support at-risk students and increase graduation rates, I am convinced that, to make significant shifts in a positive direction, every LEA in this nation needs to have a districtwide, research-based early warning system in place, in conjunction with a continuum of multi-tiered support systems. One without the other will not result in the desired outcomes.

Certainly, programs and services will not accomplish the intended effects if they are not reaching those who could benefit from them. Indeed, according to a U.S. Department of Education publication available at cecp.air.org/guide/guide.pdf, there is a substantial body of research that shows proactive, timely response to *early* signs of risk is likely to be more effective and less resource intensive as compared to "reactive" interventions undertaken in response to emergency-like situations. However, my experiences evaluating educational initiatives consistently show that there is oftentimes a large degree of variability across schools in the extent to which they identify students in need of support and the criteria used in doing so. As a result, many students who could benefit from services do not get connected to them, either at all or soon enough—and interventions do not achieve the potential positive effects they could have had.

Early warning systems that identify students showing signs of risk earlier, spanning the K-12 continuum, are the wave of the future and are one of the first steps to building a strong infrastructure that supports all students. Effective early warning systems combine decades of research from the educational research community on factors related to dropping out. Utilizing advanced predictive analytics that simultaneously draw upon multiple indicators spanning the domains of attendance, behavior, and academic performance, these systems are able to "connect the dots" and are highly sensitive to detecting signs of risk early on, pinpointing the factors contributing to risk levels in various ways.

In sum, in addition to embedding evidence-based tiered interventions, more attention needs to be paid to how students are being identified and connected with such services. If students in need are not getting identified and connected with services, then certainly these services will not have an impact on graduation rates and other school and districtwide indicators. Early warning systems, which identify students showing signs of risk early on, give schools the opportunity to provide early intervention and embed protective factors for these students while they are still in school, hopefully altering any negative trajectory that was starting to emerge.

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