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Early Warning Indicator Systems

By Molly Ryan

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Overview

Boosting high school graduation rates is a growing concern to educators and policymakers. Researchers stress that, although graduation rates have varied little in recent years, “[w]hat makes current graduation rates alarming is a reality of the new U.S. economy: It is practically impossible for individuals lacking a high school diploma to earn a living or participate meaningfully in civic life.”¹

Research shows that students who fail to graduate high school exhibit clear signs of dropping out.² Warning signs such as irregular attendance, poor academic performance, behavior problems and grade retention are more precise predictors of whether a student will ultimately drop out than are social and economic indicators such as family income and parental involvement.³

States have made notable progress collecting longitudinal information that follows individual students over time. Access to such student data has prompted state and school district officials across the country to develop “early warning indicator systems” to efficiently identify students who are at risk of dropping out and provide targeted supports to get them back on track and graduate. The following summaries highlight the statewide early warning indicator systems in Louisiana, South Carolina, and Alabama and the Philadelphia Public Schools district-wide system.

High school dropouts, as compared to graduates, typically:

- Make less money
- Rely more heavily on government subsidies
- Have a considerably greater chance of being incarcerated
- Are in poorer health
- Have shorter life expectancies
- Contribute much less in taxes.

State Examples

Louisiana

In 2007, the Louisiana Department of Education (DOE) launched the **Dropout Early Warning System (DEWS)** to identify students in grades 8-12 who exhibit characteristics of dropping out before graduation. To develop DEWS, the DOE partnered with a regional educational software vendor and state university researchers, who established trigger points for four early-warning indicators: student attendance, behavior, achievement and age. Students may be classified as at-risk if:

- The student is absent more than 10% of the total days enrolled
- The student has received discipline referrals for 7% or more of the total days enrolled
- The student’s grade point average (GPA) is less than or equal to 1.0
- The student’s GPA declined 1.5 points from the last grading period
- The student is overage for grade.⁴

DEWS provides school leaders with detailed student-level data as well as district- and school-level data twice a month. Once a student is identified as at-risk, appropriate intervention is provided. Although local school districts are not required to implement DEWS, over two-thirds of the state's districts currently use the system.⁵ The DOE intends to establish DEWS in middle and elementary schools in the near future.⁶

Dropout Early Warning System (DEWS) Student Detail⁷

DEWS DETAIL STUDENT

Age of Student

Total # of Referrals

DEWS Detail Student List															Run Date		
District	Student Name	Steno	BO	Age	D	Pls	Enr	Days	Abs	OPA	Serv	Ref	Total	Total	Int	Int	Team
												Ref No	Metals	St us	Code		
08	16*	165	0	0.3	D.511.3333*	20	022	C	C								
08	14	154	0	0.3	D.1666.0.6666*	20	022	C	C								
08	16*	139	0	0.3	D.3333.0.6666*	20	022	C	C								
08	16*	111	0	0.3	D.3333.0.1.5*	20	022	C	C								
08	16*	165	0	0.3	D.8333.0.8333*	20	022	C	C								
08	16*	165	0	0.3	D.1666.0.1666*	20	022	C	C								
08	17*	49	0	0.3	D.3333.0.0*	20	022	C	C								
08	16*	165	0	0.3	D.1666.0.0*	20	022	C	C								
08	16*	165	0	0.3	D.8333.0.1*	20	022	C	C								
08	16*	165	0	0.3	D.8333.0.1*	20	022	C	C								
08	16*	165	0	0.3	D.8333.0.1*	20	022	C	C								
08	16*	165	0	0.3	D.8333.0.1.3333*	20	022	C	C								

List of students within a school

Intervention Codes

Total Enrollment Days

Total Days Absence

Intervention Status

Dropout Early Warning System (DEWS) Statewide District Summary⁸

STATEWIDE DISTRICT SUMMARY

Dropout Early Warning System (DEWS) District Summary Report - Grades 6 - 12															EDGEAR						
LCA	Chk/Mt	Dist	Enr	Abs	OPA	Discipline	Multiple Triggers	Attendance & OPA	Discipline	Attendance & OPA	Discipline	Attendance & OPA	DEWS	LCA	Age	Last Coll					
			#	%	#	%	#	%	#	%	#	%	#	Number		Year					
ALL	0220		1610	2.2	12639	17.6	4215	6.0	199	1.1	306	0.5	1844	0.5	189	0.3	18895	22.0	71994	7642	
			797	0.9	216	11.7	63	2.2	51	1.8	10	0.4	27	1.2	7	3.8	465	16.5	2815	206	05/22/09
			12	0.0	103	9.9	13	1.0	5	0.5	1	0.1	3	0.2	1	0.1	144	11.0	1311	51	05/15/09
			48	3.5	205	17.4	63	5.6	31	2.3	10	0.9	51	3.6	11	0.8	203	14.0	106	65/16/09	
			126	6.0	205	9.5	1.8	0.1	1.9	0.0	0	0.0	11	0.5	2	0.1	37	1.5	2151	122	05/16/09
			2	0.0	89	9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	82	6.5	766	82	05/16/09
			7	1.2	43	7.4	1	0.2	1	0.2	1	0.2	3	0.5	0	0.0	62	10.5	784	26	05/16/09
			1	0.2	27	9.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	60	9.4	100	16	05/22/09
			0	0.0	79	10.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	100	19.0	0	0.0	05/22/09
			0	0.0	73	0.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	79	0.5	0	0.0	0.0
			5	3.2	118	7.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	185	13.5	8470	642	05/20/09
			0	0.0	117	26.5	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	155	32.4	0	0.0	0.0
			28	1.4	814	28.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	873	31.7	0	0.0	0.0
			34	3.6	165	17.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	248	25.5	0	0.0	0.0
			3	0.3	109	9.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	160	14.4	0	0.0	0.0
			195	4.7	597	14.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	691	51.3	0	0.0	0.0
			11	1.0	139	10.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	137	14.5	0	0.0	0.0
			9	0.5	111	5.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	158	8.1	0	0.0	0.0
			27	3.1	92	10.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	155	15.3	0	0.0	0.0
			31	1.4	195	9.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	266	12.1	0	0.0	0.0
			1	0.2	121	19.8	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	133	21.7	0	0.0	0.0
			12	0.6	178	13.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	235	21.7	0	0.0	0.0
			25	2.6	206	20.6	45	4.7	10	2.0	4	0.4	26	2.3	2	0.2	282	21.1	0	0.0	0.0
			11	2.2	46	9.3	38	7.7	5	1.0	6	1.2	11	2.3	3	0.7	70	15.4	0	0.0	0.0
			12	0.1	134	11.9	37	3.4	9	0.9	2	0.2	9	0.8	0	0.0	159	16.5	1098	110	05/16/09
			2	0.1	78	8.3	20	1.4	1	0.1	0	0.0	4	0.3	0	0.0	92	8.9	1412	94	05/16/09
			13	3.0	82	19.2	23	6.8	12	3.5	6	1.4	15	3.5	6	1.4	96	22.4	428	57	05/16/09
			14	0.7	418	20.7	295	14.6	9	0.4	6	0.3	3	0.1	0	0.0	633	23.5	2019	304	05/15/09
			0	0.1	215	7.0	212	7.7	40	1.4	20	1.3	0	0.0	0	0.0	305	14.0	2770	170	05/20/09
			176	9.4	539	16.3	389	9.6	73	3.3	25	1.1	4	0.2	0	0.0	745	24.2	3534	306	05/20/09
			48	1.5	1223	16.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	1819	24.4	8470	642	05/20/09
			3	3.3	37	18.9	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	44	19.2	232	32	05/16/09
			12	1.3	223	21.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	242	25.7	936	107	05/16/09
			14	0.6	230	9.2	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	212	11.1	2811	150	05/20/09
			37	1.3	461	5.6	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	549	9.5	2884	103	05/20/09
			22	1.3	288	15.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	308	17.5	1737	120	05/15/09
			45	2.0	302	15.4	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	552	14.2	2285	250	05/15/09
			18	1.4	48	8.3	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	185	15.7	1182	111	05/16/09
			49	5.9	189	22.7	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	252	23.1	831	110	05/16/09
			51	1.8	651	21.1	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	652	23.9	2696	472	05/16/09

State Districts

Percentage of students with ATTENDANCE risk factors

Number of students with three At-Risk Triggers

Total # of students who have triggered a DEWS Warning

South Carolina

In the 2009-10 school year, South Carolina piloted **The Student Potential Performance Snapshot (SPPS)**, a statewide data reporting system designed to provide “specific objective criteria for districts to use in the identification of students at risk for being poorly prepared for the next level of study or for dropping out of school.”⁹

The system generates a “snapshot” for each student in grades 8-12, consisting of information on student attendance, behavior and course performance. The SPPS flags students with the following at-risk characteristics:

- Scoring “below basic” on state assessments
- Earning: below five credits for 9th grade, below 11 credits for 10th grade or below 17 credits for 11th grade
- Being two or more years older than average for a grade
- Being suspended or expelled
- Missing more than eight days of instruction
- Not advancing to the next grade
- Being enrolled in multiple schools during the same school year
- Being homeless
- Being a single parent
- Living with a parent who is a “displaced homemaker” seeing a job in the workforce “due to death, divorce or abandonment”¹⁰
- Failing 9th-grade math or English.¹¹

After a student is identified as at-risk, certified school counseling staff determine proper interventions for the student. Reports produced by the SPPS can be aggregated at the school, district and state levels. The South Carolina Department of Education is currently completing the piloting stage of the SPPS in anticipation of statewide system implementation.¹²

The Student Potential Performance Snapshot (SPPS), School View¹³

Student Potential Performance Snapshot: School View																		
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
School Code	School/Name	Low PACT	Less Credits	Discipline Events	AtRiskDiscipline Event	Disposition Events	Suspensions/Expulsions	Retained Counts	Homeless	Single Parent	Displaced/ Homemaker	ESL	LunchStatus	Disability	Migrant	MathScore	ELAScore	ARProgram Counts
2																		
3		0	444	139	662	207	70	5	2	0	27	488	93	11	491	493	55	
4		0	868	1714	367	1373	449	96	12	4	0	23	904	239	1	961	928	52
5		0	711	1529	260	1213	250	105	22	2	1	78	503	177	7	627	839	85
6		1	626	1268	245	742	323	105	11	9	6	40	730	162	9	746	742	82
7		61	0	187	30	107	33	0	4	0	2	86	13	0	23	22	0	
8		61	0	161	30	100	57	1	2	0	0	4	110	30	0	25	17	0
9		51	0	151	33	97	50	7	3	0	0	9	115	23	0	39	59	0
10		16	0	78	3	63	23	1	1	0	0	6	59	7	0	15	17	0
11		60	0	216	36	107	34	1	2	0	0	7	80	18	1	25	25	0
12		0	826	1679	138	1149	306	103	14	1	1	25	654	175	15	993	909	130
13		0	132	296	40	192	77	19	0	1	0	13	177	44	7	142	162	17
14		0	170	344	70	274	133	43	2	1	1	0	243	68	0	202	188	42
15		65	0	313	54	275	66	4	2	0	0	16	121	30	0	101	86	0
16		41	0	96	5	79	37	1	0	0	0	1	64	17	0	13	16	0
17		64	0	216	24	144	76	3	2	0	0	5	113	27	0	83	40	0
18		56	0	130	17	96	41	3	3	0	0	3	77	21	0	18	22	0
19		53	0	94	3	67	43	2	0	0	0	8	75	9	1	39	5	0
20		106	0	241	48	191	90	5	4	0	0	10	186	34	1	96	54	0
21		5	0	10	1	10	5	1	0	0	0	0	8	1	0	1	1	0
22		8	0	14	2	6	2	0	0	0	0	0	5	1	0	14	14	0
23		0	20	52	11	37	19	8	0	0	0	1	32	7	1	36	37	0
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		
36																		

The data element lunch status will be replaced by the poverty indicator. This is an indicator that is used by the Office of Research and Development that is comprised of the following three indicators: Free and Reduced Lunch, Food Stamps and Medicaid. A value of 'Yes' or 'No' will be placed in the field if any one of the three indicators is found for the student.

Alabama

In the 2009-10 academic year, the Alabama Department of Education launched the **Alabama Graduation Tracking System (AGTS)**. The AGTS was established by Robert Balfanz of Johns Hopkins University and the Center for Social Organization of Schools, in partnership with the Baldwin County School System (a southern Alabama district with over 28,000 students). The system is relatively unique in that it provides data on students from kindergarten to 12th grade; few early warning indicator systems have this capacity.¹⁴

The AGTS captures student data pertaining to attendance, behavior and course performance as “high yield” indicators. School districts may incorporate other indicators into the system as necessary.¹⁵ The AGTS is designed to identify students who:

- Are absent for more than 10% of instructional time
- Are suspended
- Fail two or more core academic courses
- Accumulate less than one-fourth of required credits.¹⁶

Once the AGTS classifies a student as at risk of dropping out, a graduation coach designs an individualized plan to help the student stay in school.

District Example

Philadelphia Public Schools

In 2006, through the Keeping Students on Track to Graduation/Early Warning Indicators Project, the Philadelphia Public Schools (PPS) piloted an early warning system in two high-poverty middle schools. The system was based on research findings that a 6th grader with one of the following four indicators had at least a three in four chance of dropping out of high school:¹⁷

- Failing 8th-grade math
- Failing 8th-grade English
- Yearly attendance below 80%
- Receiving a final “unsatisfactory” behavior mark in at least one class.¹⁸

The system notifies PPS teachers and administrators when a student demonstrates one of the above indicators; teacher teams meet regularly to review student data and identify appropriate interventions. In recent years, the project has expanded to high schools and additional cities.¹⁹

¹ Ruth Curran Neild, Robert Balfanz and Liza Herzog, *An Early Warning System*, Educational Leadership, (2007), 1, <http://www.every1graduates.org/PDFs/Early%20Warning%20Systems.pdf> (accessed April 8, 2011).

² Robert Balfanz, John M. Bridgeland, Laura A. Moore and Joanna Hornig Fox, *Building a Grad Nation: Progress and Challenge in Ending the High School Dropout Epidemic* (America’s Promise Alliance, *Civic Enterprises*, and the *Everyone Graduates Center at Johns Hopkins University*: 2010), 44, http://www.americaspromise.org/Our-Work/Grad-Nation/~media/Files/Our%20Work/Grad%20Nation/Building%20a%20Grad%20Nation/Building%20a%20Grad%20Nation_FullReport_FINAL%2011-30-10.ashx (accessed April 11, 2011).

³ *ibid.*

⁴ Louisiana Department of Education, *DEWS From the Ground Up* (Data Quality Campaign: 2009), 5, http://www.dataqualitycampaign.org/files/EWI_-_DEWS-Presentation_Webinar_.pdf (accessed March 30, 2011).

⁵ Education’s Next Horizon, *Increasing Graduation Rates: Learning To Finish*, Education’s Next Horizon (Education’s Next Horizon: 2011), 2, http://www.ednexthorizon.org/2011_pdf/2011_Key_Issues_Long_Report-Increasing_Graduation_Rates.pdf (accessed April 8, 2011).

⁶ *ibid.*

⁷ Louisiana Department of Education, 6.

⁸ Louisiana Department of Education, 8.

⁹ S.C. Code Ann. § 59-59-150.

¹⁰ South Carolina Department of Education, *Student Potential Performance Snapshot: EEDA At-Risk Committee -IT Initiative* (Personal Pathways to Success: 2009), 28, [http://www.dataqualitycampaign.org/files/EWI - DQC SPPS Presentation.pdf](http://www.dataqualitycampaign.org/files/EWI_-_DQC_SPPS_Presentation.pdf) (accessed April 11, 2011).

¹¹ Ibid.

¹² ECS Staff e-mail correspondence with Dr. John Lane, Education and Economic Development Act, South Carolina Department of Education, March 30, 2011.

¹³ South Carolina Department of Education, 32.

¹⁴ Kimberly Charis, *Alabama's Graduation Coaches* (Learning First Alliance: 2011), <http://www.learningfirst.org/alabama-s-graduation-coaches> (accessed April 8, 2011).

¹⁵ Alabama State Department of Education, *The Development and Implementation Guide for the Alabama Graduation Tracking System (AGTS)* (Prevention and Support Services: 2009), 2.

¹⁶ Ibid, 1-2.

¹⁷ Neild, Balfanz and Herzog, 2.

¹⁸ Ibid.

¹⁹ Martha Abele Mac Iver and Douglas J. Mac Iver, *Beyond the Indicators: An Integrated School-Level Approach to Dropout Prevention*, Mid-Atlantic Equity Center (Arlington, VA: 2009), 18, <http://maec.ceee.gwu.edu/sites/default/files/Dropout%20report%208.11.09.pdf> (accessed April 12, 2011).

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