Why is data collected?

Evidence based policy is a crucial element of a well-established decision making process. Educational ministries need current data on the present state of the system, its efficiency and its deficiencies. The type of data to follow up should be decided by an interdisciplinary expert committee. The most important features of the data gathering process are regularity, transparency and state of art. When the process is based on the same methodology from time to time than it is possible to evaluate programs and compare the outcomes of regions, periods or types of schools regularly. Nevertheless a database can function as a monitoring and feedback element for the amelioration of the system. A systematic and thorough data gathering can highly contribute to the prevention of school dropout.

Further literature in English:

Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest. Ch. IV. http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

Network of experts in social sciences of education and training (NESSE) (2010): *Early school leaving. Lessons from research for policy makers*. An independent expert report submitted to the European Commission. http://www.nesetweb.eu/sites/default/files/early-school-leaving-report.pdf

European Commission/EACEA/Eurydice/CEDEFOP (2014): *Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures.* Eurydice and CEDEFOP Report. Publications Office of the European Union, Luxembourg. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175EN.pdf p. 31-32.

tags: situation analysis, distress signals, data gathering

What are the methods of data collection?

There are two main types of practices in the European Union concerning data gathering about early school leaving: some countries rely on the Eurostat data, while others have their own national data gathering specifically on ELET. Collected data can relate to the institution or the students. General data collection has fundamentally three levels in every country: there is a national educational database everywhere, with somewhat different content though, which records all general information about students and the school itself and it informs the responsible authority as well. A separate database specifically for dropout related date exist seldom, however the national system is usually suitable for preventive purposes. Besides the general system there are empirical researchers about students and schools with naturally different frequencies. Many times they use additionally

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smaller scale, qualitative surveys about a certain population or area, or a project. Apart from the already mentioned data gathering has a macro, micro and mezzo level too. Macro level data refers to regional or school type rates of dropout, the initial features of students at risk such as their agegroup or achievement or the global achievement of school centres. These data serves as the base for an evidenced-base policy making process tailored to the needs of the specific area or educational form. Mezzo level provides feedback for the institutions themselves about their deficits, with further information on the different student groups, the efficiency of each teacher or the applicability of a certain subject material. Micro level is about the individual: specific difficulties, actual crises, the effect of interventions and the overall efficiency of intervention methods can be measured and followed up on this level. The latter is especially useful for the local society and supposed to be restricted concerning its very personal content.

Further literature in English:

Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest. Ch. IV.-V.
http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

tags: situation analysis, distress signals, data gathering

What kinds of data are collected?

Students nowadays can easily been followed up by their identification number what they usually got at the first time they enter the education system. To develop a database for dropout prevention data other than the obvious like gender, age, learning situation, etc., has to be collected as well, that shows if the student is endangered. It is a Europe- wide problem on the level of data that one cannot distinguish between students who left school eternally and those that changed the path. This causes duplications sometimes so that we cannot see the real number of dropouts that never returned. For the same reason every system has to create their own definition on dropout, which describes and elaborates the phenomenon with its local focuses.

For an institutional EWS the exact number of at risk of dropout students is essential. Besides quantity there are many more features that are important to know about these students: learning results, behaviour, social benefits they earn, etc. In a well-designed EWS students' opinions and feedbacks are as well collected as they are supportive to establish preventive mechanisms.

Further literature in English:

Reducing early school leaving: Key messages and policy support Final Report of the Thematic Working Group on Early School Leaving November 2013
http://ec.europa.eu/education/policy/strategic-framework/doc/esl-group-report_en.pdf

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Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest. Ch. IV.-V.
http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

Most of the signals are not even behavioural or attainment related but "brought from home". For instance, parents' educational level has a very important impact on the student's future chances, especially in Eastern-Europe where can the least compensate these social stratification related issues. There is a difference between girls and boys, as the later are more involved in the problem. Belonging to a minority or migrant family means a disadvantage in school everywhere and worsen educational perspectives.

Further literature in English:

Iannelli, C. (2002):*Parental Education and Young People's Educational and Labour Market Outcomes: A Comparison across Europe* . Arbeitspapiere, Mannheimer Zentrum für Europäische Sozialforschung. http://edoc.vifapol.de/opus/volltexte/2014/5139/pdf/wp_45.pdf p. 10-12.

European Commission/EACEA/Eurydice/CEDEFOP (2014): *Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures.* Eurydice and CEDEFOP Report. Publications Office of the European Union, Luxembourg. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175EN.pdf p. 36. and 114.

Network of experts in social sciences of education and training (NESSE) (2010): *Early school leaving. Lessons from research for policy makers*. An independent expert report submitted to the European Commission. http://www.nesetweb.eu/sites/default/files/early-school-leaving-report.pdf p. 15.

Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest. Ch. V.
http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

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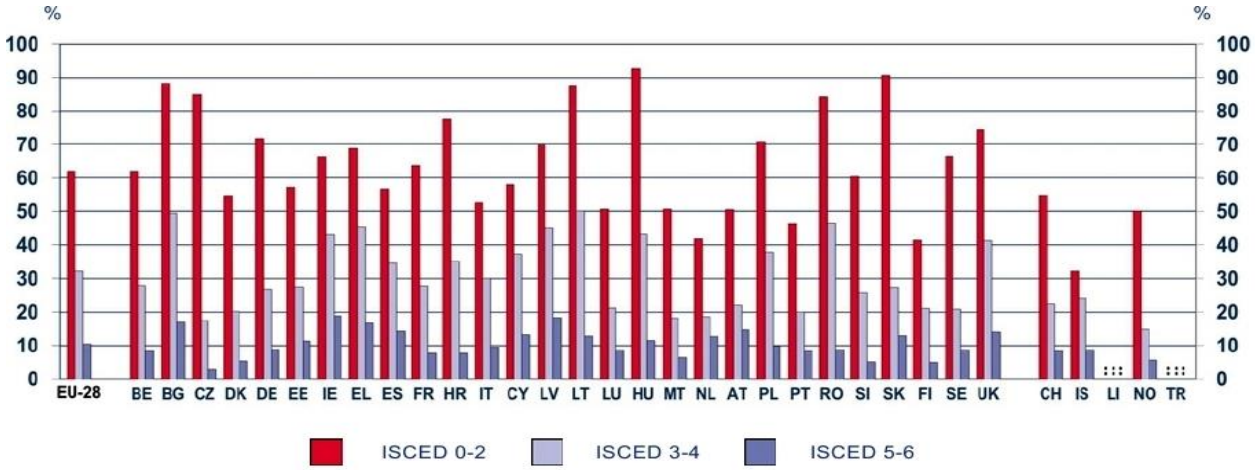
The arte of students at risk of poverty and social exclusion between age 0-17 by the educational level of parents. 2013



Source: Eurydice-CEDEFOP 2014 p. 37.

The most common personal related data that are gathered are: age, gender, socio-economic background, education level of parents, citizenship/nationality, native/non-native origin, mother tongue, area of residence.

The most general data on school performance and behaviour: grade retention, absenteeism, educational track, student achievement, special needs.

The attainment in some specific subjects is especially important such as the national language and Mathematics, and the national language as a second language for migrants and foreigners.
Some countries collect very specific data such as the school meal entitlement in Scotland or the subject choice in Finland. This shows that it is important to have tailor made system that fits to the country, to the region and to the school.

Further literature in English:

European Commission (2013a): *Early warning systems in Europe: practice, methods and lessons*. Thematic Working Group on Early School Leaving (TWG on ESL), Brussels. http://ec.europa.eu/education/policy/strategic-framework/doc/europe-warning-systems_en.pdf

European Commission/EACEA/Eurydice/CEDEFOP (2014): *Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures.* Eurydice and CEDEFOP Report. Publications Office of the European Union, Luxembourg.

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http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175EN.pdf p.31.

Potvin, P., Marcotte, D., Fortin L., Royer, É., Leclerc, D., Blondin, D. (2002): *A comparison of dropout students, at risk students and regular high school students,* Université du Québec à Trois-Rivières, Trois-Rivières, Canada; Université de Sherbrooke, Sherbrooke, Canada; Université Laval, Québec, Canada; Université du Québec à Montréal, Montréal, Canada, 63rd Annual Convention of the Canadian Psychological Association University of British Columbia, Vancouver. http://www.pierrepotvin.com/6.%20Publications/vanc02.pdf p. 13-15.

Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest. Ch. IV.-V.
http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

tags: situation analysis, distress signals, data gathering, reasons of dropout

Exploitation of data

Exploitation of existing data is another important, however seldom highlighted issue: in many cases states and offices collect dozens of information using only a small part of it for the amelioration or improvement of the system. In Hungary, for example, current analyses showed that by the connection of already existing data bases – just in education but on different issues, could result in a solid base for the roots of an early warning system. Furthermore educational data could be connected to other sectors such as employment data about adult learners, health data connected by the health identification number to see dropouts' health features, social system data to have a much deeper insight in the social background of these students and even settlement data for the mapping of locality related reasons and consequences. Experts suggest however to establish a separate system devoted to prevent dropout specifically.

Further literature in English:

Judit Juhasz (2015): *Final report on Crocoos – Cross-sectoral cooperation focused solutions for the prevention of early school leaving project background research*. Tempus Public Foundation, Budapest.Ch. IV.
http://oktataskepzes.tka.hu/content/documents/CroCooS/Final%20research%20report_Early%20school%20leaving%20policies_Crocoos.pdf

European Commission/EACEA/Eurydice/CEDEFOP (2014): *Tackling Early Leaving from Education and Training in Europe: Strategies, Policies and Measures.* Eurydice and CEDEFOP Report. Publications Office of the European Union, Luxembourg.

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http://eacea.ec.europa.eu/education/eurydice/documents/thematic_reports/175EN.pdf p. 29. and 34.

Iver, M. A., Mac Iver, D. J. (2009): *Beyond the indicators: An integrated school-level approach to dropout prevention.* Arlington, VA: The Mid-Atlantic Equity Center, The George Washington University Center for Equity and Excellence in Education. http://diplomasnow.org/wp-content/uploads/2013/06/dropout-report-8-11-09.pdf p. 2. and 18.

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Samples for data gathering to prevent dropout on micro level

Student Name	2007-2008: Days Absent	2008-2009: Days Absent	Negative Behavior Comments	Math Grade 3/1/2008	Math Grade 6/1/2008	Literacy Grade 3/1/2008	Literacy Grade 6/1/2008	Reading Level 6/1/08	PSSA 2008 Math	PSSA 2008 Reading
Student A	53	0	10	D	D	F	F	5	Proficient	Basic
Student B	36	2	7	B	D	D	D	6	Basic	Basic
Student C	14	0	1	C	B	C	C	6.5	Basic	Proficient
Student D	5	1	6	C	B	D	C	7	Basic	Basic
Student E	18	0	7	C	C	D	F	5.5	Below Basic	Below Basic
Student F	29	2	1	D	C	D	D	6	Below Basic	Below Basic
Student G	6	0	8	D	D	F	D	5.5	Below Basic	Below Basic
Student H	46	2	3	B	B	D	F	5.5	Basic	Below Basic
Student I	41	0	4	D	C	D	D	3.5	Below Basic	Below Basic
Student J	17	0	1	B	B	C	D	2	Below Basic	Below Basic
Student K	61	4	7	C	F	D	C	7	Below Basic	Basic
Student L	24	0	10	F	F	C	D	6.5	Below Basic	Basic
Student M	18	0	2	B	D	D	C	3.5	Below Basic	Below Basic
Student N	3	0	6	B	B	B	C	7	Basic	Basic
Student O	2	1	5	C	D	D	D	5.5	Basic	Basic
Student P	15	1	4	D	D	F	D	5.5	Basic	Below Basic
Student Q	15	1	10	C	D	D	D	6.5	Below Basic	Below Basic
Student R	6	0	1	D	D	D	D	3	Below Basic	Below Basic
Student S	16	1	4	D	D	D	D	5	Below Basic	Below Basic
Student T	15	0	7	C	F	D	D	6	Below Basic	Basic
Student U	18	0	6	C	D	D	D	6.5	Below Basic	Below Basic
Student V	23	0	7	C	F	C	F	6	Below Basic	Below Basic
Student X	16	0	6	C	F	D	D	6.5	Basic	Basic
Student Y	18	1	3	B	C	D	D	6.5	Basic	Basic
Student Z	4	0	7	C	C	D	D	6.5	Proficient	Below Basic
Student AA	42	2	1	D	C	D	D	5.5	Below Basic	Below Basic
Student AB	13	0	2	D	D	D	C	4	Below Basic	Below Basic
Student AC	8	0	2	D	D	D	D	2	Below Basic	Below Basic
Student AD	22	1	8	C	F	D	D	6	Below Basic	Below Basic
Student AE	50	1	0	D	D	C	C	4.5	Below Basic	Below Basic
Student AF	18	0	6	C	C	F	D	5	Below Basic	Below Basic
Student AG	1	0	3	NG	D	NG	D	6	Below Basic	Basic

* **Pennsylvania System of School Assessment** (PSSA) Forrás: Iver, M. A., Mac Iver, D. J. 2009 23.

Appendix TOOL 15 – a device for monitroing students at risk, micro level

Key Data for an "Early Warning System" with

On- and Off-Track Indicators That Become

the Basis for Tiered Interventions

Purpose: This tool provides various ways to analyze school data related to students who are in danger of falling off-track, students who are slumping and entering a danger zone, and students who are firmly on-track. By knowing the number of all students in each category it is possible to see which groups of students need help, and to make some estimates about the kind of help that can be targeted to their unique circumstances. While our example uses first-time ninth graders, this analysis can also be done beneficially for students in all other grades – 6, 7, 8 and 10 especially. It is also useful to disaggregate the information, especially by gender.

Foundation: Matching interventions with need is the most important part of an Early Warning System. The essential first step is to systematically understand how many students are in each category in each school. The second step is to look at the absolute numbers and determine what is feasible given the capacity in the school and community.

Inventory One: In Danger of Falling Off-Track In the Past Semester					
	Missed 5-9 days of school	Had 2 or more in-school suspensions	Had C or D average	Received one F in a core academic subject	
All students					
First-time 9th graders					
Students who are repeating a grade					

Students who are two or more years overage for grade					
Inventory Two: Fallen Off-Track In the Past Semester					
	Missed 10 or more days of school	Had 3 or more in-school suspensions	Had 1 or more out-of-school suspensions	Received two or more Fs in a core academic subject	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					
Inventory Three: Academic Slumping Coupled with Attendance Slumping				**Number of students with a C or D average, with multiple days missed in a specific time period**	
	C/D average	0-4 days missed	5-9 days missed	10-19 days missed	20+
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					
Inventory Four: On-Track for Success				**Number of students**	
with an A or B average, 95% or higher attendance, and no suspensions					
	A or B average	95% attendance	No in- or out-school suspensions		
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					

All of our examples are for a 9th grade early warning system. Use a similar approach to analyze grades 6, 7, 8 and 10.

The charts below are ways to collect the needed data					
ATTENDANCE. Number of students with this number of missed days in a specific time period	0-4 days	5-9 days	10-19 days	20+ days	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					
BEHAVIOR - IN-SCHOOL SUSPENSIONS. Number of students with this number of in-school suspensions in a specific time period	0-1	2-3	4-5	6+	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					
BEHAVIOR - OUT-OF-SCHOOL SUSPENSIONS. Number of students with this number of out-of-school suspensions in a specific time period	0-1	1	2	3	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					

ACADEMIC FAILURE. Number of students with this number of Fs in a specific time period	1	2	3	4	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					
ACADEMIC FAILURE. Number of students with an F in English, mathematics or both in a specific time period	1	2	3	4	
All students					
First-time 9th graders					
Students who are repeating a grade					
Students who are two or more years overage for grade					

Source: Guidance, resources and tools to help your community and your schools raise graduation rates and better prepare young people for success. Robert Balfanz and Joanna Hornig Fox from the Everyone Graduates Center at the Johns Hopkins University School of Education and by John M. Bridgeland and Mary Bruce of Civic Enterprises.

Micro level

Student Data Entry Screen (Semester 1):

Student Information				Semester One Student Data						
Last Name	First Name	Student ID	Grade	20 Day Count	Days Absent Quarter 1	Days Absent Quarter 2	No. Courses Failed (All)	No. Courses Failed (Core)	No. Credits Earned	GPA
Example Student 1		1234	9	6	7	4	0	0	3	3.90
Example Student 2		5678	9	0	5	15	2	2	2.5	1.80
Example Student 3		9512	9	0	1	0	0	0	3	4.00
Example Student 4		7532	9	1	2	3	2	0	3	3.10
Example Student 5		6541	9	5	6	12	3	1	1.5	2.10
			9							
			9							
			9							

Student Report Screen (Semester 1 and Full Year):

Student Information				Semester Indicators of Risk					Full Year Indicators of Risk			
Last Name	First Name	Student ID	Grade	Flag for 20 Day Count Attendance	Flag for Q1 Attendance	Flag for S1 Attendance	Flag for Course Fs	Flag for GPA	Flag for Attendance	Flag for Course Fs	Flag for GPA	Flag for "Off-Track"
Example Student 1		1234	9	Yes	Yes	Yes	No	No	Yes	No	No	On-Track
Example Student 2		5678	9	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Off-Track
Example Student 3		9512	9	No	No	No	No	No	No	No	No	On-Track
Example Student 4		7532	9	No	No	No	Yes	No	No	Yes	No	On-Track
Example Student 5		6541	9	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Off-Track
			9									
			9									
			9									

Source: Heppen, J. B., Bowles Therriault, S., 2008 6.

Middle School Students Exhibiting Warning Signals, mezzo level

Early Warning Indicator*	Number of students off-path	Number of these students still off-path in March 2009	Percent reduction in the number of students off-path
Failed math	65	25	62 percent
Failed literacy	86	22	74 percent
Less than 80 percent attendance rate	38	23	39 percent
Three or more negative behavior comments on report card	409	225	38 percent

Source: Iver, M. A., Mac Iver, D. J. 2009 27.