

Developing a Longitudinal Data System to Improve Student Achievement

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June 24, 2009



Agenda

- The history of SIMS
- Where are we today?
- Where are we going?
- Culture change
- Using data to improve student achievement
- Lessons learned
- Questions



Where we were in 2000...

There's got to be a better way!



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History of MA Student Information Management System (SIMS)

- Began assigning unique student identifiers (SASID) in 2000 and had the first statewide collection in October 2001 (SIMS 1.0)
- System remains the same today and requires seven characteristics to assign or find an existing SASID
 - First name, middle name, last name, date of birth, gender, city of birth and town of residence
 - System runs checks and either finds an existing SASID, assigns a new SASID or creates a conflict that needs to be resolved if unsure



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History of SIMS cont.

SASID = 10-digit number that is assigned to all publicly funded students in Massachusetts

<http://www.doe.mass.edu/infoservices/data/sims/sasid/>

The Good

- Follows student from district to district and over time
- Used across data systems - Assessment, Discipline etc.
- Districts are responsible for the data

The Bad

- Bad data can have years of implications
- Multiple and Duplicate SASIDs
- Districts are responsible for the data



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History of SIMS cont.

SIMS 1.0 - School years 2002 and 2003

- Custom built system
- 35 elements mostly focused mainly on demographic information for all publicly funded students
- Collected three times a year (October 1, December 1, and the end of year)
- Not used for assessment, funding, or accountability purposes
- Culture shock
- Scared of quality



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History of SIMS cont.

SIMS 2.0 launched on October 1, 2003

- Expanded to four times a year (October, December, March and the end of year)
- Data began to be used for budget and assessment purposes
- 2003-2004 Dropout Report brought SIMS into focus
- Collected more detailed programmatic data
 - AP courses
 - Title I Participation
 - LEP program participation
 - CVTE participation



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History of SIMS cont.

- SIMS 2.0 has been in place since October 2003
- Three significant changes made since then but the overall system has remained the same
 1. 2005-06 - began collecting race and ethnicity in the expanded format (from 5 to 63 codes)
 2. 2006-07 - connected the data system from one school year to the next
 3. 2006-07 - expanded enrollment status codes to increase quality of the data



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Enrollment Codes

| | | | |
|----|---|----|---|
| 01 | Enrolled | 24 | Transferred – Adult diploma program, leading to MA diploma |
| 04 | Graduate with a Competency Determination | 30 | Dropout – Enrolled in a non-diploma granting adult education program |
| 05 | Permanent Exclusion (Expulsion) | 31 | Dropout – Entered Job Corps |
| 06 | Deceased | 32 | Dropout – Entered the military |
| 09 | Reached maximum age, did not graduate or receive a Certificate of Attainment | 33 | Dropout – Incarcerated, district no longer providing educational services |
| 10 | Certificate of Attainment | 34 | Dropout – Left due to employment |
| 11 | Completed grade 12 and district-approved program. (District does not offer a Certificate of Attainment) | 35 | Dropout – Confirmed Dropout, plans unknown |
| 20 | Transferred – In state public | 36 | Dropout – Student status/location unknown |
| 21 | Transferred – In state private | 40 | Not enrolled but receiving special education services only. |
| 22 | Transferred – Out-of-State (public or private) | 41 | Transferred – no longer receiving special education services only. |
| 23 | Transferred – Home-school | | |



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Where are we today?

- SIMS (2002-present)
- SIMS validation engine (2002)
- Student level MCAS data (2002)
- Educator Licensing and Recruitment System - ELAR (2003)
- School Safety and Discipline Report - SDDR (2004)
- Education Personnel Information Management System - EPIMS (2007)
- Homeless Student Application (2009)



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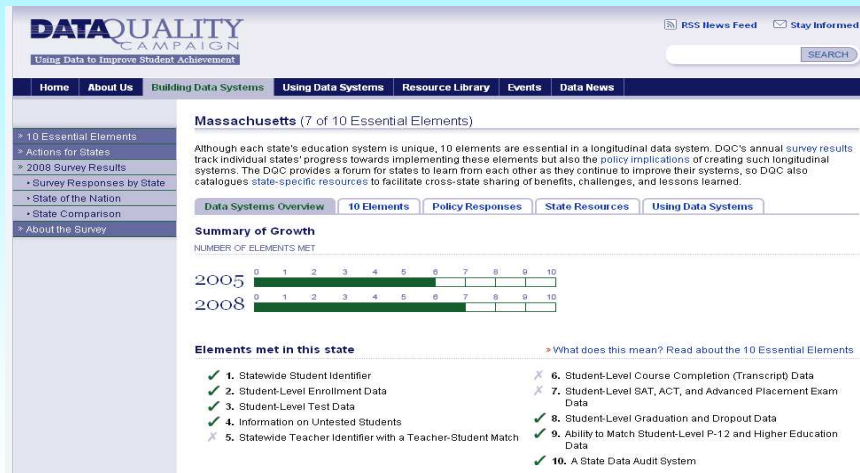
Where are we today?

- Data collection and reporting is part of the business culture at the ESE
- All state and federal entitlement allocations are made using SIMS
- Calculated a cohort graduation rate for the 2006-08 cohorts
- Able to meet nearly all federal reporting requirements in 2007-08



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Where are we today?



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Where are we going?

- Fulfill the Data Quality Campaign's Ten Essential Elements by the end of the 2010 school year
- SIMS 3.0 launches in March 2010 collecting course enrollment, completion and mark data
 - Will match courses taught that are collected in EPIMS
 - Will allow us to complete Elements 5 and 6.
- In process of purchasing student-level SAT and AP data from the College Board

- 10 for 10 by 2010!



“The greatest of faults is to be
conscious of none”

– Thomas Carlyle



Culture Change

- Needed to move away from a collection and reporting system to and make the system about the users in addition to publishing rates
- Goal: Put data in the hands of educators to help improve instruction for students
- 2009 LDS Grant
- Data Warehouse, Dropout/Graduation Rate Applications, the Early Indicator Index and the Growth Model



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2009 Longitudinal Data Systems Grant

- \$6.0M grant with three main parts
- Pilot an implementation of the School Interoperability Framework (SIF)
 - Automate the delivery of data from districts to ESE
 - Move towards a less labor intensive, more transactional data model
 - Minimize district reporting burden
- Facilitate data sharing among state agencies
- Feasibility study regarding interstate data sharing



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Data Warehouse

- Purchased an enterprise data warehouse and reporting tool from Cognos in 2006
- Licenses for all school districts and their employees
- Loaded 7 years of SIMS and assessment data and one year of EPIMS data. Currently have just over 25% of the districts integrated
- All assessment data will be provided to districts through the warehouse starting in 2010
- Ability to load formative assessment data



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Data Warehouse

Education Data Warehouse

rcurtin2


Public Folders > ESE MCAS Reports

| Name | Modified | Actions |
|---|------------------------------|---------|
| Beta Enhancement Reports | June 17, 2009 11:04:48 AM | More... |
| Drill Through - Target | October 14, 2008 9:48:18 AM | More... |
| Glossary of MCAS Reports | November 10, 2008 9:56:01 AM | More... |
| R-301 District Item Analysis | June 19, 2009 7:37:53 AM | More... |
| R-302 District Item Analysis Graph | June 18, 2009 4:08:44 PM | More... |
| R-303 District Performance Distribution | June 18, 2009 4:09:15 PM | More... |
| R-304 District Performance Distribution by Subgroup | June 19, 2009 8:08:27 AM | More... |
| R-305 District Performance Distribution by Year | June 18, 2009 4:09:58 PM | More... |
| R-306 District Standards Summary Report | June 18, 2009 4:10:11 PM | More... |
| R-307 District Graduating Class History | June 18, 2009 4:28:08 PM | More... |
| R-401 School Item Analysis | June 18, 2009 4:10:39 PM | More... |
| R-402 School Item Analysis Graph | June 19, 2009 8:06:00 AM | More... |
| R-403 School Performance Distribution | June 18, 2009 4:11:55 PM | More... |
| R-404 School Performance Distribution by Subgroup | June 18, 2009 4:12:14 PM | More... |
| R-405 School Performance Distribution by Year | June 19, 2009 2:40:00 PM | More... |



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Data Warehouse - Item Analysis


School Item Analysis
 Year: 2008
 MCAS Grade: 10
 Subject: Math
 District: Abington
 School: Abington High

| MCAS Strand Name | MCAS Standard Name | MCAS Question Type | MCAS Item No. | % State | % District | % School | % Blank | % A | % B | % C | % D | % 1K | % 2K | % 3K | % 4K | % 5 | % 0 | % 1 | |
|--|----------------------|--------------------|---------------|---------|------------|----------|---------|-----|-----|-----|-----|------|------|------|------|-----|-----|-----|----|
| Geometry | Properties of Shapes | MC | 27 | 58 | 51 | 53 | 3 | 15 | 53 | 14 | 16 | | | | | | | | |
| Geometry | Properties of Shapes | MC | 23 | 78 | 77 | 80 | 3 | 13 | 3 | 1 | 80 | | | | | | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | MC | 2 | 71 | 74 | 74 | 3 | 8 | 4 | 74 | 10 | | | | | | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | MC | 2 | 68 | 74 | 75 | 3 | 10 | 5 | 75 | 7 | | | | | | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | SA | 18 | 65 | 68 | 71 | | | | | | | | | | | | | 26 |
| Data Analysis, Statistics, and Probability | Statistical Methods | MC | 18 | 68 | 72 | 74 | 4 | 74 | 10 | 8 | 4 | | | | | | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | MC | 28 | 60 | 50 | 50 | 4 | 1 | 3 | 41 | 50 | | | | | | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | OR | 20 | 70 | 73 | 74 | | | | | | 4 | 7 | 13 | 27 | 45 | | | |
| Data Analysis, Statistics, and Probability | Statistical Methods | MC | 28 | 70 | 69 | 70 | 3 | 17 | 4 | 6 | 70 | | | | | | | | |
| Patterns, Relations, and Algebra | Symbols | MC | 2 | 59 | 59 | 60 | 3 | 60 | 17 | 12 | 8 | | | | | | | | |
| Patterns, Relations, and Algebra | Symbols | MC | 2 | 67 | 71 | 72 | 3 | 10 | 8 | 72 | 7 | | | | | | | | |
| Measurement Techniques and Tools | Techniques and Tools | MC | 27 | 60 | 51 | 52 | 3 | 16 | 52 | 25 | 4 | | | | | | | | |
| Measurement Techniques and Tools | Techniques and Tools | MC | 22 | 72 | 67 | 68 | 3 | 66 | 4 | 21 | 4 | | | | | | | | |
| Measurement Techniques and Tools | Techniques and Tools | MC | 20 | 63 | 65 | 67 | 4 | 67 | 17 | 7 | 6 | | | | | | | | |

Jun 10, 2008
 Date of Last Update: September 20, 2008
 Massachusetts Department of Elementary and Secondary Education
 Education Data Warehouse
 Report: 2624
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Dropout Application

Dropout Data Summary Report - Mozilla Firefox

<https://www5.doemass.org/dropout/report.asp>

The Department will use the dropout data in the public 2007-08 dropout report, scheduled to be released in spring 2009. If you have questions about your dropout data please contact Cheryl Loiselle at (781) 338-3584 or through email at cloiselle@doe.mass.edu.

District: 0001 Abington
 School: 00010000 District Results

| | |
|--|----------------|
| High School Enrollment <i>Total enrollment of students in grades 9 through 12 - based on October 2007 SIMS</i> | 2007-08 589 |
| Summer Dropouts <i>Students determined to have dropped out of school over the summer before the start of the 2007-08 school year.</i> | 3 |
| School Year Dropouts <i>Students determined to have dropped out of school in any reporting period during the 2007-08 school year minus those found in other districts.</i> | 14 |
| Returned Dropouts <i>Students who were reported as returned to school, graduated, or earned a GED before October 1, 2008.</i> | N/A |
| Final Dropout Count (Adjusted Dropouts) <i>Summer Dropouts and School Year Dropouts minus Returned Dropouts</i> | N/A |
| Final Dropout Rate (Adjusted Dropout Rate) <i>Total adjusted dropouts divided by the total enrollment multiplied by 100</i> | N/A |

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Graduation Rate Application

Graduation Rate Reports Page - Mozilla Firefox
 https://www5.doemass.org/GradRates/GRReportsRO.aspx

The deadline for submitting data correction requests passed in winter 2008. The Department will not accept any further changes to the data. The data in this application are for informational and planning purposes only.

District: 00010000
 School: 00010505

A - Grade 9 Original Cohort
 This is the list of students who were enrolled in your school/district on Oct. 1, 2003 in 9th grade and were not in 9th grade the prior year.

B - Students Entering Cohort
 This is the list of students who transferred into the cohort after Oct. 1, 2003 and remained in the cohort.

C - Students Exiting Cohort
 This is the list of students who were in the original cohort but exited after Oct. 1, 2003.

D - Final Cohort
 This is the list of students who were in the cohort as of end-of-year 2007 and are included in the graduation rate calculation.

E - Final Adjusted Cohort
 This is the list of students who were in the original cohort and never left the cohort. These students are included in the adjusted graduation rate.

F - Graduates
 This is the list of students who are included as graduates in the graduation rate.

G - Cohort Non-Grads
 This is the list of students who are still in the cohort but have not graduated as of October 1, 2007.

H - All Students
 This is the list of all of the students who were ever included in the cohort regardless of their final status in the cohort.



Early Indicator Index

Massachusetts Department of Elementary and Secondary Education
Early Indicator Index (Points and Risk Levels)
 Use Autofilter arrows to find and work with a subset of data in a range. A filtered range displays only the rows that meet the criteria you specify

Early Indicator Index (EII) Data

| Grade 8 MCAS Math | | Grade 8 MCAS ELA | | Grade 8 Attendance | | Grades 7 & 8 Mobility | | Risk Level | |
|-------------------|---------------------------------|------------------|---------------------------------|--------------------|---------------------------------|-------------------------------|---------------------------------|------------|----------------|
| Scaled Score | Points (see data dictionary) | Scaled Score | Points (see data dictionary) | Attendance Rate | Points (see data dictionary) | Incidence of Changing Schools | Points (see data dictionary) | EII Points | Risk Level |
| 212 | 19 | 208 | 20 | 90 | 17 | 2 | 20.0 | 76.0 | Very High Risk |
| 216 | 16 | 214 | 20 | 91 | 16 | 0 | 6.7 | 58.7 | High Risk |
| 216 | 16 | 224 | 17 | 95 | 12 | 0 | 6.7 | 51.7 | At Risk |
| 218 | 14 | 250 | 5 | 98 | 6 | 1 | 13.4 | 38.4 | Borderline |
| 226 | 10 | 252 | 4 | 97 | 8 | 0 | 6.7 | 28.7 | Low Risk |



Early Indicator Index

Grade 8
Mathematics

| Grade 8 Math Scaled Score | Assigned Points |
|---------------------------|-----------------|
| 204-208 | 20 |
| 210-212 | 19 |
| 214 | 18 |
| -- | 17 |
| 216 | 16 |
| -- | 15 |
| 218 | 14 |
| -- | 13 |
| 220 | 12 |
| 222 | 11 |
| 224-226 | 10 |
| 228-230 | 9 |
| 232-234 | 8 |
| 236-238 | 7 |
| 240-242 | 6 |
| 244-246 | 5 |
| 248-250 | 4 |
| 252-254 | 3 |
| 258-262 | 2 |
| 264-280 | 1 |



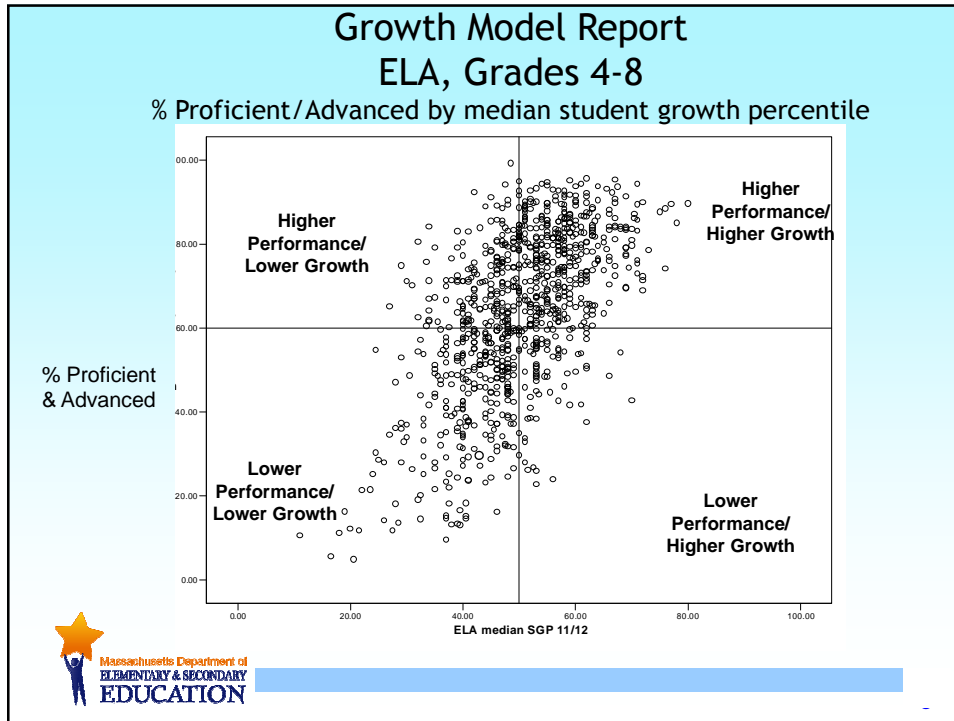
Student roster reporting performance & growth

Student Level Classroom Report From an Actual School (25 Random 6th graders)

| firstname | mi | Grade 2008 | ELA 2006 Scaled Score | ELA 2007 Scaled Score | ELA 2008 Scaled Score | ELA 2008 Student Growth P'c'tile | Math 2006 Scaled Score | Math 2007 Scaled Score | Math 2008 Scaled Score | Math 2008 Student Growth P'c'tile |
|-------------|----|------------|-----------------------|-----------------------|-----------------------|----------------------------------|------------------------|------------------------|------------------------|-----------------------------------|
| MARGARET | A | 06 | 218 | 218 | 222 | 52 | 212 | 210 | . | . |
| PETER | O | 06 | 248 | 234 | 248 | 78 | 218 | 218 | 218 | 49 |
| JENNA | A | 06 | 242 | 252 | 254 | 75 | 228 | 220 | 230 | 57 |
| STEFFY | V | 06 | 230 | 228 | 230 | 38 | 224 | 212 | 214 | 22 |
| JOHNATHAN | . | 06 | 240 | . | 240 | . | 234 | . | 230 | . |
| TIARA | N | 06 | 238 | 244 | 242 | 32 | 222 | 228 | 232 | 59 |
| NICKOLAS | D | 06 | 230 | 228 | 232 | 42 | 226 | 218 | 218 | 24 |
| MICHELLE | L | 06 | 224 | 220 | 236 | 83 | 218 | 218 | 216 | 32 |
| JOSE | C | 06 | 232 | 212 | 222 | 64 | 224 | 224 | 216 | 4 |
| ZACHARY | T | 06 | 238 | 246 | 242 | 19 | 224 | 232 | 218 | 7 |
| DAVID | J | 06 | 222 | 248 | 242 | 46 | 224 | 230 | 236 | 68 |
| STEPHEN | J | 06 | 256 | 256 | 258 | 59 | 260 | 268 | 248 | 1 |
| ANGELA | K | 06 | 248 | 258 | 252 | 41 | 246 | 252 | 260 | 67 |
| RENO | J | 06 | 252 | 256 | 252 | 41 | 266 | 266 | 262 | 27 |
| CHRISTOPHER | L | 06 | 256 | 258 | 254 | 38 | 248 | 238 | 244 | 37 |
| RUDY | L | 06 | 238 | 244 | 236 | 11 | 226 | 234 | 244 | 73 |
| MICHAEL | T | 06 | 212 | 232 | 244 | 96 | 216 | 236 | 216 | 3 |
| ERIC | S | 06 | 230 | 244 | 248 | 79 | 236 | 246 | 238 | 15 |
| VENEL | . | 06 | 218 | 232 | 242 | 83 | 218 | 224 | 218 | 21 |
| KRISTIE | L | 06 | 224 | 236 | 240 | 59 | 226 | 230 | 216 | 9 |
| SIMONE | J | 06 | 220 | 222 | 242 | 95 | 214 | 216 | 218 | 62 |
| ROBERT | R | 06 | 236 | 236 | 240 | 42 | 230 | 248 | 252 | 70 |
| DARIAN | J | 06 | 224 | 226 | 224 | 25 | 216 | 218 | 218 | 39 |
| HASON | A | 06 | 232 | 228 | 244 | 86 | 216 | 216 | . | . |
| MARIE | J | 06 | 228 | 242 | 252 | 93.0 | 220 | 224 | 236 | 83 |

- Lower Growth
- Typical Growth
- Higher Growth





- ### Lessons Learned
- Two ways to improve data quality: Attach funding to it and make it public
 - Find staff that care about education...let me explain!
 - Data systems should not be built just to meet reporting requirements
 - Just because they gave it to you doesn't mean they are using it!
 - Someone is probably doing something better than you, use all of the resources available
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- The Massachusetts Department of Elementary & Secondary Education logo is visible in the bottom left corner.

Helpful Links

SIMS Information

<http://www.doe.mass.edu/infoservices/data/sims/>

EPIMS

<http://www.doe.mass.edu/infoservices/data/epims/>

Data Warehouse

<http://www.doe.mass.edu/infoservices/dw/>

Statistical Reports

<http://www.doe.mass.edu/infoservices/reports/>



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