

## Measuring the Long-Term Impact of the Illinois Math and Science Academy's (IMSA) After School FUSION Math and Science Program: The FUSION High School Transcript Study

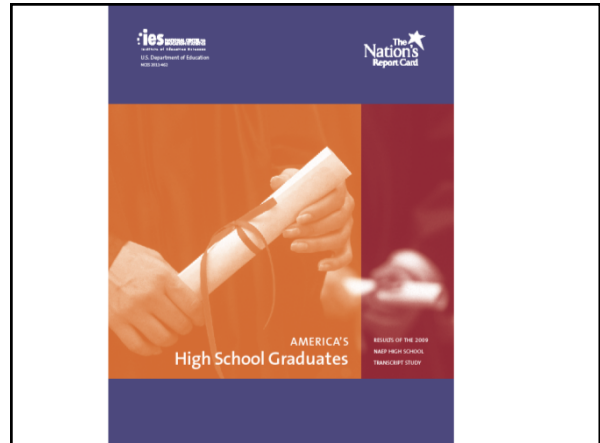
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 Annual Conference of the  
 American Evaluation Association  
 November 2012, Minneapolis, MN



RESEARCH FOCUS	DATA SOURCE
Student participation	Extant data
Lesson attributes and connections to IMSA core competencies	Observations Surveys
Learning environment	Observations Surveys
Student engagement	N years participation – survey Student interest – survey Teacher and parent surveys Observations
Parent perceptions of FUSION	Parent surveys
Student outcomes	Surveys
Long-term outcomes	?

## IMSA FUSION High School Transcript Study 2011 Focus

- High school math and science course taking and achievement
- Rigor and success of students from high-poverty schools



## School District Instructions

**Instructions**  
 Below is a list of students from your high school who participated in the FUSION program in middle school. We are asking for you to list the high school math and science courses these students completed and the grades they earned in the courses. You can enter data about math classes in tab on this worksheet marked "math" and about science classes in the tab marked "science".

To help us understand the data we will also ask for the total number of students in each course and the average GPA for the course for all students.

FNAME	LNAME	MIDDLE SCHOOL	Year Grad from FUSION
alsdkdff	slaksdflk	school name	year
askdfjas,l	lksdj,alskdj	school name	year
sldkfja	;lkj	school name	year
askdfjas,l	ldjfa	school name	year
sdfj	lj;j	school name	year
asldkfj;	;slkj	school name	year
asldj	lksjdfa;sdlkj	school name	year
salle4df	d/,mf;lij	school name	year
saf3	sdlkfjalrfej	school name	year
lskdjfejl	ysdfasdj	school name	year
aldk	l;oiakj	school name	year

## School District Data Sheet

Thank you for your help! If you have questions, you may contact Dr. Tania Jarosewich at [tania@censoegroup.com](mailto:tania@censoegroup.com) or the FUSION Program Director at [440.372.1015](tel:440.372.1015) or email your document to [Tania@CenseoGroup.com](mailto:Tania@CenseoGroup.com)

Student	Race	Year graduated FUSION	Science Course 1 name	Science Course 1 # credits	Science Course 1 grade	Science Course 2 name	Science Course 2 # credits	Science Course 2 grade	Science Course 3 name	Science Course 3 # credits
Student1										
Student2										
Student3										
Student4										
Student5										
Student6										
Student7										
Student8										
Student9										
Student10										
Student11										
Student12										
Student13										
Student14										
Student15										
Student16										
Student17										
Student18										
<b>total number of students in course</b>										
<b>Average total student GPA</b>										

## Study Sample

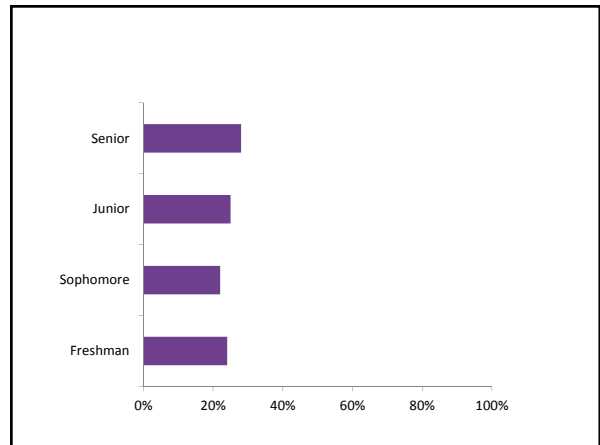
4 of  
26 FUSION districts

432 students



	Female	Male
<b>IMSA Fusion</b>	52%	48%
<b>IMSA Transcript Study</b>	53% (N=230)	44% (N=192)
<b>National HS Transcript Study</b>	50%	50%

	Caucasian	African American	Hispanic	Asian	Other / bi-racial
<b>IMSA Fusion</b>	45%	21%	17%	7%	10%
<b>IMSA Transcript</b>	52% (N=215)	26% (N=107)	14% (N=60)	5% (N=21)	3% (N=14)
<b>National HS Transcript</b>	60%	15%	17%	6%	2%

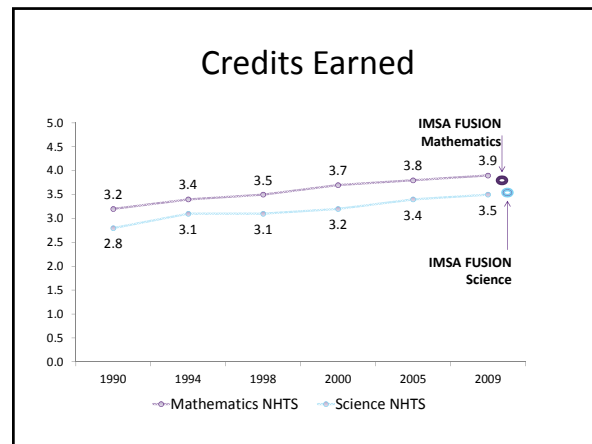


## Data Preparation

- Coded courses according to Classification of Secondary School Courses
- Standardized course titles and grades
- Calculated grade point average in math for each student
- Calculated grade point average for science

Course	N	%
<b>Algebra</b>		
Pre-Algebra	3	1%
Algebra	156	37%
Advanced or Honors Algebra	177	42%
Algebra II	34	8%
Advanced or Honors Algebra II	108	26%
<b>Geometry</b>		
Geometry	188	45%
Advanced/Honors Geometry	168	40%
<b>Trigonometry/PreCalculus/Calculus</b>		
Trigonometry	3	1%
Advanced/Honors Trigonometry	10	2%
Pre-Calculus	78	18%
Advanced/Honors Pre-Calculus	87	21%
Calculus	4	1%
AP Calculus A B	57	14%
AP Calculus BC	14	3%

Course	N	%
<b>Biology</b>		
Biology	118	28%
Advanced or Honors Biology	274	65%
AP Biology	30	7%
<b>Chemistry</b>		
Chemistry	171	41%
Advanced or Honors Chemistry	150	36%
AP Chemistry	50	12%
<b>Physics</b>		
Physics	112	27%
Advanced or Honors Physics	48	11%
AP Physics	7	2%
<b>Anatomy/Physiology</b>		
Anatomy/Physiology	14	3%
Advanced/Honors Anatomy/Physiology	25	6%



### GPA Comparison

	FUSION	National HS
Mathematics	2.88	2.34
Science	3.02	2.70

- ### Potential Additional Analyses
- GPA by gender and race
  - Course completion by gender and race
  - Curriculum rigor by gender and race
  - Differences in achievement by participation

- ### Transcript Study Lessons Learned
- Engage directly with districts for data collection
  - Ensure format and quality of data
  - Include more FUSION attendance information (# years attended, general attendance pattern, grades in which attended)
  - Encourage more sophisticated/regular student tracking system

- ### Could National High School Transcript Study
- provide effective benchmarking?
  - connect your outcomes with national data?
  - provide another way to understand your program?
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