

Equity of Student Access to Advanced Coursework

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Purpose of this presentation

In compliance with the 2013-14 Equity Assurance Report, our charge is to:

- Review disaggregated course enrollment data to identify potential disparities based on sex, race, ELL status (English language learners), and disability (Special education and Section 504).
- Include honors and advanced placement courses, career and technical education, highly capable programs, physical education, etc.
- If a disparity is identified, take action to ensure that the disproportionality is not the result of discrimination
- Share the results of this review with stakeholders (district counseling staff, college/career guidance specialists)
- Draft a plan to target remedying any disparities found, including any needed adjustments to current processes in place

How to think about student group disparities in course enrollment: disproportionality

Table 1.
Enrollment in Advanced Coursework* by Race, Fall 2013

Level	Race	Number of advanced courses							Percent		Proportionality difference**
		0	1	2	3	4	5	6	at least one	Total	
Middle school	American Indian or Alaskan Native	2	2						2	4	0.3%
	Asian	95	46	66					112	207	16.0%
	Black or African American	53	16	13					29	82	4.1%
	Hispanic	105	23	20					43	148	6.1%
	Native Hawaiian or Other Pacific Islander	3							0	3	0.0%
	Two or more races	67	36	50					86	153	12.3%
	White	296	187	241					428	724	61.1%
	Total	621	308	392					700	1,321	100.0%
High school	American Indian or Alaskan Native	6	1	3					4	10	0.3%
	Asian	185	79	95	45	24	16		259	444	17.7%
	Black or African American	133	28	18	10	4		1	61	194	4.2%
	Hispanic	187	51	44	14	4			113	300	7.7%
	Native Hawaiian or Other Pacific Islander	2	3						3	5	0.2%
	Two or more races	103	53	61	28	7	1		150	253	10.3%
	White	621	322	314	152	71	13		872	1,493	(59.6% - 55.3%) = 4.3%
	Total	1,237	537	535	249	110	30	1	1,462	2,699	100.0% 100.0%

Note. Data are for all first trimester, first semester, and year-long courses. Self-contained special education excluded.

* Includes Honors, Advanced Placement, and UW in High School. Self-contained special education students excluded.

** Calculation is % in advanced coursework - % of total student population. Negative value indicates student group is **underrepresented** in advanced coursework.

INTERPRETATION:

This means white students are **overrepresented** in advanced courses by 4.3 percent (of kids in advanced courses).

How to think about student group disparities in course enrollment: disproportionality

Table 2.

Proportionality of Enrollment in Advanced, CTE, and PE Courses by Race, Fall 2013

Add CTE
and PE

Level	Race	N	Advanced (Honors, AP and/or UW)	Career and technical education	Physical education
Middle school	American Indian or Alaskan Native	4	0.0%	-0.3%	0.0%
	Asian	207	0.3%	0.2%	0.9%
	Black or African American	82	-2.1%	-0.5%	-0.3%
	Hispanic	148	-5.1%	2.4%	-1.9%
	Native Hawaiian or Other Pacific Islander	3	-0.2%	-0.2%	-0.1%
	Two or more races	153	0.7%	-0.2%	-0.1%
	White	724	6.3%	-1.4%	1.6%
	Total	1,321			
High school	American Indian or Alaskan Native	10	-0.1%	0.0%	0.1%
	Asian	444	1.3%	-0.5%	-0.3%
	Black or African American	194	-3.0%	0.2%	0.4%
	Hispanic	300	-3.4%	0.0%	0.7%
	Native Hawaiian or Other Pacific Islander	5	0.0%	0.0%	-0.1%
	Two or more races	253	0.9%	0.4%	-0.9%
	White	1,493	4.3%	-0.1%	0.1%
	Total	2,699			

Note. Data are for all first trimester, first semester, and year-long courses. Self-contained special education excluded.

How to think about student group disparities in course enrollment: disproportionality

Table 3.
Proportionality of Enrollment in Special Coursework by Student Group, Fall 2013

Level	Student Group	N	Advanced (Honors, AP and/or UW)	Career and technical education	Physical education	
Middle school	American Indian or Alaskan Native	4	0.0%	-0.3%	0.0%	INTERPRETATION: Black students are underrepresented in advanced courses by 2.1 percent. If 2.1 percent more black students were in advanced courses, they would be sufficiently represented
	Asian	207	0.3%	0.2%	0.9%	
	Black or African American	82	-2.1%	-0.5%	-0.3%	
	Hispanic	148	-5.1%	2.4%	-1.9%	
	Native Hawaiian or Other Pacific Islander	3	-0.2%	-0.2%	-0.1%	
	Two or more races	153	0.7%	-0.2%	-0.1%	
	White	724	6.3%	-1.4%	1.6%	
	Gender (Male)	668	-2.6%	0.6%	0.8%	
	English language learners	187	-6.7%	6.3%	-1.3%	
	Disability (SPED or 504)	182	-6.9%	-3.6%	-3.5%	
High school	American Indian or Alaskan Native	10	-0.1%	0.0%	0.1%	INTERPRETATION: Black students are underrepresented in advanced courses by 2.1 percent. If 2.1 percent more black students were in advanced courses, they would be sufficiently represented
	Asian	444	1.3%	-0.5%	-0.3%	
	Black or African American	194	-3.0%	0.2%	0.4%	
	Hispanic	300	-3.4%	0.0%	0.7%	
	Native Hawaiian or Other Pacific Islander	5	0.0%	0.0%	-0.1%	
	Two or more races	253	0.9%	0.4%	-0.9%	
	White	1,493	4.3%	-0.1%	0.1%	
	Gender (Male)	1,398	-6.6%	1.9%	-0.2%	
	English language learners	317	-6.1%	1.0%	0.6%	
	Disability (SPED or 504)	365	-6.1%	1.7%	1.9%	

Note. Data are for all first trimester, first semester, and year-long courses. Self-contained special education excluded.

Which group disparities are statistically significant?

Table 4.
Odds Ratios of Enrollment in Special Coursework by Student Group, Fall 2013

Level	Student Group	N	Advanced (Honors, AP and/or UW)	Career and technical education	Physical education	INTERPRETATION:
Middle school	Race (White is comparison group)					
	American Indian or Alaskan Native	4	0.55	0.00	0.89	"All other factors equal, the odds of black students being in at least one advanced course are about half those of white students
	Asian	207	1.17	0.83	1.21	
	Black or African American	82	0.51 **	0.77	0.84	
	Hispanic	148	0.38 ***	1.11	0.62 *	
	Native Hawaiian or Other Pacific Islander	3	0.00	0.00	0.15	
	Two or more races	153	0.88	0.98	0.86	
	Gender (Male)	668	0.93	1.04	1.25 *	
	Limited English Proficient (LEP)	187	0.28 ***	1.69	0.66 *	
High school	Race (White is comparison group)					"All other factors equal, the odds of Asian students being in at least one advanced course are 1.35 times those of white students
	American Indian or Alaskan Native	10	0.42	0.94	1.91	
	Asian	444	1.35 *	0.89	0.96	
	Black or African American	194	0.47 ***	0.97	1.07	
	Hispanic	300	0.55 ***	0.95	1.08	
	Native Hawaiian or Other Pacific Islander	5	1.05	1.39	0.31	
	Two or more races	253	1.06	1.08	0.83	
	Gender (Male)	1,398	0.58 ***	1.14	0.97	
	English language learners	317	0.25 ***	1.29	1.11	
	Disability (SPED or 504)	365	0.30 ***	1.34 *	1.35 **	

Note. Data are for all first trimester, first semester, and year-long courses. Self-contained special education excluded.

Statistical significance: * p < .01, ** p < .001, *** p < .0001

The stars indicate statistical significance. The p means: "If gender had nothing to do with enrollment in AP, an odds ratio of this size would be extremely unlikely. We therefore have some evidence that gender has some influence on enrollment in AP."

How to make sense of odds ratios

HIGH SCHOOL

Advanced coursework	Female	Male	Total
None	614	846	1,460
At least one course	729	627	1,356
Total	1,343	1,473	2,816

The idea of odds and odds ratios

Probability of taking at least one advanced course	729 / 1343	627 / 1473	Girls more likely (higher probability) to take advanced course than boys
	54.3%	42.6%	

Odds of taking at least one advanced course	729 / 614	627 / 846	Girls have higher odds of taking advanced course than boys
<i>For every girl not taking an advanced course, 1.19 is</i>	1.19	0.74	

Odds ratio (Female / Male)	1.601998	Girls have 1.6 greater odds of taking advanced course than boys
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Advanced courses

AP BIOLOGY	ENG 9 HONORS
AP CALC BC	HON ENG 10
AP CALCULUS AB	HON INTG PHY SC
AP ECON MIC/MAC	HON SCI 7
AP ENG LANG COM	HON SCI 8
AP ENG LIT COMP	HON SCIENCE 7
AP ENV SCIENCE	HON SCIENCE 8
AP FRENCH	HON SOC ST 7
AP MUSIC THEORY	HON SOC ST 8
AP PHYSICS	HONORS BIOLOGY
AP PSYCH CTE	HONORS CHEMISTR
AP PSYCHOLOGY	HONORS SOC ST 7
AP SPANISH	HONORS SOC ST 8
AP STATISTICS	UW ASTRONOM 101
AP STUDIO ART	UW GEOLOGY 101
AP STUDIO PHOTO	UW JAPANESE 113
AP US HISTORY	UW PRE CALCULUS
AP WORLD HIST	