

IB students & first-year university performance:
An undergraduate admissions model

ARUCC - Vancouver, BC June 2010



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Introductions

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Overview of presentation

- An example of how post-secondary institutions can work with the local IB community
- An equitable and evidence-based method of assessing IB Diploma applicants for undergraduate admission (based upon first-year performance)
- A model for determining admission “equivalencies” for non-local curricula
- Discussion: feedback and relevance to your institution / community



The University of British Columbia

- Campuses in Vancouver and Kelowna, BC, Canada
- Over 50,000 students
- Global citizenship, service learning, and integrated/interdisciplinary first-year programs
- Highly competitive admission; 88% / 82% mean entrance average at Vancouver / Okanagan
- Admission based on academic information and (increasingly) broad-based admission criteria
- Top post-sec destination of IB transcripts in the world (2009)
- 10% of direct-entry applicants are IB Diploma (2009)



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The IB Diploma program

- Challenging, international two-year curriculum
- More than 762,000 IB students at 2,175 schools in 138 countries
- 130 Diploma programs in Canada; present in every Canadian province
- Diploma program: six core courses, scored 1 – 7 (+ 3 “extra points”):
 - primary language
 - second language
 - individuals and society
 - mathematics and computer science
 - the arts
 - experimental sciences
 - Extended Essay, Theory of Knowledge, and “Creativity, Action, Service”



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Evaluating IB diploma applicants

- IB diploma students evaluated on diploma score alone
- Admitted on “[anticipated](#)” (February – March) IB diploma scores
- Optional transfer credit
- First-year credit for Theory of Knowledge
- Automatic scholarships (up to \$2,500) awarded on anticipated diploma score alone



Issues:

Admission decisions based (fundamentally) on final IB diploma grades.

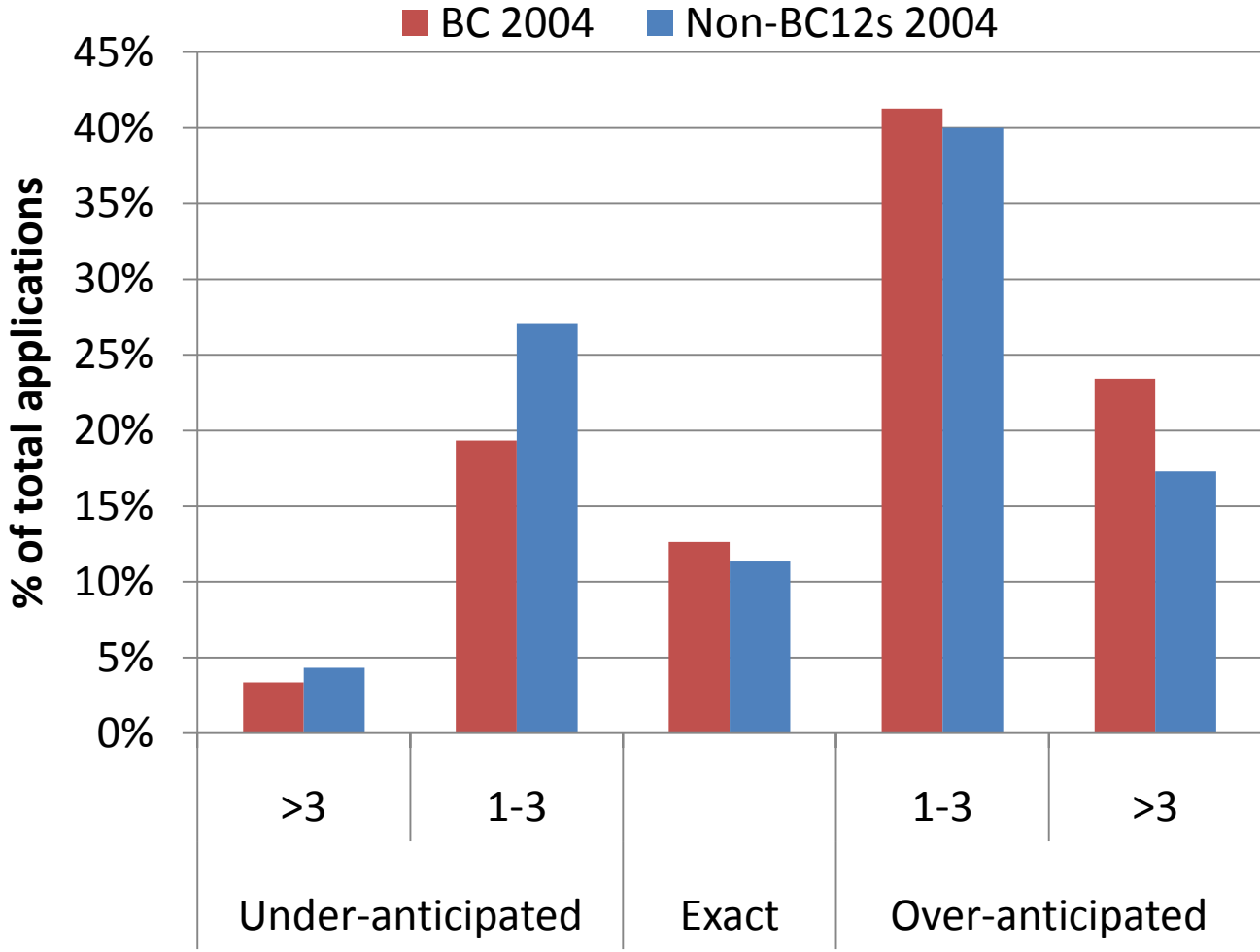
What is the accuracy of admissions decisions based upon anticipated IB diploma grades?



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Discrepancy between anticipated and final IB diploma scores, 2004



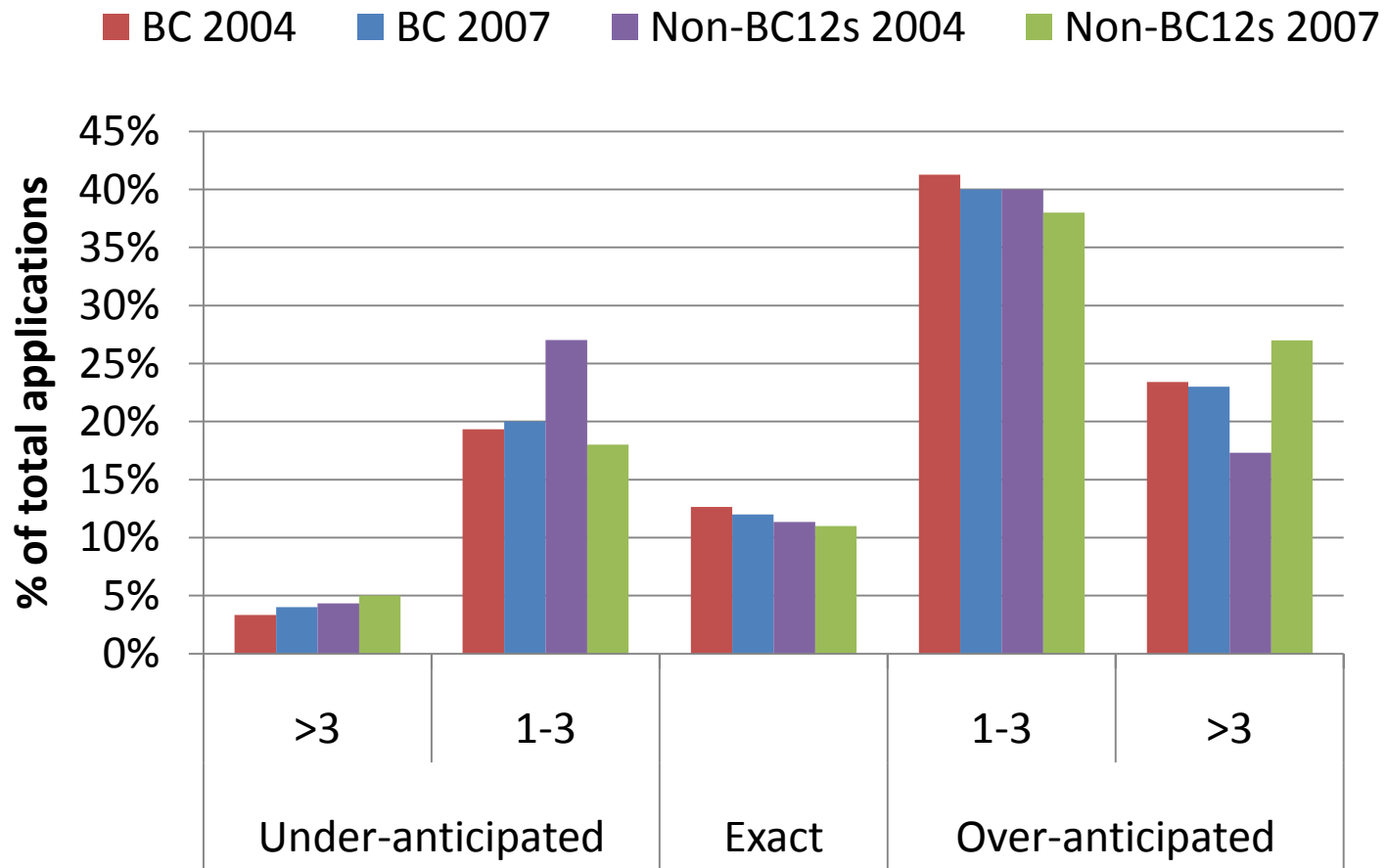
Accuracy and consistency of anticipated IB grades

- Collaboration with 11 local IB schools and regional coordinator
- Four-year study assessing accuracy and consistency of anticipated IB Diploma grading practices
- Documented change between anticipated and final IB diploma scores
- Yearly reports generated, feedback shared and discussed with schools



Findings

- Little change in overall accuracy within the system



Findings

- Improved consistency within the system; no outliers
- Standard error anticipated-to-final:
2.61 points on diploma
.70 on individual component
- Greater change between spring and summer grades than among BC12 students
- Greater impact on scholarship than admission



Conclusions and Issues

- Cumulative effect in IB diploma grades is a factor

BC 12	Over-estimation
English 12	85% / 83% (+2%)
Math 12	85% / 83% (+2%)
French 12	85% / 83% (+2%)
Biology 12	85% / 83% (+2%)
Overall	85% / 83% (+2%)

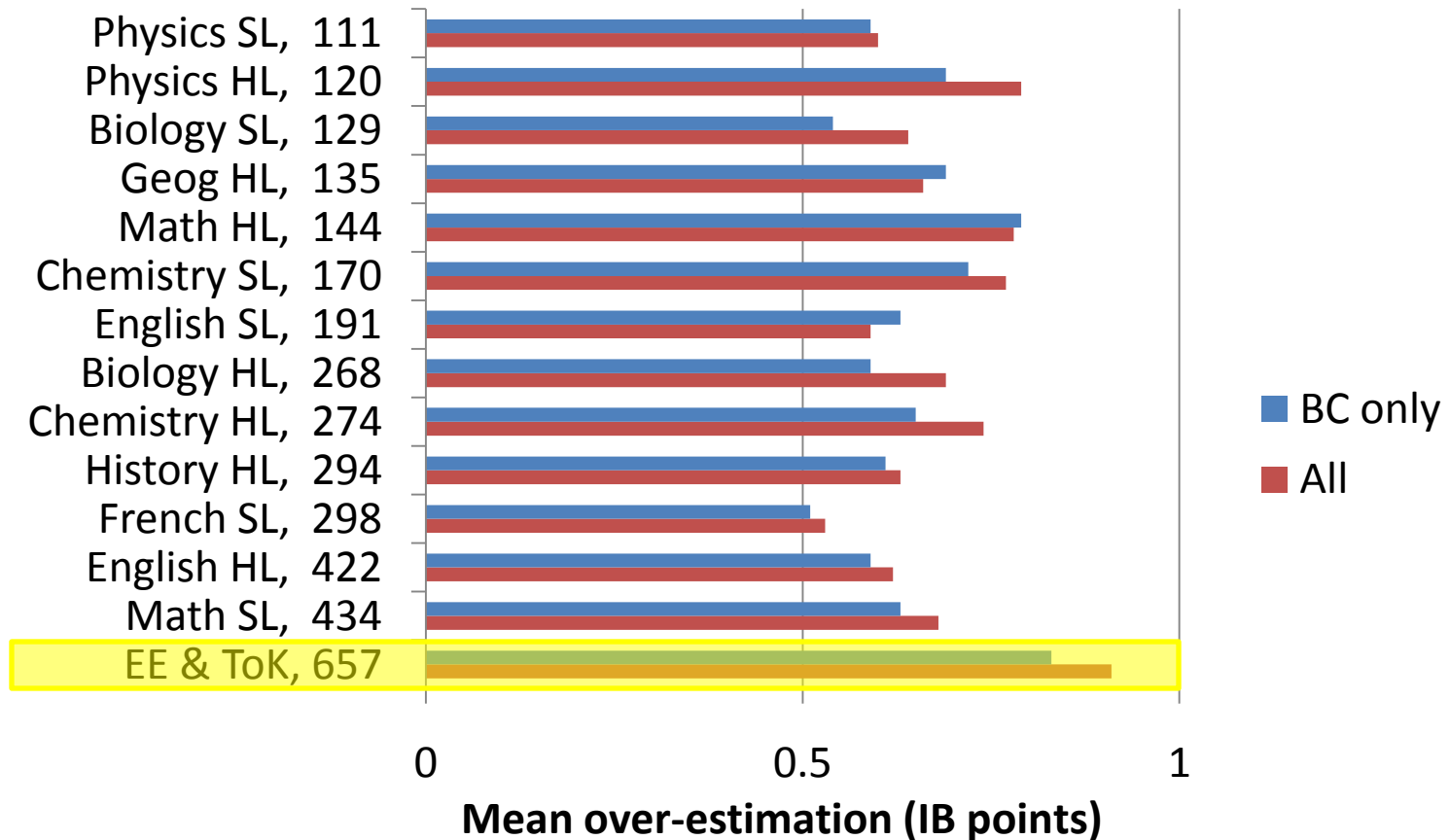
Conclusions and Issues

- Cumulative effect in IB diploma grades

BC 12	Over-estimation	IB Diploma	Over-estimation
English 12	85% / 83% (+2%)	English HL	6 / 5 (+1pt)
Math 12	85% / 83% (+2%)	Math SL	6 / 5 (+1pt)
French 12	85% / 83% (+2%)	French HL	6 / 5 (+1pt)
Biology 12	85% / 83% (+2%)	Biology SL	6 / 5 (+1pt)
		Geog HL	6 / 5 (+1pt)
		Chem SL	6 / 5 (+1pt)
		EE & ToK	3 / 2 (+1pt)
Overall	85% / 83% (+2%)	Overall	39 / 32 (+7)

Conclusions and Issues

- Restriction of range in IB diploma grades



Conclusions and Issues

- Manual grade adjustment does not increase equity

Anticipated IB Grades, 2007	
no adjustment	
% true admits	82%
% false admits	12%
% false refuse	3%
% true refuse	3%

Conclusions and Issues

- Manual grade adjustment does not increase equity

Anticipated IB Grades, 2007			
	no adjustment	-1	-2
% true admits	82%	79%	73%
% false admits	12%	10%	5%
% false refuse	3%	6%	12%
% true refuse	3%	5%	10%

Solution:

- Don't worry about what anticipated IB diploma scores tell us about final IB diploma grades
- Evaluate IB Diploma applicants based upon what anticipated IB diploma scores tell us about first-year performance at UBC



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IB Diploma "equivalency scale"

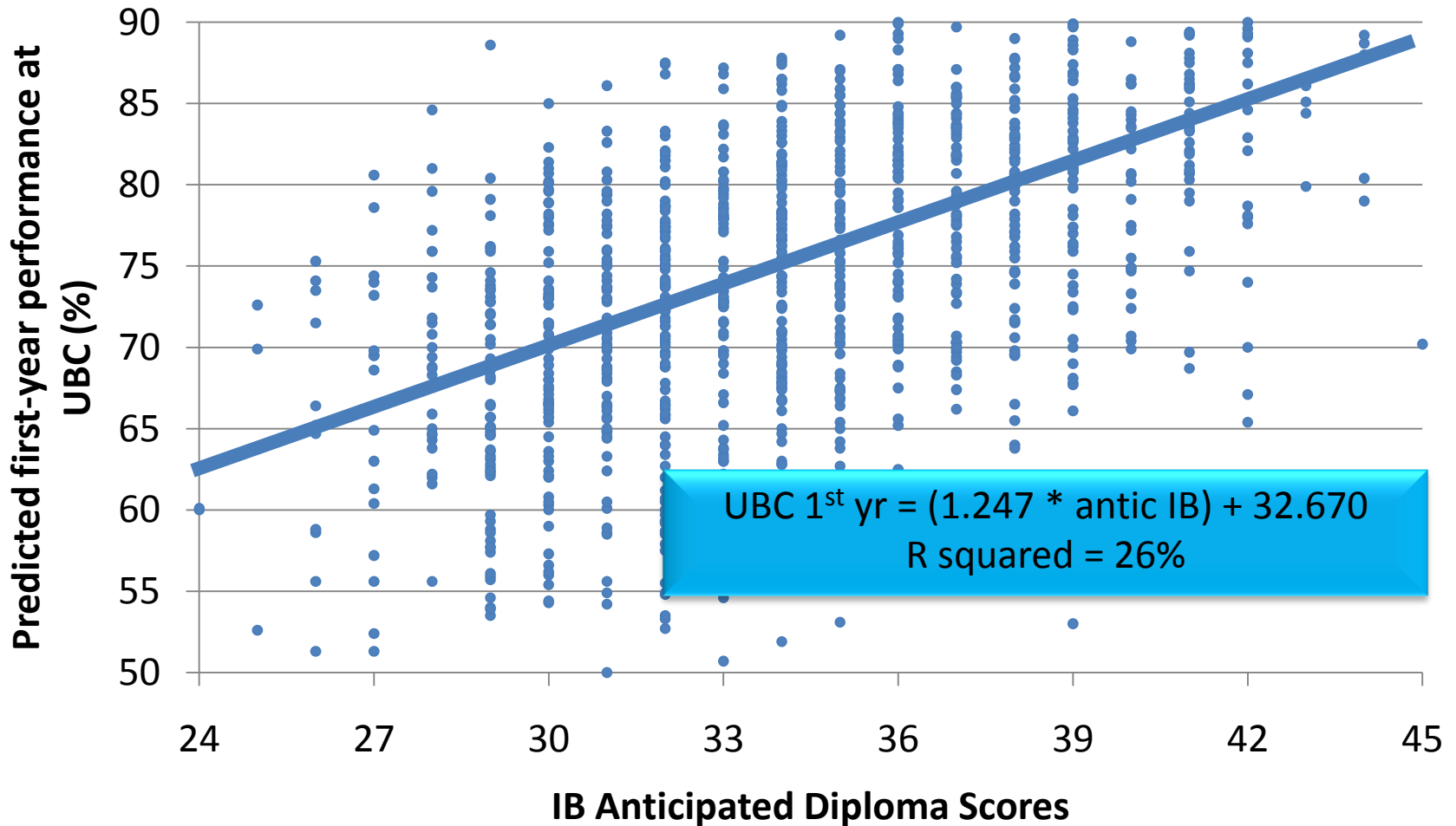
IB Diploma Points	BC12 Admission Average (%)	IB Diploma Points	BC12 Admission Average (%)
24	67 (C+)	34	93
25	70 (B-)	35	94
26	73 (B)	36	95
27	76 (B+)	37	96
28	80 (A-)	38	97
29	84 (A -)	39	98
30	87 (A)	40	98
31	90	41	99
32	91	42 - 45	99.9
33	92		

Approx. top 20% - 25% of BC12s are "A" students

Approx. 35% of BC12s are "B" students

BC12 grades are good predictors of first year success

Using a linear regression to predict first-year performance



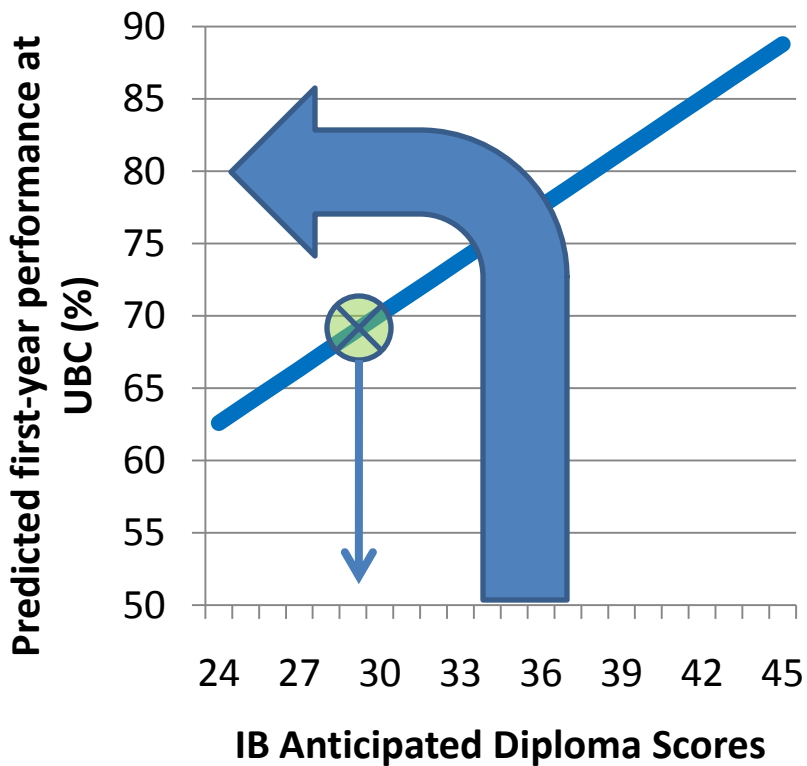
Using a linear regression to predict first-year performance

- Admission and first-year performance data from 11,000+ BC 12s and 800+ IB Diploma students
- $(a * \text{anticipated IB Diploma points}) + b = 1^{\text{st}} \text{ year UBC}$
- $(x * \text{BC12 Spring admission avg.}) + y = 1^{\text{st}} \text{ year UBC}$
- If predicted first year performance is the same...

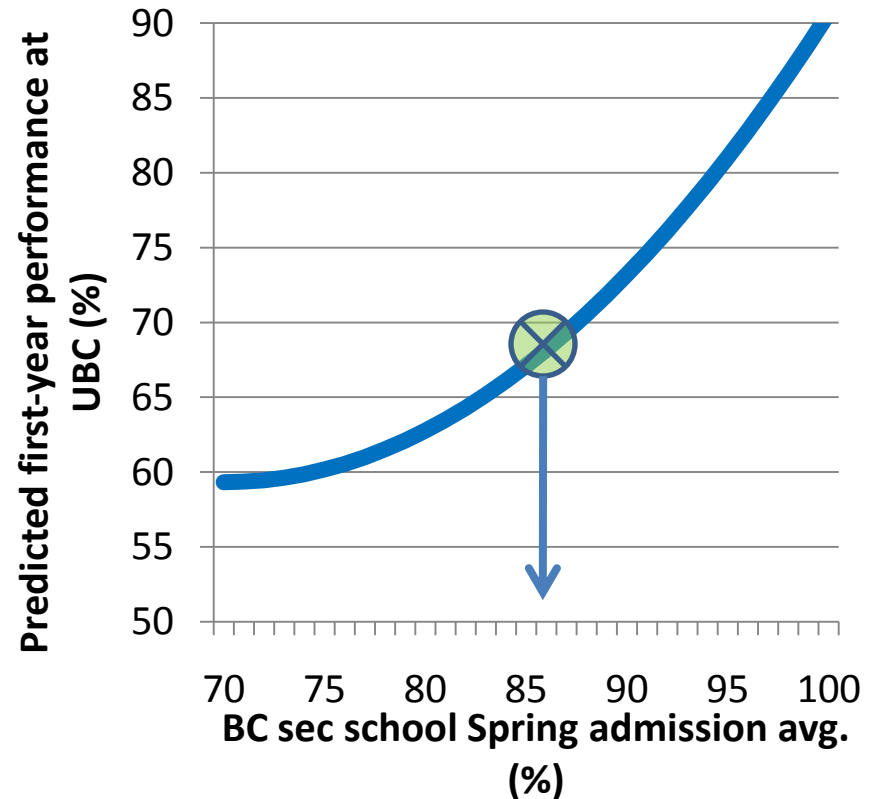


Predicting first-performance at UBC, 2003 - 2006

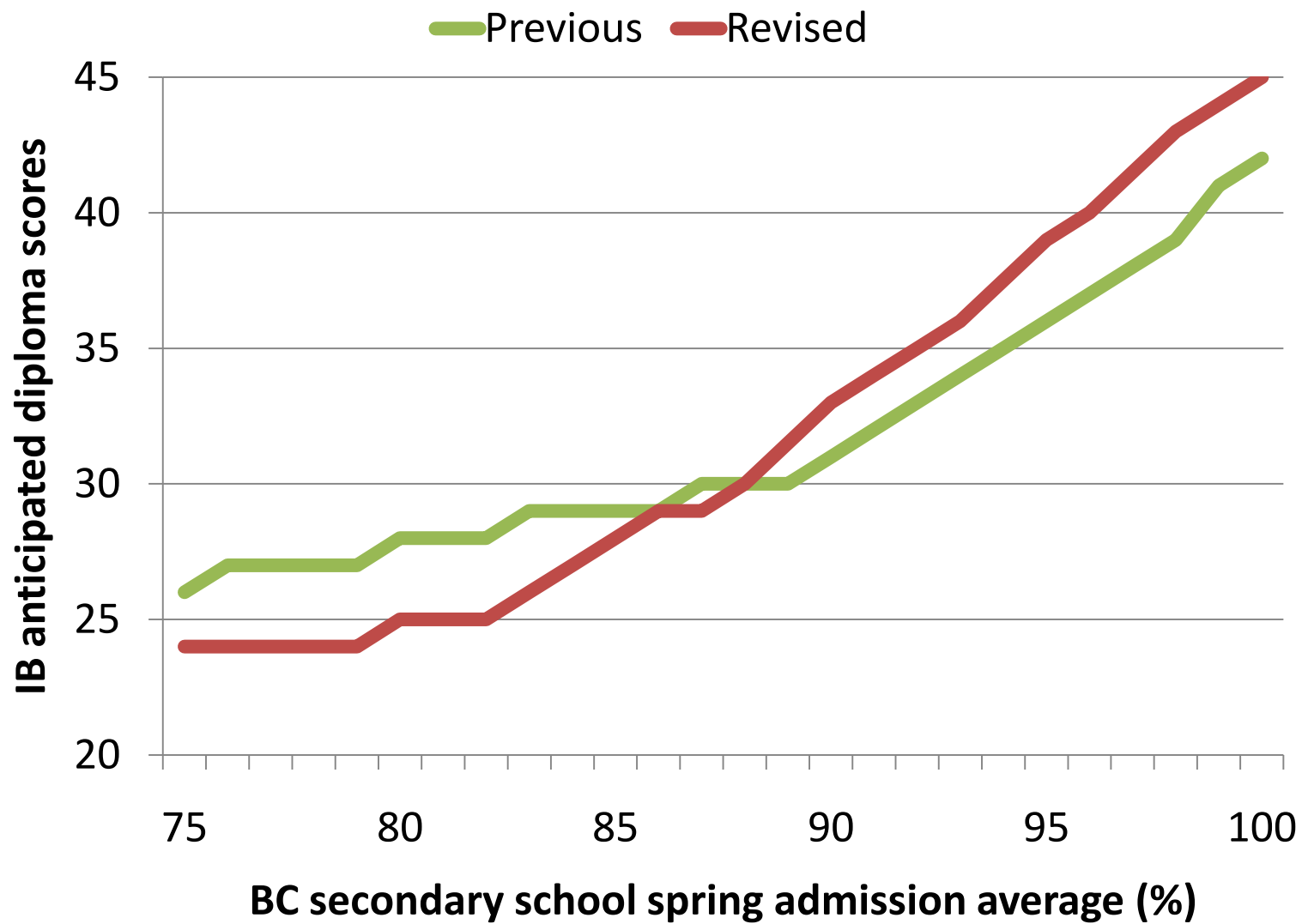
Anticipated IB Diploma grades



Spring BC 12 admission averages



Revised IB-to-BC12 equivalency



BC Secondary School Average (%)	Previous IB Diploma equivalency	<u>New IB Diploma equivalency</u>		<u>Adjustment to Previous IB Diploma equivalency</u>	
		Anticipated	Final	Anticipated	Final
79 (B+)	27	24	24	-3	-3
80 (A -)	28	25	24	-3	-4
81	28	25	24	-3	-4
82	28	25	24	-3	-4
83	29	26	25	-3	-4
84	29	27	26	-2	-3
85	29	28	26	-1	-3
86 (A)	29	29	27	0	-2
87	30	29	28	-1	-2
88	30	30	29	0	-1
89	30	31 - 32	30	1 - 2	0
90	31	33	31	2	0
91	32	34	32	2	0
92	33	35	33 - 34	2	0 - 1
93	34	36	35	2	1
94	35	37 - 38	36	2 - 3	1
95	36	39	37	3	1

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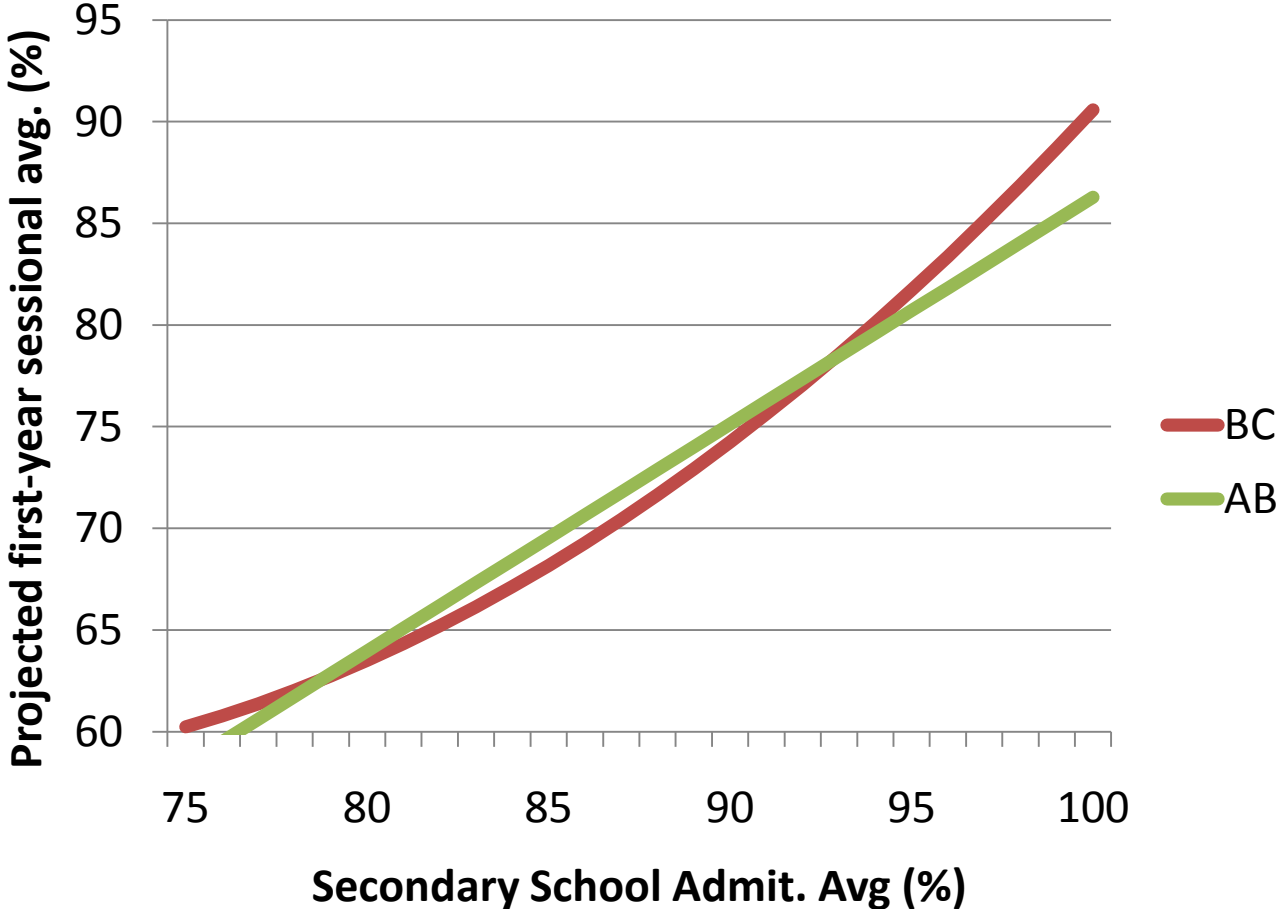
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Conclusions

- Any IB diploma holder performs (at a minimum) at the same level as a B-average secondary school student
- An IB Diploma student with a anticipated score of 29 is expected to perform at the same level as an A student



Methodology is portable: Secondary School Applicants from Alberta



Feedback and Discussion

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