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The comparative difficulty of Higher Mathematics on the International Baccalaureate

JAMES HANDSCOMBE*
Bexley Grammar School, Danson Lane, Welling, London DA16 2BL, UK

Email: handscombe@hotmail.com

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Although the number of students taking the International Baccalaureate (IB) in the UK has increased in recent years (from 3081 in 2006 to 5114 in 2011) its students remain a minority when compared with the large number of A-level students looking for places at university. Universities have accepted that the IB provides a suitable preparation for Higher Education that is in some ways superior to A-levels (Mori, 2012) and have needed to place a value on IB point scores in order to make fair offers to IB students competing in a market dominated by A-level. There are two main areas of equivalence that are used in university offers—an overall score or specific subject grades. Often these two systems are combined. In 2006, the Universities and Colleges Admissions Service (UCAS) commissioned an Expert group to consider the IB in comparison with A-levels. This group looked at the specific subjects of Mathematics, Chemistry and Geography as well as the course as a whole and concluded that a level 7 in IB aligned with a good A at A-level and a level 6 with the A/B boundary. An examination of school results in 2009 performed at two IB schools (Sevenoaks and King's College) suggested that level 6 at IB higher was equivalent to A at A-level in all subjects except for Mathematics where a level 5 at IB higher was equivalent to A at A-level. This article considers the standard offers made by a selection of the most competitive UK universities to identify the translations between A-level and IB and uses existing data sets to show that there is evidence to support the Sevenoaks and King's College thesis. It then examines the Mathematics results at a school that offers A-level and IB to investigate what might be an appropriate equivalence for universities to adopt.

1. Background

In the UK most 16–18-year-old students who aim to go on to university take A-levels (normally in three or four different subjects which may include Mathematics, Mathematics and a second A-level in Further Mathematics or no Mathematics course). The International Baccalaureate (IB) Diploma is suitable for similar students but is structured differently. All IB Diploma students study Mathematics, but students can select from three courses: Mathematical Studies, Mathematics Standard and Mathematics Higher (there is also a Further Mathematics Higher course that is suitable only for a very small number of students and is taken in addition to Mathematics Higher; IB Website, http://www.ibo.org/diploma/curriculum/). When it comes to applications for UK universities, a small number of IB students are competing for places with a large number of A-level students and so, when making offers, universities must balance the relative difficulty of the two courses.

2. Previous studies

There have been two significant previous studies on this subject—by Universities and Colleges Admissions Service (UCAS) in Expert Group Report (2006) and by Sevenoaks School and Kings College in Jones & Szekely (2009). A 2012 study by Ofqual (2012) looks in-depth at the A-level system and compares it to a variety of other education systems, including the IB.

The main purpose of the UCAS study was to identify a suitable structure for awarding UCAS points to the IB. Until this point the IB had not been formally recognized by UCAS and so there was an a priori question of whether the IB was a suitable alternative to A-levels for university admission as well as how the difficulty of the qualifications compared. The study followed the premise that 'comparisons can only be achieved through the exercise of collaborative judgement by an expert group' and accepted that, due to the limited volume of evidence available, it would be necessary to review the decisions at a later date.

The expert group reviewed three subjects (Chemistry, Geography and Mathematics) by considering the aims, syllabus and grade descriptors of the IB and of the A-level and by considering the scripts of candidates at significant grade boundaries on the two courses. The groups for the three subjects worked independently and their findings were amalgamated to make the UCAS tariff for the IB. When they reviewed the syllabus, the group studying Higher Mathematics found that it was between 10% and 20% 'larger' than the A-level. This provides a direct comparison between the two Mathematics courses and also suggests that Higher Mathematics is considerably larger than Higher Geography (which was found to be about 20% smaller than the A-level) and Higher Chemistry (which was found to be around the same size as the A-level). This comparison between IB courses assumes that the three A-levels have syllabi of the same size. All three groups agreed on the difficulty—placing the A/B boundary between the 5/6 and 6/7 boundaries.

When coming to this conclusion the Expert Groups had access to the answer scripts produced by a selection of students who scored close to some of the grade borderlines. The quality of work of a student on the 6/7 borderline was used to justify the decision to place this above the A/B boundary. It is not clear whether the group had access to scripts of candidates on the 5/6 borderline and the decision to place this below the A/B boundary appears to have been made on the advice of the HE representative's experience with a small (unspecified) number of grade 6 students.

The work of this group was very wide ranging and resulted in a tariff for the entire IB taking into account both higher and standard levels (it considered four Mathematics courses within the IB). The aim of the group was to make a holistic judgement on a scale of UCAS points that worked for the whole of the IB rather than to specifically look at equivalences within courses and the judgements on the equivalences between IB Higher Mathematics and A-level seem to have been based on limited data.

The Sevenoaks/Kings study was made up of two main sections. In the first, the study school (Kings College) data were compared with that of 11 control schools, using historical comparisons (of A-level results) to establish the relative performance of students at the study schools compared with the controls. This allowed an extrapolation of the number of As that would be expected in year groups where students took the IB and this figure was then compared with the number of level 6s and the number of level 5s obtained.

The comparisons between schools and between years presented a number of difficulties for the authors of the study and they were unable to calculate error bars on their conclusion that for most subjects an A grade is equivalent to 5.7 Higher level points.

The second part of the Sevenoaks study focuses particularly on Higher level Mathematics. Two schools (Sevenoaks for IB and Tonbridge for A-level) are identified as being similar and their Mathematics results over 8 years were compared. A linear interpolation of percentages at each grade was used to identify an equivalence of A grade in Mathematics to 5.3 at Higher level. The percentage of students attaining 5–7 on the IB at King's College was compared with the percentage of students reaching grade A at A-level in other schools resulting in the conclusion that an A is equivalent to a level 5. The difficulties of comparing the ability of students across different schools was mentioned but not addressed.

The Ofqual (2012) report mentions the IB alongside many other international systems as a comparison with A-levels. No attempt is made to make grade comparisons and the focus on the report is to identify qualities of the different systems that promote high-quality outcomes for the students. When it compares different qualifications in Mathematics, it states that 'Higher level qualifications [on the IB] were deemed to be among the most demanding in this study' and finds that the in-depth knowledge required by the Higher IB course significantly raises the demand of the specification (in this respect Higher IB is similar to Further Mathematics A-level, although Higher IB is found to cover less content than the combination of Mathematics and Further Mathematics).

3. Methods

This article looks at four sources of data. The first section considers current practice in universities to see what equivalences are drawn between Mathematics A-level grades and Mathematics qualifications on the IB. Three subjects that often have Mathematical pre-requisites (Mechanical Engineering, Economics and Chemistry) were selected and the standard offers for A-level and IB students were compared at 18 of the 20 Russell Group Universities (Oxford and Cambridge University were not included in this survey as their offers are made through colleges and the standard offer is, as a result, less transparent). The requirements for Mathematics courses were not surveyed as A-level students planning to take Mathematics at one of the top universities will often have Further Mathematics A-level (Further Mathematics Support Network Website, http://www.furthermaths.org.uk/universities.php) and it is beyond the scope of this article to compare Further Mathematics A-level with IB Higher Mathematics. Data were collected from their websites—accessible through the Russell Group Website (http://www.russellgroup.ac.uk/our-universities/). A summary of these offers is in Table 1. Supplementary information was gathered through informal telephone and email correspondence with admissions tutors.

The second section of the article considers the relative rarity of KS5 grades and compares the proportion of IB students gaining high grades at Higher level Mathematics with the proportions gaining high grades in other Higher subjects and also with the proportion of A-level students who gain high grades in Mathematics A-level.

The third section considers the evidence of a large scale value-added project at Durham University (Advanced Level Information System or ALIS, http://www.cemcentre.org/alis/introduction). The Centre for Evaluation and Monitoring (CEM) at Durham University analyses the results of affiliated schools (covering half of all A-levels taken in the UK, http://www.cemcentre.org/alis/introduction) to provide performance indicators for students based on value added from a baseline (typically

TABLE 1. *A comparison of standard offers made by Russell Group Universities*

	Mechanical Engineering		Economics		Chemistry	
University of Birmingham	AAB inc Ma, Ph (or M2)	35/36 inc 6,6 in HL Ma, Ph	AAA	36–38	ABB or AAB inc Ch	32–36 inc HL Ch
University of Bristol	A*AA inc Ma, Ph	38 inc 6,6 in HL Ma, Ph	A*AA, AAA inc A in C3/4	37–38: 6,6,6 HL inc Ma (or 7 SL Ma)	AAA, AAB inc Ch, Ma	35–37: 6,6,6 HL inc Ch and SL Ma
Cardiff University	AAB-BBB inc Ma	30–32 inc HL Ma,Sc 5,5	AAB inc Ma	No IB info	ABB-BBB	32 inc 6 HL Ch
University of Edinburgh	AAA-ABB inc Ma, Ph (or DT)	32–37: 5,5,5 HL inc Ma, Ph (or DT)	BBB inc Ma or A in AS Ma	34: 5,5,5 HL inc Ma (or 6 SL Ma)	AAA-ABB inc Ma,Ch	32–37: 5,5,5 HL inc Ch, Ma (or 6 SL Ma)
University of Glasgow	ABB inc Ma, Ph	32 inc Ma, Ph 5HL, 6SL	ABB	36	ABB inc Ch	32
Imperial College London	A*(Ma)AA inc Ph	40 inc 6,6 HL Ma, Ph	Not available		AAA inc Ma, Ch	38 inc 7 HL Ch, 6 HL Ma or Sc
King's College London	Not available		AAA	38: 666 HL	AA Ch, Ma +B+AS(E)	36: inc 6,6 HL Ch, Ma
University of Leeds	AAA inc Ma	36: 17HL inc 5,5 Ma, Ph	AAB	34: 17 HL: min 5	ABB inc Ch	34: 16 HL inc Ch(6)
University of Liverpool	BBB inc Ma, Ph	32: 5HL Ma, Ph, 5SL En	AAB	35 inc 6 HL Ma	ABB inc Ch, Sc	33 inc 6 HL Ch, 5 HL Sc
London School of Economics & Political Science	Not available		A*AA inc A* Ma	38: 766 HL inc 7 HL Ma	Not available	
University of Manchester	AAB inc Ma, Sc	35: 665 HL inc Ma(6), Ph	AAB	35: 665 HL, 555SL	ABB inc Ch, Sc	33: 16HL inc Ch, Sc

(continued)

Table 1. *Continued.*

	Mechanical Engineering		Economics		Chemistry	
Newcastle University	ABB-AAB inc Ma, Ph (or Ch, Fm)	35 inc Ma HL5 and Ph HL5 (or SL6)	AAB	35 inc 3HL Ma (or 5 SL/St)	ABB-BBB inc Ch, Sc	32–35 inc Ch HL6 + 3HL Ma (or 5 SL/St)
University of Nottingham	AAA-AAB inc Ma	34–36 inc 5HL Ma (or 6 SL)	(A-A*) +AA(orABB)	36–38	ABB-AAB inc A Ch	32–36 inc 6HLCh
University of Sheffield	AAB inc Ma,Sc	35 inc Ma HL6	AAB	35	ABB inc Ch	33
University of Southampton	AAA inc Ma, Ph	36: 18HL inc Ma, Ph	AAA inc Ma (or AABB inc Ma)	36: 18 HL inc 5Ma	ABB-AAA inc Ch	34: 18HL inc 6Ch
University College London	AAB inc Ma, Ph (A) or Ma, Fm (A) Ph(B) + AS	36: 66 HL Ma, Ph, no score below 5	A*AA inc Ma A* +AS E	39: 19 HL inc 7 HL Ma. No score below 5	AAA-ABB inc Ch, Sc+AS	34–38. 16–18 HL inc Ch, Sc. No score below 5
University of Warwick	AAB inc Ma, Ph	36 inc 5 HL Ma, Ph	A*AAB inc Ma(A)	38 inc 6HL Ma	AAB inc Ch, Ma (or Ph)	36 inc 6HL Ch and 5HL Ma (or Ph)

Abbreviations used: Ma, Maths; Ph, Physics; Ch, Chemistry; Sc, a Science subject; HL, Higher Level; SL, Standard Level; St, Maths Studies.

GCSE grades). Their analysis of past results provides a line of best-fit equation to predict an 'expected' grade at A-level or at IB for students given their GCSE results. These equations can be analysed to compare the difficulty of courses on the IB and A-level. These equations are published only to schools that participate in the ALIS project. Permission has been given for their publication in this article. In 2011, 82 995 UK students took A2 Mathematics (JCQ Website, http://www.jcq.org.uk/examination-results/a-levels/a-as-and-aea-results-summer-2011) so the analysis of A-level is likely to be very accurate as it is based on around 40 000 students. There are many fewer Higher IB students in the UK (making the assumption that there are the same proportion of IB students taking Higher Mathematics in the UK as there are world-wide then we can estimate this number as 948 (IB Statistical Bulletin (2006)): half of this number would mean that the IB analysis was based on around 500 students.

The final section considers students at a single school and compares the prior attainment of students who go on to study Mathematics Higher on the IB with those who study Mathematics A-level. Bexley Grammar School has offered both IB and A-level to its KS5 students since 2004 (first examination in 2006) and so provides a useful case study for the comparison of the two courses since the students come from a common population and are taught by teachers from the same department (there is no distinction in the school between A-level and IB teachers). For students that continue from Y11 to Y12 the school has access to the UMS (uniform mark scheme) in GCSE Mathematics to use as a baseline. One interesting aspect of the ALIS analysis is that it takes its baseline from an average of GCSE grades attained by students at KS4. This is because CEM analysis has shown that A-level attainment correlates more strongly with average grades than it does with specific subject grades (Fitz-gibbon 1985). This choice of baseline means that the analysis predicts that students with high scores in a range of subjects will perform better than students with exceptional Mathematical abilities but less good all-round attainment. This can be particularly misleading if a course is very selective on Mathematical competence. The analysis based only on Mathematics GCSE score avoids this issue and, by taking a finer measure than just GCSE grades, could be expected to be a better indicator of future Mathematical attainment. From the 2006 to 2010 cohort the students were awarded a UMS mark out of 600 with fixed grade boundaries (540 was, e.g., always an A*) and their results are thus directly comparable. The 2011 cohort received marks out of 200 with grade boundaries that vary from year to year. For the purposes of comparison these were turned into UMS marks by mapping the marks for each grade linearly onto the corresponding grade on the UMS scale.

The analysis compares the UMS marks of students getting each A-level Mathematics grade and each IB Higher Mathematics grade. Excluded from the calculations were external students (for whom no UMS is available) and students who failed either course (the entry requirements for Mathematics A-level or IB Higher are such that failure is almost always due to external circumstances rather than poor Mathematical ability). In total there are 42 students in the IB sample and 108 students in the

TABLE 2. *Baseline ability (UMS Maths) of students reaching different grades at A-level/IB*

Grade/ Level	Mean baseline	S.d. of baseline	Number of students	Grade/ Level	Mean baseline	S.d. of baseline	Number of students
A*	575	17.5	7	7	585	3.54	4
A	554	21.7	38	6	573	10.4	6
B	534	31.9	20	5	546	14.9	7
C	525	18.3	20	4	544	26.6	15
D	515	23.1	15	3	531	49.2	10
E	496	34.7	8				

A-level sample (only 2 years have been used to make the comparison of the A* grade meaningful). The results of the analysis are displayed in Table 2.

4. Results: How universities use equivalences to make offers?

It is clear from Table 1 that views on the equivalence of A-level grades and IB levels differ between (and sometimes within) universities. Interviews with admission tutors (both central and departmental) at the universities of Liverpool, Edinburgh, Nottingham and Surrey show that universities use a variety of methods for identifying the correct equivalence and that, due to the comparatively small number of IB students in the system, IB students are likely to be treated more flexibly as regards their offers.

The overall A-level offers vary between BBB and A*AA and for each level of offer the typical IB point score required can be obtained. These are displayed in Table 3. The analysis is complicated when a range of grades is given—in these situations the lower end of the range has been used.

Not all of the courses in the table have requisites at KS5 Mathematics but the IB equivalences of those that have are displayed in Table 4.

There is variation between universities and subjects in the equivalences used but broadly universities appear to equate a level 7 at Higher with an A*, a level 6 with an A and a level 5 with a B. The lower the offer the more likely universities are to accept Standard Mathematics at one level higher as an alternative.

5. Results: comparative rarity of Mathematics qualifications

It is possible to analyse the comparative difficulty of courses within the IB by comparing the percentages of students gaining levels in the different courses. These data are published by the IBO

TABLE 3. *A-level grade offers and typical IB equivalents*

A-level offer	Min IB offer	Mean IB offer	Max IB offer
BBB	30	32	34
ABB	32	33	36
AAB	32	35	36
AAA	36	37	38
A*AA	38	38	40

TABLE 4. *A-level Mathematics requirements and IB equivalents*

IB Higher Maths equivalences to A-level grades									
A*	7	7	6						
A+	6								
A	6/S7	6	6	6	6	5	5		
A−	6	6	6	6	5	5	5	5	5/S6
B+	5	5/S6							
B	5/S6	5/S6	5/S6	5/S6					

If an A-level offer with more than one grade must include Mathematics then + or – are used (so A+ refers to offers of A*AA, A- to AAB and B+ to ABB). An S before a number means the grade at Standard level is an acceptable equivalent

(IB Statistical Bulletin (2011) and provide a global picture of the relative difficulty of different courses within the IB. A comparison of some Higher courses appears in Table 5. From this table it appears that Mathematics is inline with other subjects for difficulty (the 22% gaining level 6 or 7 compares favourably with English—17%, History—12% or Biology—also 22%).

The data in Table 5 can be misleading as the figures are the results of students choosing to follow certain courses: if a course is hard then students will often not opt for it or will be discouraged from following it by their schools. In the IB students must choose six subjects which must normally include one subject from each group 1–5. They may replace their group 6 subject with one of their choice from groups 2–5 (IB Website, http://www.ibo.org/diploma/curriculum/).

Students have to choose to follow three (rarely four) Higher courses and if the groups were of equal difficulty one would expect comparable percentages of students following Higher courses in each group and, overall, comparable percentages of students achieving high grades in the Higher courses. These data are summarized in Table 6. From this it can be seen that of all students taking the IB, only 16% opt to take a group 5 subject (where the only choices are Mathematics or Computer Science) at Higher level and that only 4% of students gain a level 6 or 7 in the group whereas 12% of courses in group 3 (the next 'most difficult' group) result in a 6 or 7 at Higher level.

These data support the suggestion that Mathematics Higher is out of line with other Higher subjects and that an equivalence between IB and A-level that is appropriate for other subjects is likely to be out of alignment for Mathematics. The comparative data for A-levels are more difficult to establish but there were 867 317 A-level entries in JCQ Website (2011, http://www.jcq.org.uk/examination-results/a-levels/a-as-and-aea-results-summer-2011) (around 300 000 students) of which 82 995 entries were

TABLE 5. *Percentages of students achieving grades in Higher subjects*

Subject	%1	%2	%3	%4	%5	%6	%7
English[†]	0	0	5	34	44	15	2
Spanish[†]	0	1	5	9	26	38	21
History	0	5	18	35	30	10	2
Biology	1	9	17	25	27	17	5
Mathematics	1	9	17	26	25	15	7
Visual Arts	0	3	11	24	24	28	10

[†]As the IB is an international qualification, languages are available at a number of levels. The English in Table 5 is for native English speakers while Spanish is taken as a foreign language.

TABLE 6. *Percentages of students (internationally) following higher courses in each IB group*

Group number	Subject	% students following Higher course	% of all students in group gaining a level at Higher					
			2	3	4	5	6	7
1	Native language	73	0	3	23	32	13	2
2	Foreign language	38	0	1	4	13	15	5
3	Humanity	61	3	9	19	19	9	3
4	Science	52	5	9	13	13	9	4
5	Mathematics	16	2	3	4	4	3	1
6	Arts	58	2	7	15	15	14	5

TABLE 7. *Baseline ability (UMS Maths) of students reaching different grades at A-level/IB*

IB					3	4	5		6	7		
A-level	E		D	C	B		A		A*			
Baseline	490	500	510	520	530	540	550	560	570	580	590	600

Mathematics and 44.7% of these were at grades A or A*. This means that 37 099 students or around 12% of the cohort gained A or A* in Mathematics. On this basis a level 4 is of comparable rarity (12%) with an A. 17.8% (14 773) of Mathematics grades were at A* which results in about 4% of the A-level population gaining an A* in Mathematics A-level, putting this at a similar level to 6/7 at IB Higher.

6. Results: analysis of data published by ALIS

The best-fit equation for Mathematics A-level (http://www.cemcentre.org/alis/introduction) is

$$y = 24.59x - 65.87$$

where y is the expected value at A-level (140 points is A*, 120 A etc.) and x is the average GCSE point score (8 is A*, 7 A etc.) The correlation coefficient is 0.61.

The equation for Mathematics Higher (http://www.cemcentre.org/alis/introduction) is

$$y = 1.22x - 3.76$$

where y is the expected IB grade and x is the average GCSE point score. The correlation coefficient is 0.58.

A student with an average of 7.56 points at GCSE would therefore be expected to get 120 points at A-level (exactly in the middle of grade A) and 5.46 points on the IB.

A student with an average of 7.18 points at GCSE would be expected to get 5 points at IB Higher (the middle of a level 5) and 110.7 points at A-level (on the boundary between an A and a B).

This suggests that the raw ability of a level 5 Higher IB student (as measured by average GCSE grade) is lower than that of an A grade A-level student but higher than that of a B grade student. Interpreting this result in terms of creating an equivalence between the grades for the purposes of university admission requires some care. The analysis is limited by the effectiveness of its baseline to predict future Mathematical attainment and takes no account of the amount of Mathematical content covered during KS5.

7. Results: school-based analysis

The most striking piece of data on the table is the close equivalence between the ability of students gaining level 6 and those gaining A* grades as can be seen in Table 7. The mean A grade falls above the mean level 5 but is less than a standard deviation away and is much closer to level 5 than to level 6. The data at the bottom end of the IB grades confirm that at Bexley Grammar School, as appears to be common among IB schools, only the most able Mathematicians study Higher Maths whereas A-level is thought to be accessible to a wider range of students.

8. Comparing the school-based data with the ALIS data

The ALIS analysis suggests that the bottom of the A grade at A-level falls close to the middle of the level 5 at Higher IB whereas the school analysis suggests that it is closer to the bottom of the level 5 at Higher IB. Neither analysis is based on a large number of students although the ALIS cohort is considerably larger. The ALIS data are, however, based on a more general measure of ability and will therefore underestimate students on a more selective course (as they are likely to have specific ability in Mathematics but not necessarily greater all-round ability). This effect is demonstrated in the ALIS regression line for Further Mathematics (http://www.cemcentre.org/alis/introduction) which is

$$y = 20.37x - 33.84.$$

A student with an average of 7.55 points at GCSE would therefore be expected to gain 120 points in the middle of an A grade. Despite the fact that Further Mathematics papers are considerably harder than Mathematics (which they take as a pre-requisite) this is almost exactly the same as the score required for a similar grade at Mathematics (according to this analysis it is actually easier to get a C in Further Maths—5.59—than it is in Mathematics—5.93). This apparent contradiction could be explained by the fact that Further Mathematics students are Maths specialists and that, although their other grades may be lower, their Mathematical ability is likely to be extremely high although an alternative explanation (put forward by CEM (Skinner, 2011)) is that by studying more Mathematics in the sixth form students improve their performance. Both of these arguments would apply to Higher Mathematics on the IB as it is both more selective than A-level Mathematics and involves more study. This combines with the school evidence to suggest that the correct equivalence for a grade A is closer to a level 5 than to a level 6.

9. Conclusions

On the basis of a 2006 study conducted by UCAS, universities tend to assume that a level 6 at Higher level on the IB is equivalent to an A at A-level. If this is broadly true for most subjects, as is confirmed by the literature, then it is unlikely to be true for Mathematics Higher which is, based on the IB statistics, considerably more difficult than other Higher subjects. The UCAS study had a wide ranging brief to cover the entire IB and was not structured to make allowances for comparative difficulties of subjects and so should not be considered conclusive on the question of the equivalences between Higher and A-level Mathematics.

Data on the percentage of students within each qualification who end up with good grades in Mathematics suggests that a level 4 at Higher is equivalent to an A at A-level and a level 6 is equivalent to an A*.

The analysis of ALIS data based on students from across the country taking KS5 exams suggests that the ability (measured by attainment at 16) of students on the A/B borderline falls between a 5 and a 6 at Higher and is closer to a 5 (it has not been possible to quantify how much closer it might be, although the analysis done by CEM shows that their A-level predictions for Further Maths students are out by between 0.5 and 1 grade (Skinner, 2011)) and the analysis of a small sample within a school confirms this conclusion (and suggests an equivalence of 5.3). The fact that Higher Mathematics is a larger course (in the sense used by the UCAS Expert Group (Expert Group Report, 2006) that the syllabus has more significant Mathematical content) than Mathematics A-level would tend to better prepare IB students for university than students who attained similarly at KS4 but who followed the A-level course.

Overall the evidence strongly suggests that the equivalence of level 5 (at Higher) to an A and level 6 to an A* is more appropriate than the translation currently in use by university admissions tutors and an immediate change in practice would improve the fairness of the system.

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James Handscombe is a Deputy Headteacher who studied Mathematics at Oxford and Harvard Universities and now teaches both A-level and IB Mathematics.