

Quantitative Data Description

Within this document we describe the data collected through our surveys at three different time points with the students of our sample.

Data collection took place as follows:

DP4: At the end of the A2 year and during the first week(s) of University

DP5: February to June in the first year at University

DP6: Start to middle of second year HE (mid-October to February)

The spreadsheet we deposit includes 4 sheets, entitled:

- Background
- DP4
- DP5
- DP6

The “Background” includes the combined background information/variables for students, which were collected during the different surveys. The other files include the raw data from the surveys items and should be read in combination with the actual surveys which are also attached. Datasets can be matched with the unique students ID which is listed in every sheet.

Background Variables

Note: Missing responses are denoted by “NA” at this section

Variable Name	Description	Coding
PersonID		
gender	Student’s gender	Female/Male
ethnicity	Students’ grouped responses from Q9 at DP5 survey and Q12 at DP6	Asian Black Chinese Other White WhiteOth (other white background)
age2010	Student’s age at 2010	Numeric
CaseStudy	Student study at a case study university?	YES/NO
uni_name	Names of case study universities	City Uni Hillside Modern Uni Northern Uni Riverside Other
subjectarea	Subject areas of case study students	Chemistry Engineering Mathematics Medicine Other Physics

		SocialSciences
CaseStudyGroup	Particular case study, denoting university and course	CS1_RivEd CS10_ModernMechE CS11_ModernMaths CS12_ModernChem CS13_CityMaths CS2_RivEEE CS3_RivMED CS4_RivMaths CS5_HillEEE CS6_HillMaths CS7_NorthEEE CS8_NorthPhys CS9_ModernEEE NoCase
maths	Student studies mathematics or not?	YES/NO
mathematical	Student studies mathematically demanding course or not?	YES/NO
FirstGenUni	From Q10 of DP5 and Q13 of DP6 Surveys	No / Yes NA's
sen	From Q11 of DP5 and Q14 of DP6 Surveys	No NotSay Yes NA's
language	From Q12 of DP5 and Q15 of DP6 Surveys	Bilingual English Other NA's
Country	From various questions, denoting whether student is from overseas or not	Other UK NA's
The following two variables were created based on students' home postcode:		
IMD_Rank	IMD (Index of Multiple Deprivation 2007) is a Super Output Area (SOA) level measure of neighbourhood deprivation - made up of seven Domain Indices to cover a range of economic, social and housing issues. Postcodes can be mapped to an SOA - typically neighbourhoods ranked 1 - 13000 are usually considered the more disadvantaged areas.	2 to 32481
LPN	For this indicator a postcode is mapped to a ward where 1 = low level of young participation in HE and 5 = high level	1 to 5
Qualifications	Students' previous qualifications with grades	Open ended

DP4 – This coding scheme should be used with DP4 survey

Note: For DP4 most of missing data are denoted with “NA”

Variable Name	Description	Coding
PersonID	The unique person id to match with other DPs	
dp4	Students completed DP4 survey?	YES/No
Q16: Importance of factors for choice of university programme:		
QS16_1	So I can live at home	1=Strongly Disagree 2=Disagree 3=Agree 4=Strongly Agree 9=Don't know
QS16_2	Because I think this university has a high reputation	
QS16_3	Because I believe the quality of my chosen course/programme is high	
QS16_4	Because I think the quality of teaching will be good	
QS16_5	Because the social scene appeals to me	
QS16_6	So I can live away from home	
QS16_7	Because the university and/or course was personally recommended to me	
QS16_8	Because of financial considerations	
QS16_9	Because I think the quality of the university facilities/campus is good	
Q17	Uni choice - Other reasons	Open ended
Q18: How significant were these factors for subject choice:		
Q18_1	Significance - Career aspiration/ambition	1=Not significant 2=Somewhat significant 3=Significant 4=Very significant 9=Don't know
Q18_2	Significance - Childhood dream	
Q18_3	Significance - Being good at the subject	
Q18_4	Significance - Enjoyment/Interest in the subject	
Q18_5	Significance - The value of the degree for future earnings/salary	
Q19	Significance - Other reasons	Open ended
Q20	University choice	1=First choice 2=Second choice 3='clearing' 4=other
Q20_other	Other university choice	Open ended
Q21	Tick one of the sentences	1=A, 2=B, 3=C
Q21A_comment	Comment about “My ideas about what I wanted to do at university did not change during my pre-university course”	Open ended
Q21B_comment	Comment about “I had an idea about what I wanted to do at university, but it changed during my pre-university course”	Open ended
Q21C_comment	Comment about “When I started my pre-university course I hadn't really decided what to do at university but then something/someone influenced me”	Open ended
Q22: What experiences influenced university programme choice		
Q22_1	Influence - Open day	1=Strongly Disagree 2=Disagree 3=Agree 4=Strongly Agree
Q22_2	Influence - Meeting lecturers/teachers	
Q22_3	Influence - Special lecture/event at school/college	
Q22_4	Influence - Friend who is/has been at, the uni	

Q22_5	Influence - Reading of information (brochures, online etc)	9= Don't know
Q22_6	Influence - Teachers at school/college	
Q22_7	Influence - Parents and family	
Q23	What other experiences or people influenced your choice?	Open ended
Q24	What do you think the main differences will be in learning and teaching at university compared to your previous experience?	Open ended
Q25	How do you feel about these differences?	Open ended
Q26: How well prepared do you think your pre-university experience prepared you for:		
Q26_1	Studying on your own from texts/notes	1=Not well prepared 2=Somewhat prepared 3=Prepared 4=Well prepared 9= Don't know
Q26_2	Listening in lectures	
Q26_3	Taking notes in lectures	
Q26_4	Working on team projects	
Q26_5	Doing laboratory work	
Q26_6	Researching topics	
Q26_7	Computer-based learning	
Q26_8	Whole class teaching	
Q26_9	Working/discussing in small groups	
Q27: How important do you think these will be during your first year at university?		
Q27_1	Studying on your own from texts/notes	1=Not important at all 2=Somewhat important 3=Important 4=Very important 9=Don't know
Q27_2	Listening in lectures	
Q27_3	Taking notes in lectures	
Q27_4	Working on team projects	
Q27_5	Doing laboratory work	
Q27_6	Researching topics	
Q27_7	Computer-based learning	
Q27_8	Whole class teaching	
Q27_9	Working/discussing in small groups	
Estimated hours spent in normal week at school/college:		
Q28_1	SC - Studying on your own	Open ended (expected to report number of hours)
Q28_2	SC - Being taught on a one-to-one basis	
Q28_3	SC - Being taught in a small group (5 or less)	
Q28_4	SC - Being taught in a classroom/seminar (6-15)	
Q28_5	SC - Being taught in a large class/group (16-50)	
Q28_6	SC - Being taught in a large lecture group (50+)	
Q28_7	SC - Lab work	
Q28_8	SC - Other study	
Q28_9	SC - Total	
Expected hours to be spent in normal week at university:		
Q28_10	Uni - Studying on your own	Open ended (expected to report number of hours)
Q28_11	Uni - Being taught on a one-to-one basis	
Q28_12	Uni - Being taught in a small group (5 or less)	

Q28_13	Uni - Being taught in a classroom/seminar (6-15)	
Q28_14	Uni - Being taught in a large class/group (16-50)	
Q28_15	Uni - Being taught in a large lecture group (50+)	
Q28_16	Uni - Lab work	
Q28_17	Uni - Other study	
Q28_18	Uni - Total	
Q29_PreviousM aths	Previous mathematics	1=GCSE 2=AS 3=A2 4=IB 5=other
Q29_1	Freq - only teacher methods	1=Almost never 2=Some of the time 3=Most of the time 4=Almost always 9=don't know
Q29_2	Freq - free choice of questions to tackle	
Q29_3	Freq - compare different methods	
Q29_4	Freq - teacher draws links between topics	
Q29_5	Freq - collaborative small group work	
Q29_6	Freq - discuss ideas	
Q29_7	Freq - work collaboratively in pairs	
Q29_8	Freq - invent own method	
Q29_9	Freq - teacher tells which questions to tackle	
Q29_10	Freq - teacher urges faster working	
Q29_11	Freq - teacher teaches each topic separately	
Q30	Amount of maths in future studies	1=a lot of mathematics 2=quite a lot of mathematics 3=a moderate amount of maths 4=as little maths as possible 5=no mathematics 9=don't know
Q31	Importance of maths in future studies	1=essential 2=very important 3=quite important 4=not at all important 9=don't know
Q32	Feelings if more maths than thought	1=very happy 2=fairly happy 3=not bothered one way or the other 4=fairly unhappy 5=very unhappy 9=don't know
Q33	New or familiar maths	1=familiar 2=new 3=mix 9=don't know
Q34	Career	1=Engineering 2=Medicine 3=Teaching 4=Other 5=I don't have a career in mind

Q34_Other	Specify other career	Open ended
Q35	Importance of maths in career choice	1=Not important at all 2=Somewhat important 3=Important 4=Very important 9=Don't know
Q36: About completing chosen degree		
Q36_1	Completion - Prepared to change course	1=Strongly Disagree
Q36_2	Completion - Would take a good job if on offer	2=Disagree
Q36_3	Completion - Consider interrupting	3=Agree
Q36_4	Completion - Certain to complete	4=Strongly Agree 9= Don't know
Q37: What mathematics will be useful for your university course?		
Q37_1	Calculating/estimating	1=Not useful at all 2=Somewhat useful 3=Useful 9=don't know
Q37_2	Using ration and proportion	
Q37_3	Manipulating algebraic expressions	
Q37_4	Proofs/proving	
Q37_5	Problem solving	
Q37_6	Modelling real situations	
Q37_7	Using basic calculus (differentiation/integration)	
Q37_8	Using complex calculus (diff.eq/multiple integrals)	
Q37_9	Using statistics	
Q37_10	Using complex numbers (e.g. Imaginary numbers)	
Q38: How confident are you with this maths?		
Q38_1	Calculating/estimating	1=Not confident at all 2=Somewhat confident 3=Confident 4=Very confident 9=don't know
Q38_2	Using ration and proportion	
Q38_3	Manipulating algebraic expressions	
Q38_4	Proofs/proving	
Q38_5	Problem solving	
Q38_6	Modelling real situations	
Q38_7	Using basic calculus (differentiation/integration)	
Q38_8	Using complex calculus (diff.eq/multiple integrals)	
Q38_9	Using statistics	
Q38_10	Using complex numbers (e.g. Imaginary numbers)	
Q39	Example - modelling	1=Not confident at all 2=Somewhat confident 3=Confident 4=Very confident
Q40	Example - calculating/estimating	
Q41	Example - ratio and proportion	
Q42	Example - algebra	
Q43	Example - proofs/proving	
Q44	Example - problem solving	
Q45	Example - basic calculus	
Q46	Example - advanced calculus	
Q47	Example - statistics	
Q48	Example - complex numbers	

DP5 - This coding scheme should be used with DP5 survey

Note: Missing data are left as empty cells

Variable Name	Description	Coding
PersonID	The unique person id to match with other DPs	
dp4	Completed DP4 survey?	YES, No
dp5	Completed DP5 survey?	YES, No
Question 14: About completing chosen degree		
Q14_1	Prepared to change course	1=Strongly Disagree 2=Disagree 3=Agree 4=Strongly Agree 9= Don't know
Q14_2	Would take a good job if on offer	
Q14_3	Consider interrupting	
Q14_4	Certain to complete	
Q14_5	Consider dropping out	
Q14_comment	Comments or explanation	Open ended
Question 15: How well prepared do you now feel to learn from:		
Q15_1	Studying on your own from texts/notes	1=Not prepared at all 2=Somewhat prepared 3=Prepared 4=Well prepared 9= Don't know
Q15_2	Listening in lectures	
Q15_3	Taking notes in lectures	
Q15_4	Working on team projects	
Q15_5	Doing laboratory work	
Q15_6	Researching topics	
Q15_7	Computer-based learning	
Q15_8	Whole class teaching	
Q15_9	Working/discussing in small groups	
Q16: How important each of the following has been for your university study so far:		
Q16_1	Studying on your own from texts/notes	1=Not important at all 2=Somewhat important 3=Important 4=Very important 9=Don't know
Q16_2	Listening in lectures	
Q16_3	Taking notes in lectures	
Q16_4	Working on team projects	
Q16_5	Doing laboratory work	
Q16_6	Researching topics	
Q16_7	Computer-based learning	
Q16_8	Whole class teaching	
Q16_9	Working/discussing in small groups	
Q17a_1	Contrast - Main differences	Open ended
Q17a_2	Contrast - Feelings	Open ended
Q17b1_1	Amount of PrivateStudy_change	1=more, 2=less , 3=same
Q17b1_2	Amount of PrivateStudy_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b2_1	Treated like adult_change	1=more, 2=less, 3=equally
Q17b2_2	Treated like adult_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b3_1	ResponsibleforLearning_change	1=more, 2=less, 3=same

Q17b3_2	ResponsibleforLearning_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b4_1	Work_change	1=harder, 2=easier, 3=same
Q17b4_2	Work_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b5_1	Quality of Equipment_change	1=better, 2=worse, 3=same
Q17b5_2	Quality of Equipment_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b6_1	CoursePace_change	1=faster, 2=slower, 3=same
Q17b6_2	CoursePace_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b7_1	DepthofLearning_change	1=more, 2=less, 3=equally
Q17b7_2	DepthofLearning_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b8_1	TeachersControl_change	1=more, 2=less, 3=same
Q17b8_2	TeachersControl_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b9_1	OpportunityforQuestions_change	1=more, 2=less, 3=same
Q17b9_2	OpportunityforQuestions_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b10_1	OpportunityforDiscussion_change	1=more, 2=less, 3=same
Q17b10_2	OpportunityforDiscussion_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b11_1	LanguageFormality_change	1=more, 2=less, 3=equally
Q17b11_2	LanguageFormality_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b12_1	PersonalTeaching_change	1=more, 2=less, 3=equally
Q17b12_2	PersonalTeaching_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Q17b13_1	ActiveSocialLife_change	1=more, 2=less, 3=same
Q17b13_2	ActiveSocialLife_feelings	1=negative, 2=mixed, 3=positive 9=don't know
Time-Tabled or 'expected' hours for a normal week, spent on:		
Q18_1_tt	TT - Studying on your own	Open ended (expected to report number of hours)
Q18_2_tt	TT - Being taught on a one-to-one basis	
Q18_3_tt	TT - Being taught in a small group (5 or less)	
Q18_4_tt	TT - Being taught in a classroom/seminar (6-15)	
Q18_5_tt	TT - Being taught in a large class/group (16-50)	
Q18_6_tt	TT - Being taught in a large lecture group (50+)	
Q18_7_tt	TT - Lab work	
Q18_8_tt	TT - Other study	
Q18_9_tt	TT - Total	
Actual hours for a normal week, spent on:		
Q18_1_a	AC - Studying on your own	Open ended (expected to report number of hours)
Q18_2_a	AC - Being taught on a one-to-one basis	
Q18_3_a	AC - Being taught in a small group (5 or less)	

Q18_4_a	AC - Being taught in a classroom/seminar (6-15)	
Q18_5_a	AC - Being taught in a large class/group (16-50)	
Q18_6_a	AC - Being taught in a large lecture group (50+)	
Q18_7_a	AC - Lab work	
Q18_8_a	AC - Other study	
Q18_9_a	AC - Total	
Q19	Amount of maths in future studies	1=a lot of mathematics 2=quite a lot of mathematics 3=a moderate amount of maths 4=as little maths as possible 5=no mathematics 9=don't know
Q20	Importance of maths in future studies	1=essential 2=very important 3=quite important 4=not at all important 9=don't know
Q21	Feelings if more maths than thought	1=very happy 2=fairly happy 3=not bothered one way or the other 4=fairly unhappy 5=very unhappy 9=don't know
Q22	New or familiar maths	1=familiar 2=new 3=mix 9=don't know
Q23	Career	1=Engineering 2=Medicine 3=Teaching 4=Other 5=I don't have a career in mind
Q23_other	Specify other career	Open ended
Q24	Importance of maths in career choice	1=Not important at all 2=Somewhat important 3=Important 4=Very important 9=Don't know
Q25_0	Freq - relevant or not	YES=not relevant to me
Q25_1	Freq - only lecturer methods	1=Almost never 2=Some of the time 3=Most of the time 4=Almost always 9=don't know
Q25_2	Freq - free choice of questions to tackle	
Q25_3	Freq - compare different methods	
Q25_4	Freq - lecturer draws links between topics	
Q25_5	Freq - collaborative small group work	
Q25_6	Freq - discuss ideas	
Q25_7	Freq - work collaboratively in pairs	
Q25_8	Freq - invent own method	

Q25_9	Freq - lecturer tells which questions to tackle	
Q25_10	Freq - lecturer urges faster working	
Q25_11	Freq - lecturer teaches each topic separately	
Q26: What mathematics has been useful for your university course?		
Q26_1	Calculating/estimating	1=Not useful at all 2=Somewhat useful 3=Useful 9=don't know
Q26_2	Using ration and proportion	
Q26_3	Manipulating algebraic expressions	
Q26_4	Proofs/proving	
Q26_5	Problem solving	
Q26_6	Modelling real situations	
Q26_7	Using basic calculus (differentiation/integration)	
Q26_8	Using complex calculus (diff.eq/multiple integrals)	
Q26_9	Using statistics	
Q26_10	Using complex numbers (e.g. Imaginary numbers)	
Q27: How confident are you with this math?		
Q27_1	Calculating/estimating	1=Not confident at all 2=Somewhat confident 3=Confident 4=Very confident 9=don't know
Q27_2	Using ration and proportion	
Q27_3	Manipulating algebraic expressions	
Q27_4	Proofs/proving	
Q27_5	Problem solving	
Q27_6	Modelling real situations	
Q27_7	Using basic calculus (differentiation/integration)	
Q27_8	Using complex calculus (diff.eq/multiple integrals)	
Q27_9	Using statistics	
Q27_10	Using complex numbers (e.g. Imaginary numbers)	
Q28: What you think of the support you had for learning maths in your course/programme so far:		
Q28_0	Support - relevant or not	YES=not relevant to me
Q28_1	Support - from peers	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree 9= Don't know
Q28_2	Support - can follow maths in lectures	
Q28_3	Support - teachers	
Q28_4	Support - technology	
Q28_5	Support - online	
Q28_6	Support - prefer school/pre-uni	
Q28_7	Support - benefit a lot from lectures	
Q28_8	Support - benefit a lot from tutorials	
Q28_comments	Support - reasons or examples	Open ended
Q28_9	Support - special provision	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree 9= Don't know
Q28_special	Support - special provision options	1=special tutoring 2=learning support unit

		3=contact with lectures outside class 4=small group teaching 5=special workshops 6=peer mentoring 7=other
Q28_special_other	Support - special provision other	Open ended
Q29_0	Significance - relevant or not	YES=not relevant to me
Q29_1	Significance - clearly related to needs of degree as a whole	1=Strongly Disagree 2=Disagree
Q29_2	Significance - more demanding than expected	3=Neutral
Q29_3	Significance - lack of motivation without exams/tests	4=Agree
Q29_4	Significance - prefer school maths	5=Strongly Agree 9= Don't know
Q29_comments	Significance - reasons or examples	Open ended
Q30	Experience - academic	1=better 2=worse
Q31	Experience - social	3=what I expected 4=other/don't know
Q32	Experience - mathematical	1=better 2=worse 3=what I expected 4=other/don't know 5=Not applicable

DP6 - This coding scheme should be used with DP6 survey

Notes:

Empty cells denote missing information

There are some students who completed both a hard copy and online survey

Variable name	Description	Coding
personid	The unique person id to match with other DPs	
Dp6	Whether student completed DP6 (any format)	YES Otherwise empty cell
dp6-online	Students completed online survey)	YES Otherwise empty cell
16	Any course change since September/Autumn 2008	Open ended
Q18: About completing the course		
18_1	Certain to complete	1=Strongly Disagree 2=Disagree 3=Agree 4=Strongly Agree 9=Don't know
18_2	Prepared to change course	
18_3	Would take a good job if on offer	
18_4	Consider interrupting	
18_5	Consider dropping out	
19	Amount of maths in future studies	1=a lot of mathematics 2=quite a lot of mathematics 3=a moderate amount of maths 4=as little maths as possible 5=no mathematics 9=don't know
20	Importance of maths in future studies	1=essential 2=very important 3=quite important 4=not at all important 9=don't know
21	Feelings if more maths than thought	1=very happy 2=fairly happy 3=not bothered one way or the other 4=fairly unhappy 5=very unhappy 9=don't know
22	New or familiar maths	1=familiar 2=new 3=mix 9=don't know
23	Career	1=Engineering 2=Medicine 3=Teaching 4=Other 5=I don't have a career in mind
23_other	Specify other career	Open ended

24	Importance of maths in career choice	1=Not important at all 2=Somewhat important 3=Important 4=Very important 9=Don't know
Q25: What you think of the support you had for learning maths in your course/programme last year:		
25_1	Support - from peers	1=Strongly Disagree 2=Disagree 3=Neutral 4=Agree 5=Strongly Agree 9= Don't know
25_2	Support - can follow maths in lectures	
25_3	Support - teachers	
25_4	Support - technology	
25_5	Support - online	
25_6	Support - prefer school/pre-uni	
25_7	Support - benefit a lot from lectures	
25_8	Support - benefit a lot from tutorials	
25_9	Support – working with informal group outside organised classes	
25_10	Support – special provision	
25_extra	Tick as many special provisions	1=Special tutoring 2=Learning support unit 3=Contact with lecturers outside lectures 4=Small group teaching 5=Special workshops 6=Peer mentoring 7=other
25_extra_othe r	Define other extra	Open ended
Q26: What mathematics has been useful for your university course?		
26_1	Calculating/estimating	1=Not useful at all 2=Somewhat useful 3=Useful 9=don't know
26_2	Using ration and proportion	
26_3	Manipulating algebraic expressions	
26_4	Proofs/proving	
26_5	Problem solving	
26_6	Modelling real situations	
26_7	Using basic calculus (differentiation/integration)	
26_8	Using complex calculus (diff.eq/multiple integrals)	
26_9	Using statistics	
26_10	Using complex numbers (e.g. Imaginary numbers)	
Q27: How confident are you with this math?		
27_1	Calculating/estimating	1=Not confident at all 2=Somewhat confident 3=Confident 4=Very confident 9=don't know
27_2	Using ration and proportion	
27_3	Manipulating algebraic expressions	
27_4	Proofs/proving	
27_5	Problem solving	
27_6	Modelling real situations	

27_7	Using basic calculus (differentiation/integration)	
27_8	Using complex calculus (diff.eq/multiple integrals)	
27_9	Using statistics	
27_10	Using complex numbers (e.g. Imaginary numbers)	
28	Overall evaluation of grades	1=poor 2=satisfactory/ok 3=good 4=very good/excellent 9=don't know/not applicable
28_result	Overall results	Open ended
29	Maths evaluation of grades	1=poor 2=satisfactory/ok 3=good 4=very good/excellent 9=don't know/not applicable
29_result	Maths results	Open ended