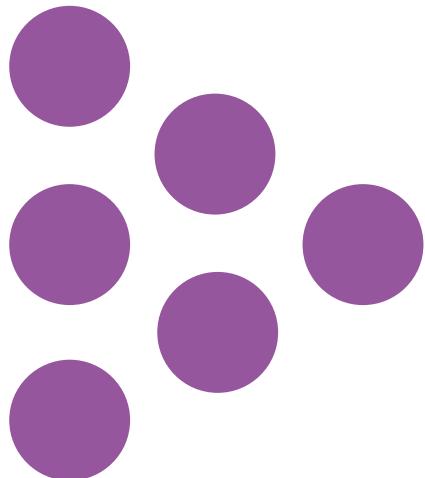


Appendix B

National Reference Test 2021: Performance Across Content Areas

Research into the possible effects of Covid-19 disruption
across different areas of the curriculum

National Foundation for Educational Research (NFER)



Contents

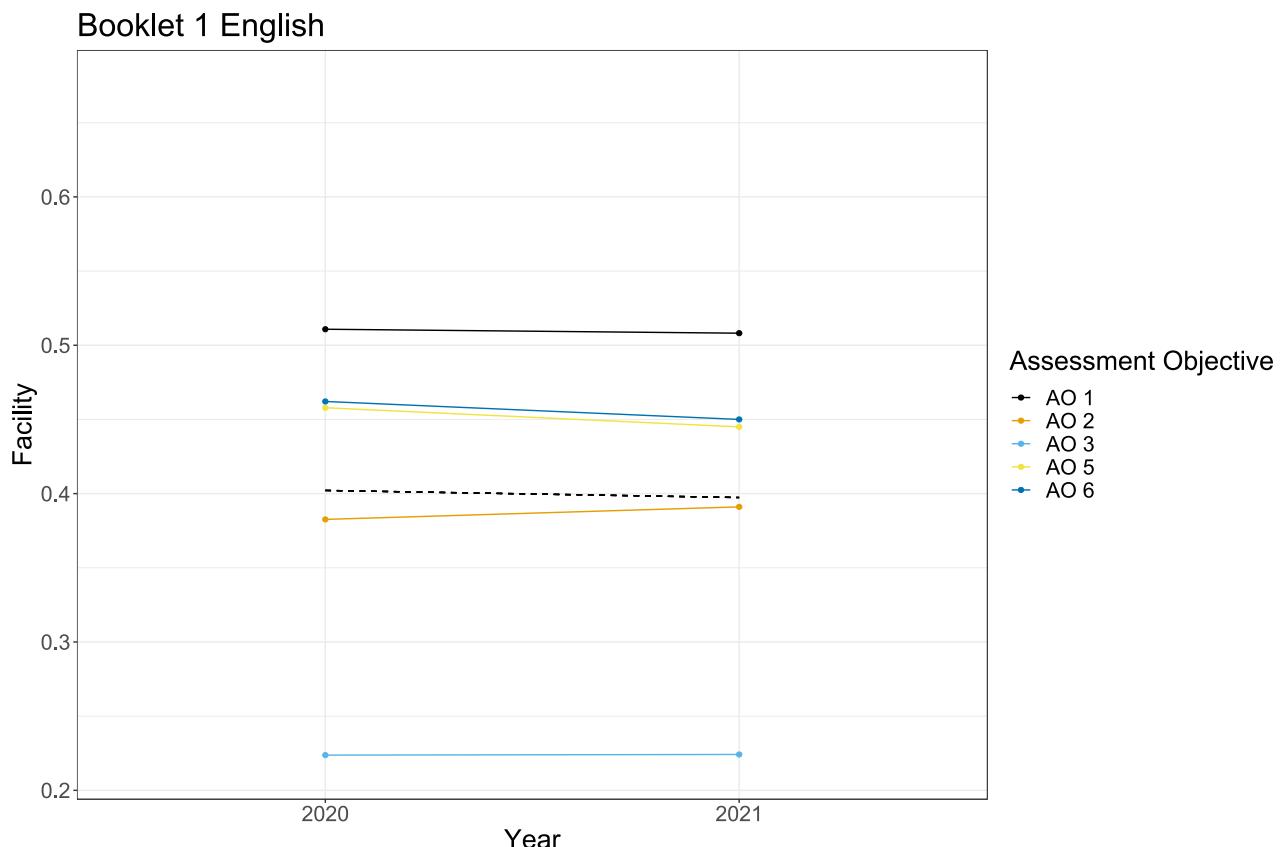
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.....

Appendix B: Proportions, facilities and mean scores

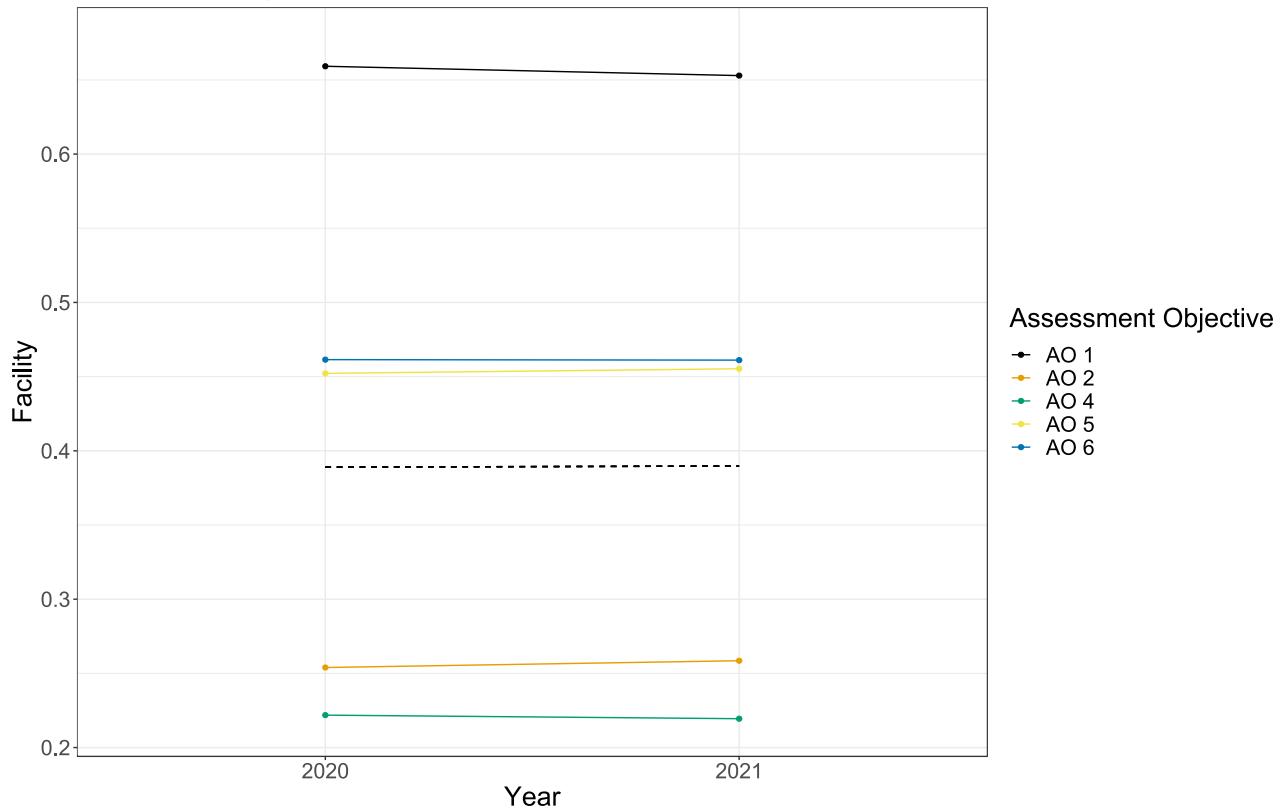
B1 English

Figure B1 English facilities

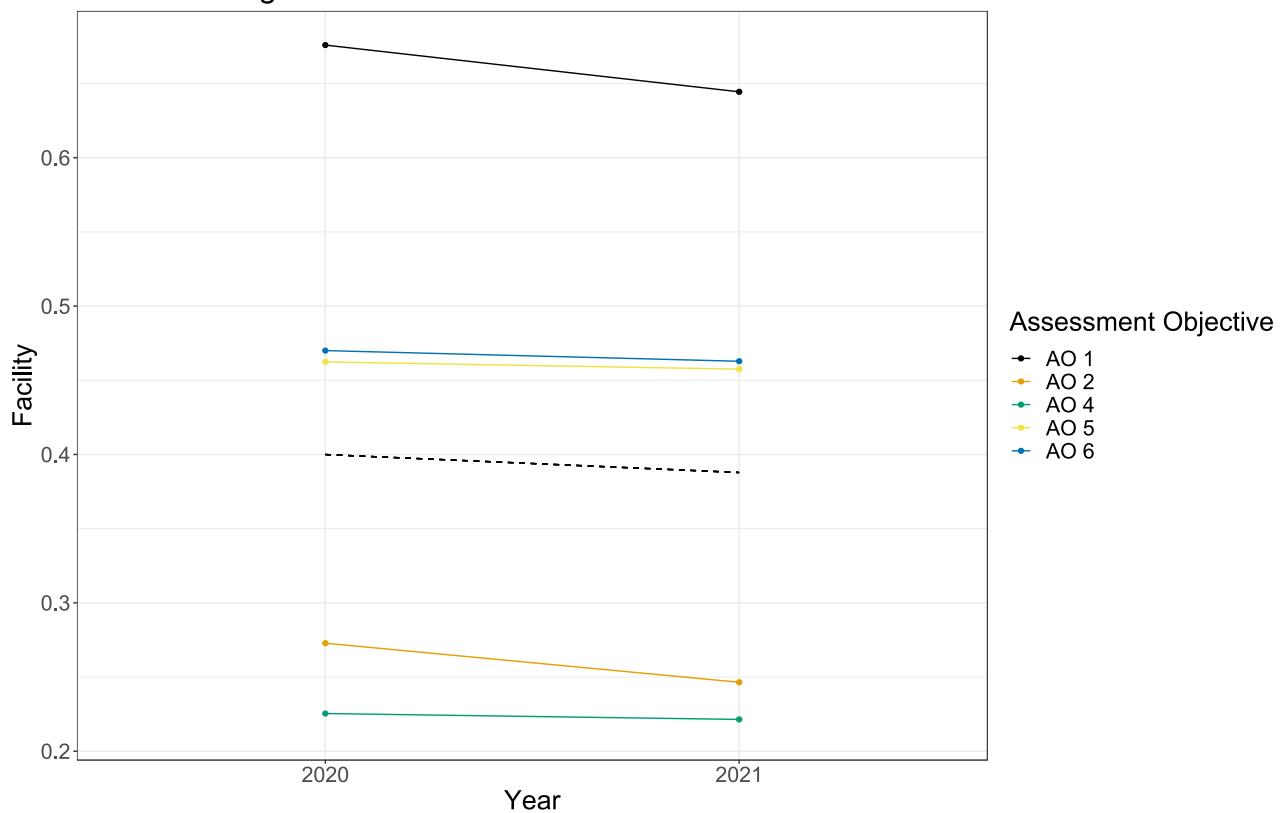
Figure B1 comprises charts showing the mean facilities for the English assessment objectives in English Booklets 1 to 8.



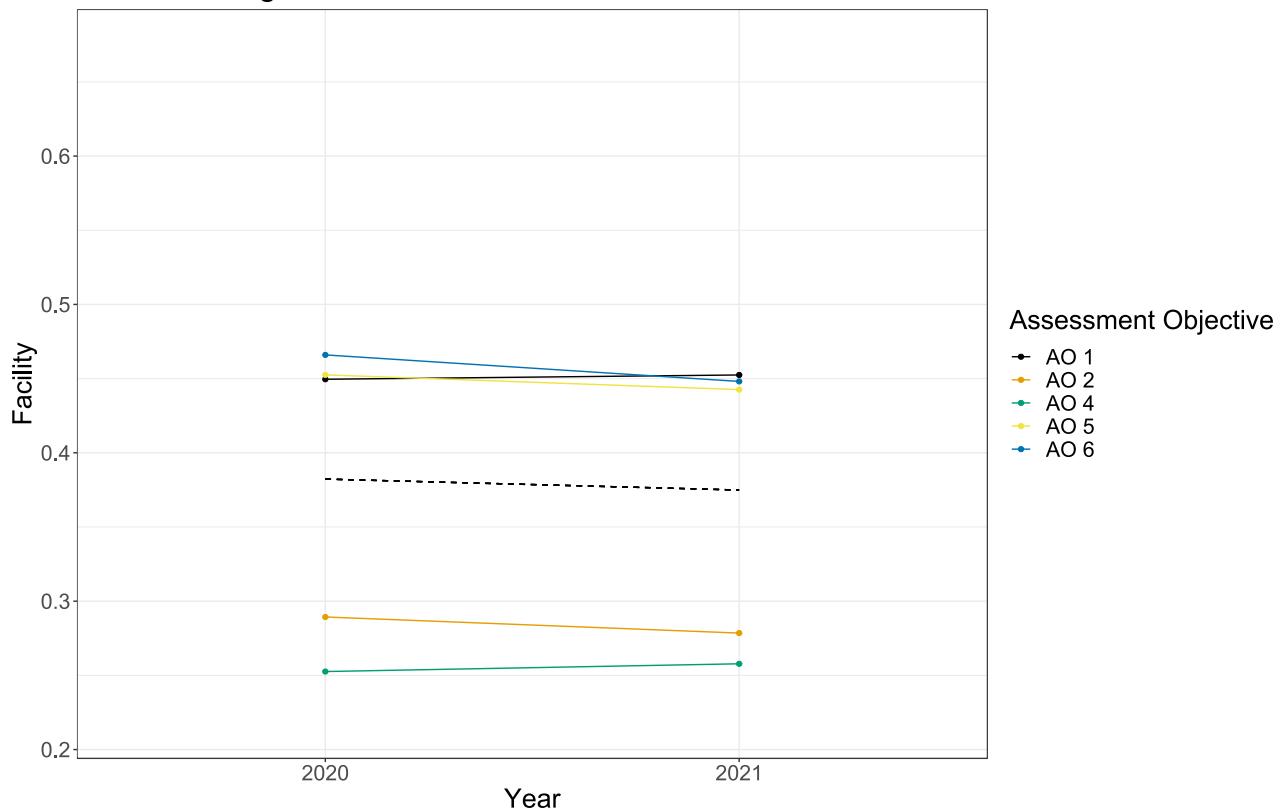
Booklet 2 English



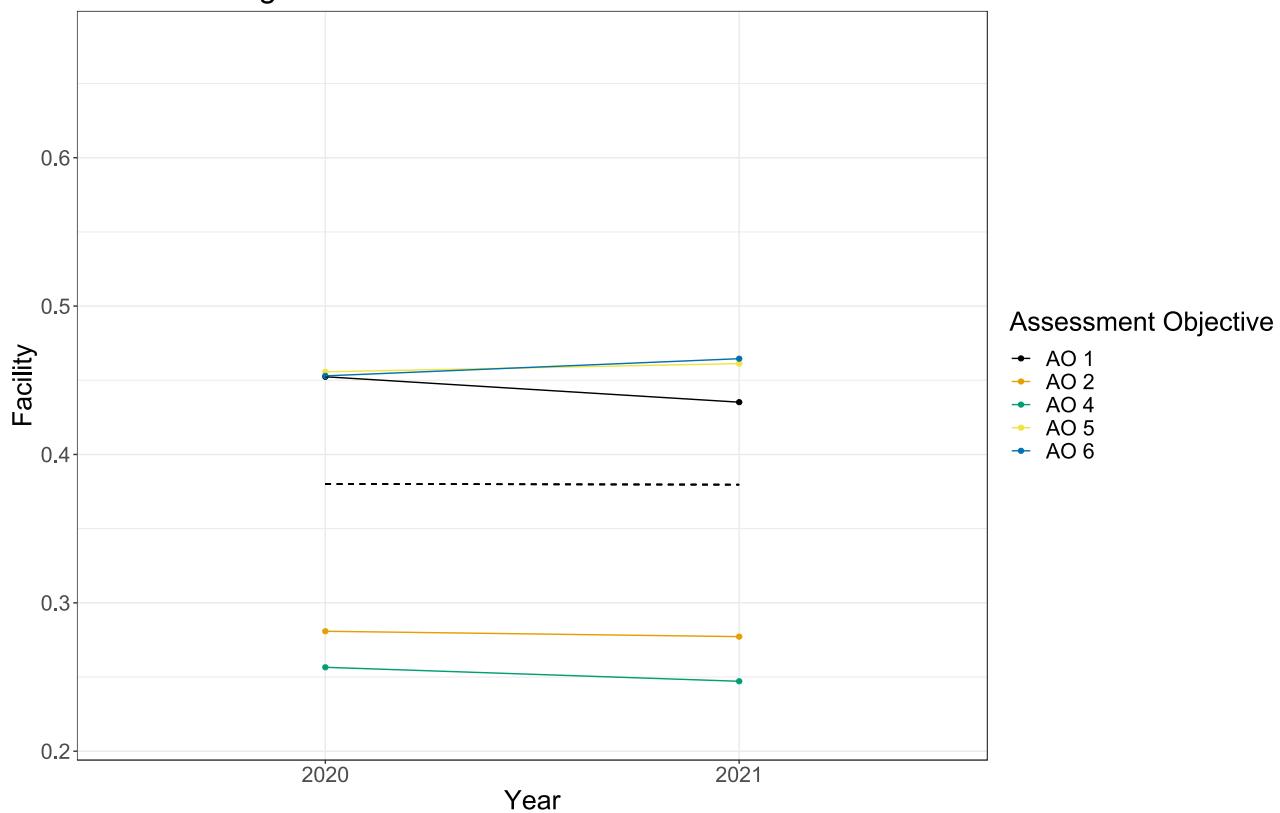
Booklet 3 English



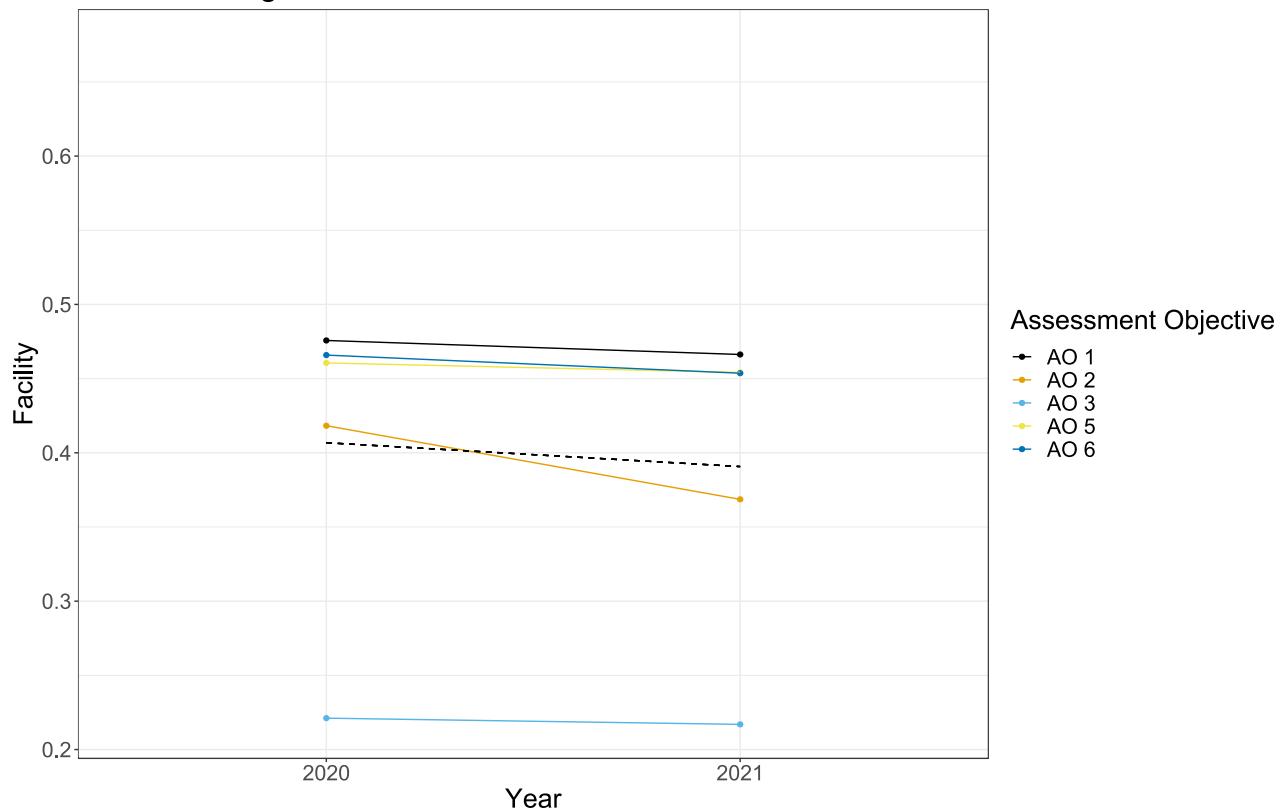
Booklet 4 English



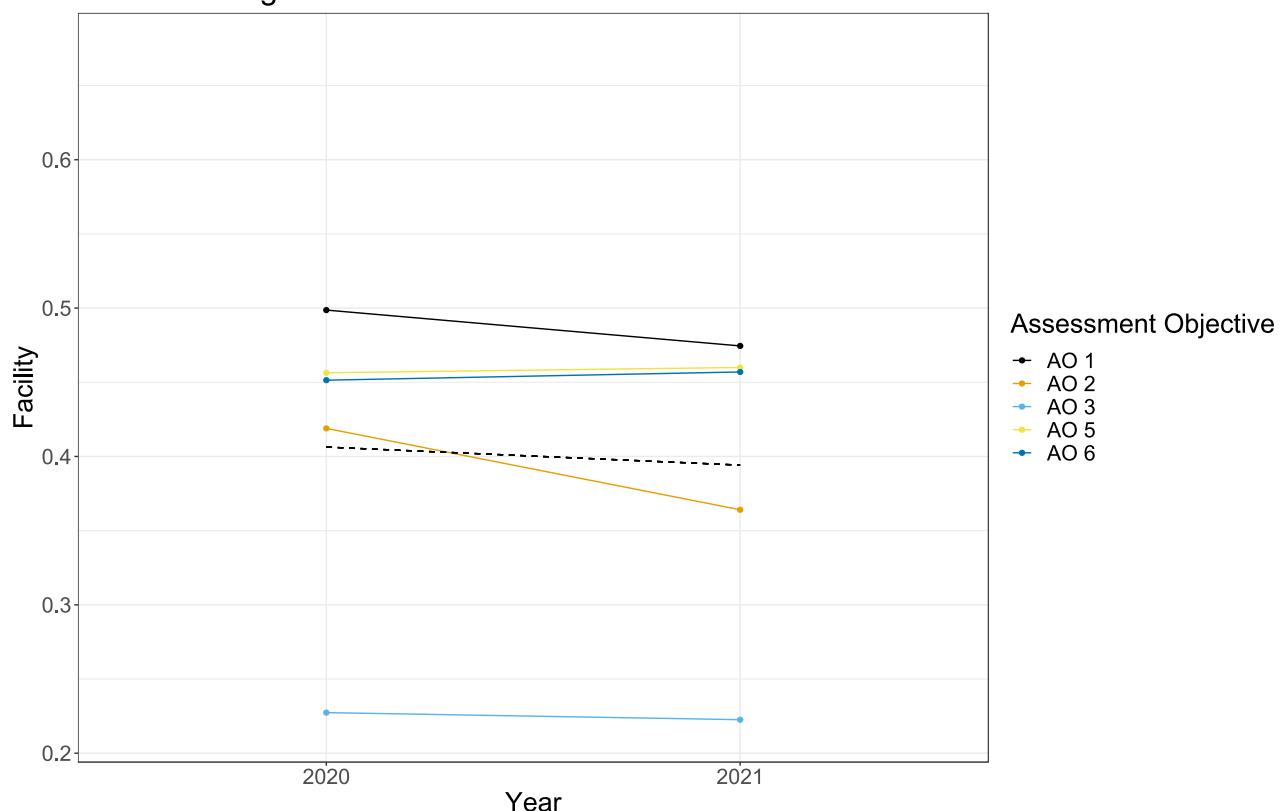
Booklet 5 English



Booklet 6 English



Booklet 7 English



Booklet 8 English

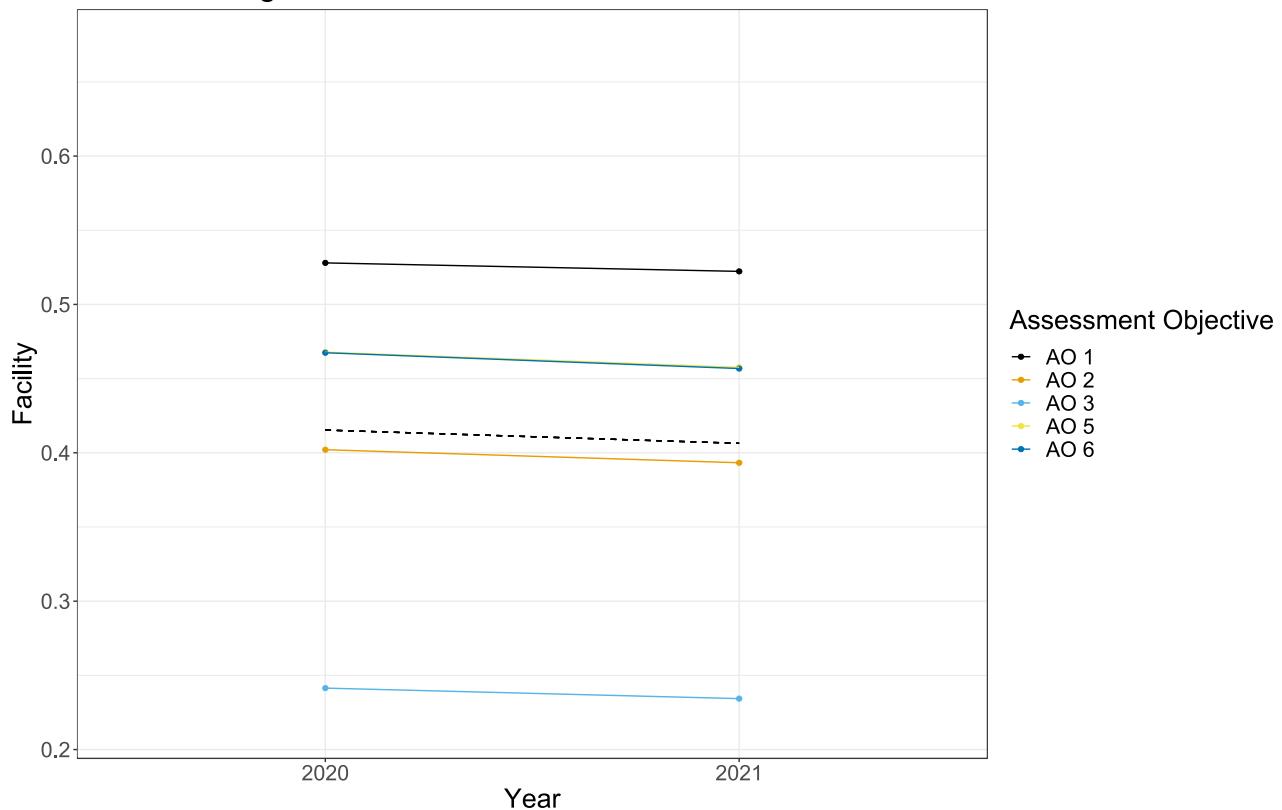


Table B1 English mean scores table

Booklet	Assessment objective	Mean score 2020	Mean score 2021	SD score 2020	SD score 2021
1	AO 1	2.554	2.541	1.265	1.267
1	AO 2	3.826	3.911	1.995	1.987
1	AO 3	2.237	2.242	1.750	1.643
1	AO 5	6.868	6.675	3.299	3.539
1	AO 6	4.621	4.500	2.123	2.293
2	AO 1	3.296	3.265	1.134	1.091
2	AO 2	2.539	2.585	1.746	1.913
2	AO 4	2.218	2.194	1.786	1.796
2	AO 5	6.783	6.830	3.214	3.317
2	AO 6	4.615	4.611	2.049	2.161
3	AO 1	3.380	3.222	1.064	1.064
3	AO 2	2.728	2.465	1.801	1.908
3	AO 4	2.254	2.214	1.757	1.819
3	AO 5	6.936	6.863	3.155	3.333
3	AO 6	4.700	4.628	2.026	2.200
4	AO 1	2.248	2.262	1.411	1.350
4	AO 2	2.893	2.785	2.192	2.250
4	AO 4	2.526	2.578	2.081	2.093
4	AO 5	6.788	6.639	3.145	3.508
4	AO 6	4.660	4.481	2.091	2.289
5	AO 1	2.262	2.176	1.348	1.330
5	AO 2	2.808	2.772	2.146	2.176
5	AO 4	2.565	2.471	2.050	1.941
5	AO 5	6.836	6.919	3.309	3.484
5	AO 6	4.530	4.646	2.085	2.275
6	AO 1	2.379	2.331	1.367	1.417
6	AO 2	4.183	3.686	2.171	2.205
6	AO 3	2.212	2.170	1.722	1.725
6	AO 5	6.909	6.813	3.409	3.691
6	AO 6	4.659	4.536	2.192	2.380

7	AO 1	2.493	2.373	1.337	1.401
7	AO 2	4.189	3.641	2.081	2.185
7	AO 3	2.274	2.226	1.707	1.705
7	AO 5	6.846	6.900	3.737	3.874
7	AO 6	4.514	4.569	2.392	2.474
8	AO 1	2.640	2.611	1.233	1.327
8	AO 2	4.021	3.933	1.976	2.006
8	AO 3	2.414	2.343	1.716	1.678
8	AO 5	7.017	6.864	3.404	3.796
8	AO 6	4.674	4.568	2.167	2.471

B2 Mathematics

Figure B2 Mathematics – subject area facilities

Chart showing the mean facilities for the maths subject areas in booklet 1. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

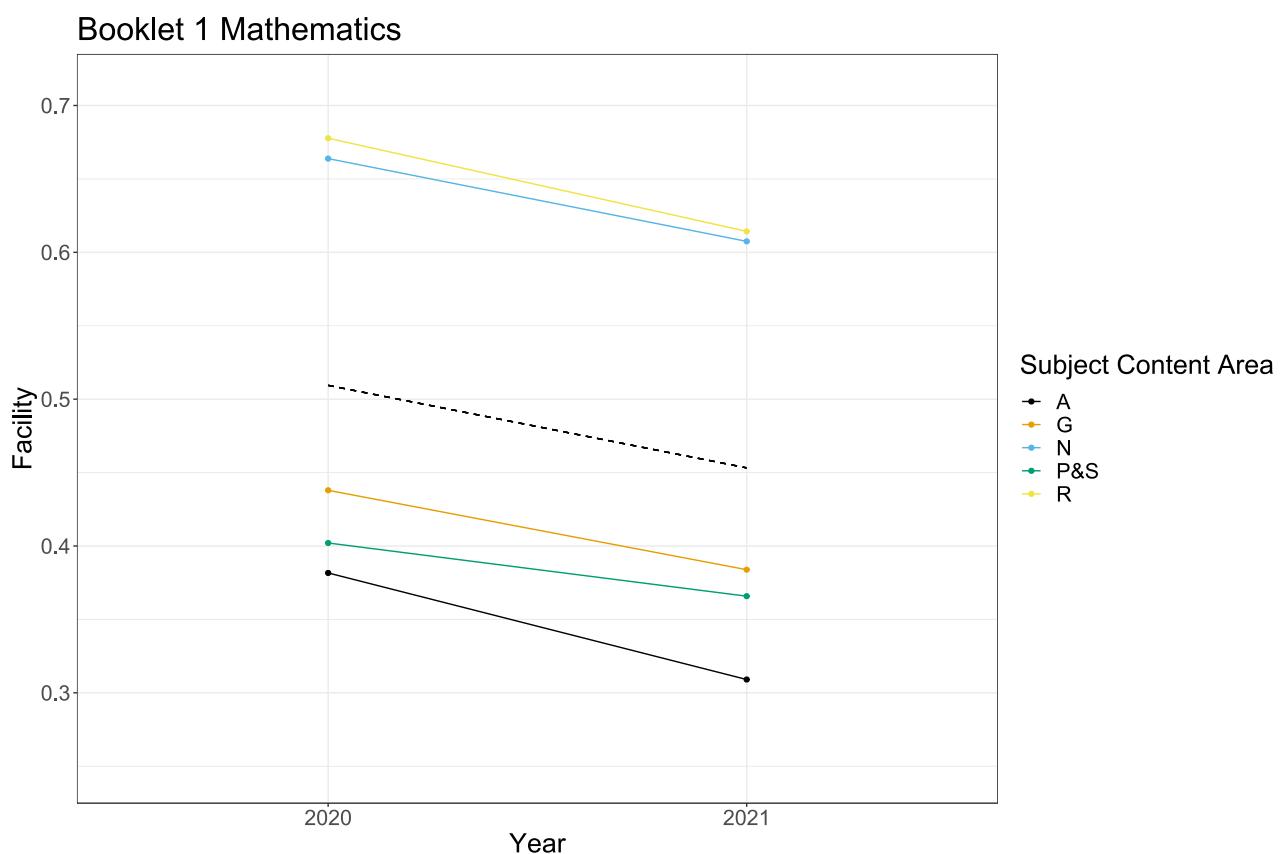


Chart showing the mean facilities for the maths subject areas in booklet 2. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

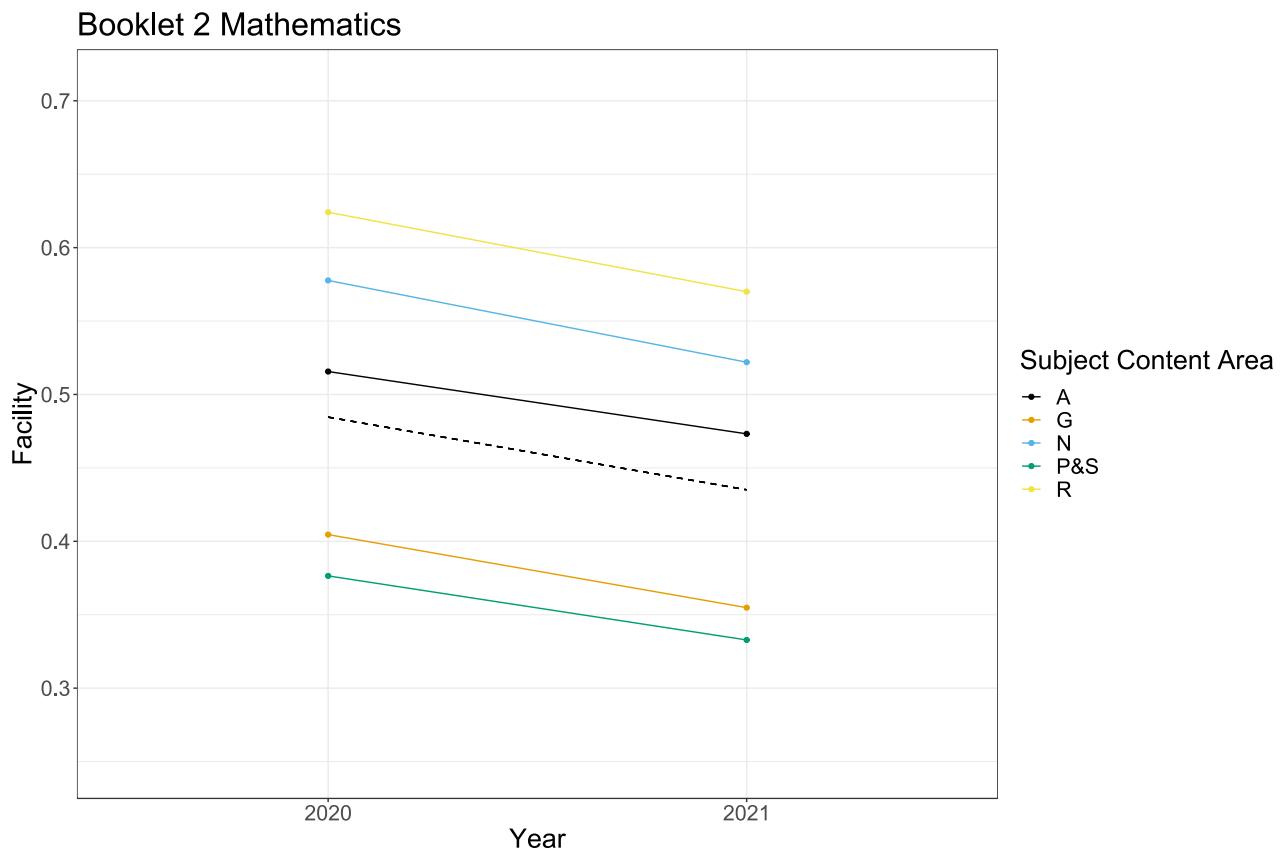


Chart showing the mean facilities for the maths subject areas in booklet 3. This shows a drop in performance is seen in almost all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

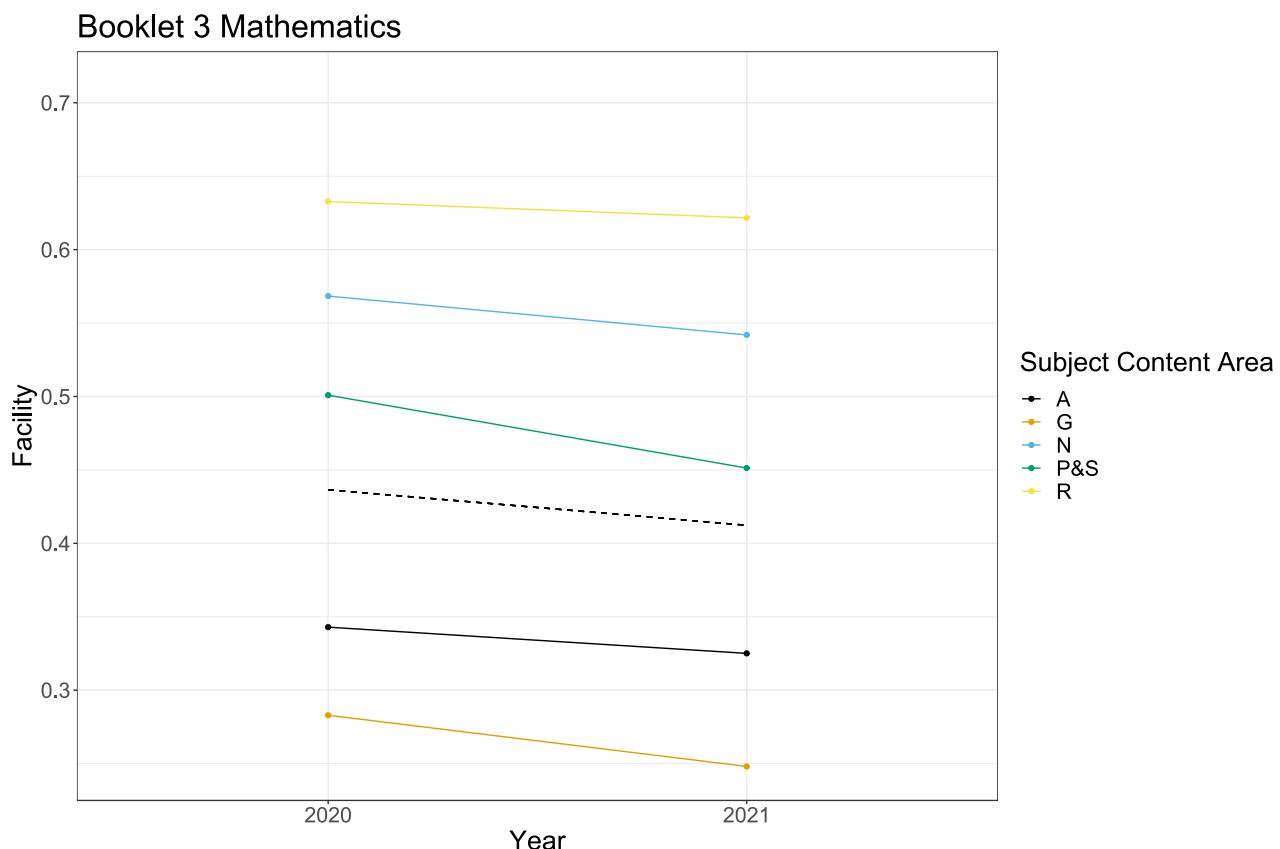


Chart showing the mean facilities for the maths subject areas in booklet 4. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

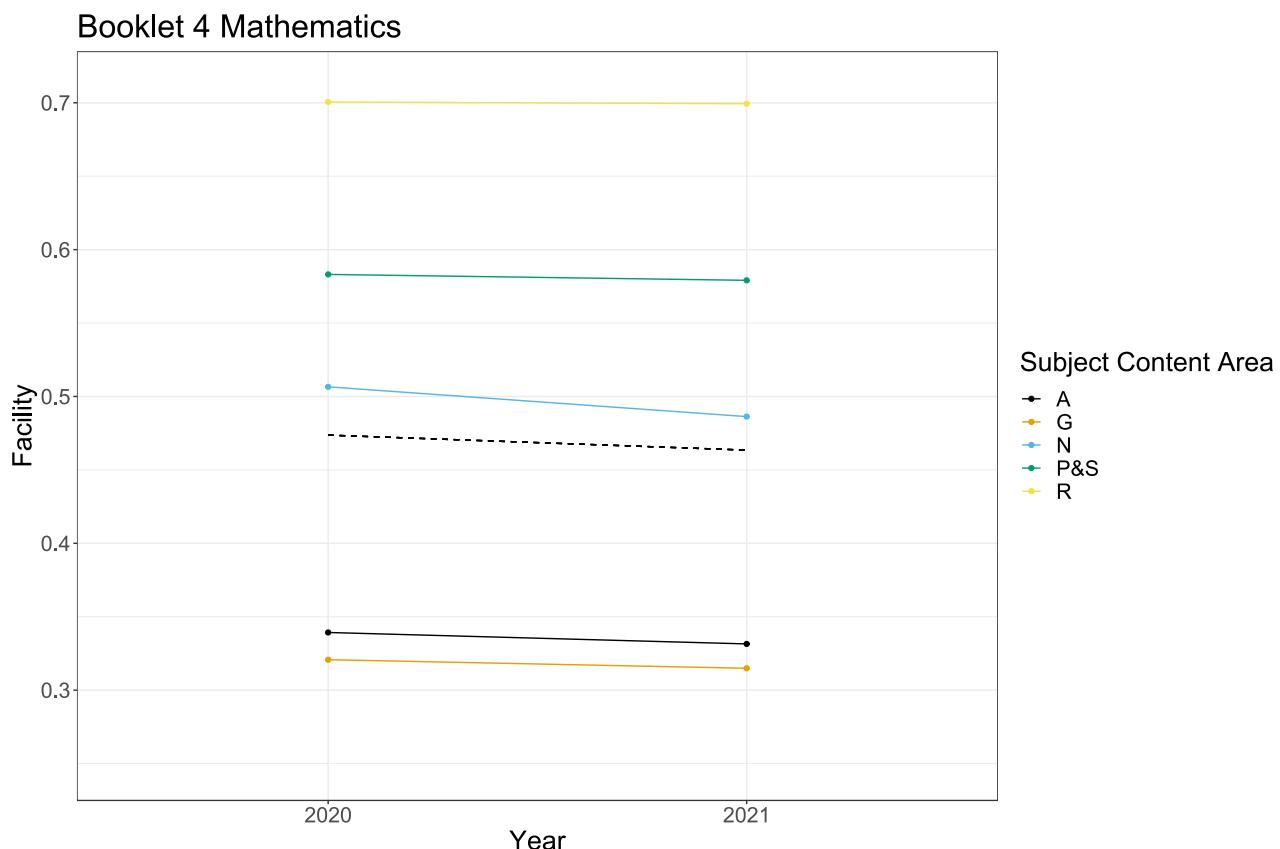


Chart showing the mean facilities for the maths subject areas in booklet 5. This shows a drop in performance is seen in almost all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

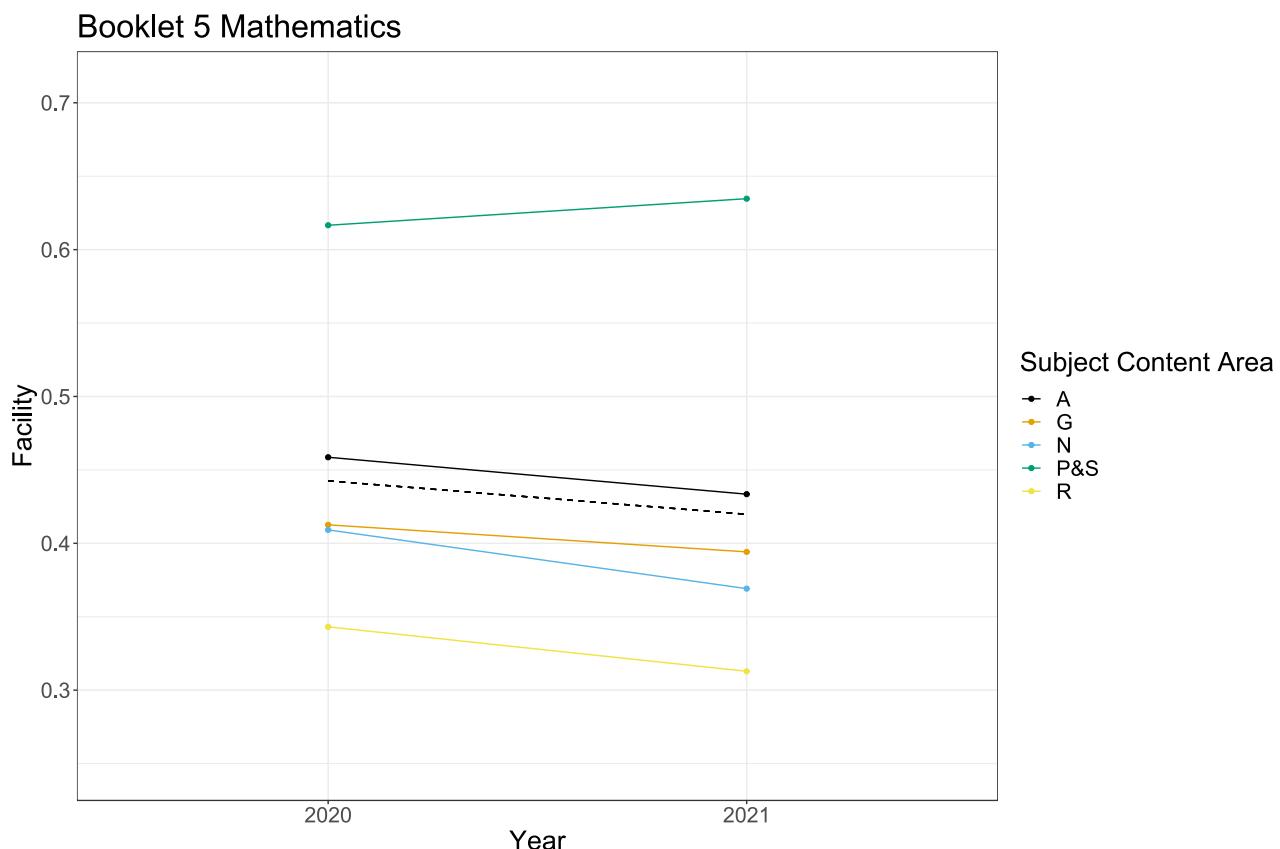


Chart showing the mean facilities for the maths subject areas in booklet 6. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

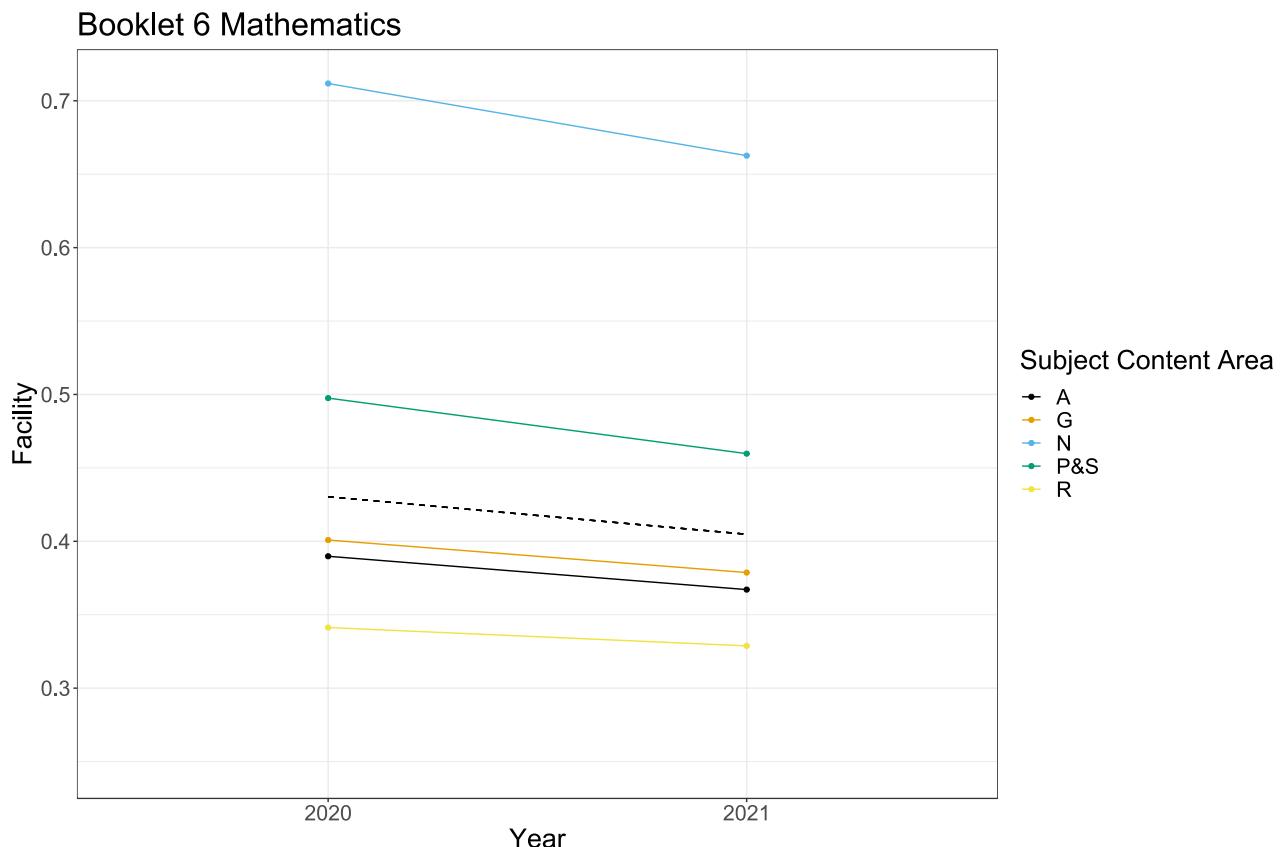


Chart showing the mean facilities for the maths subject areas in booklet 7. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

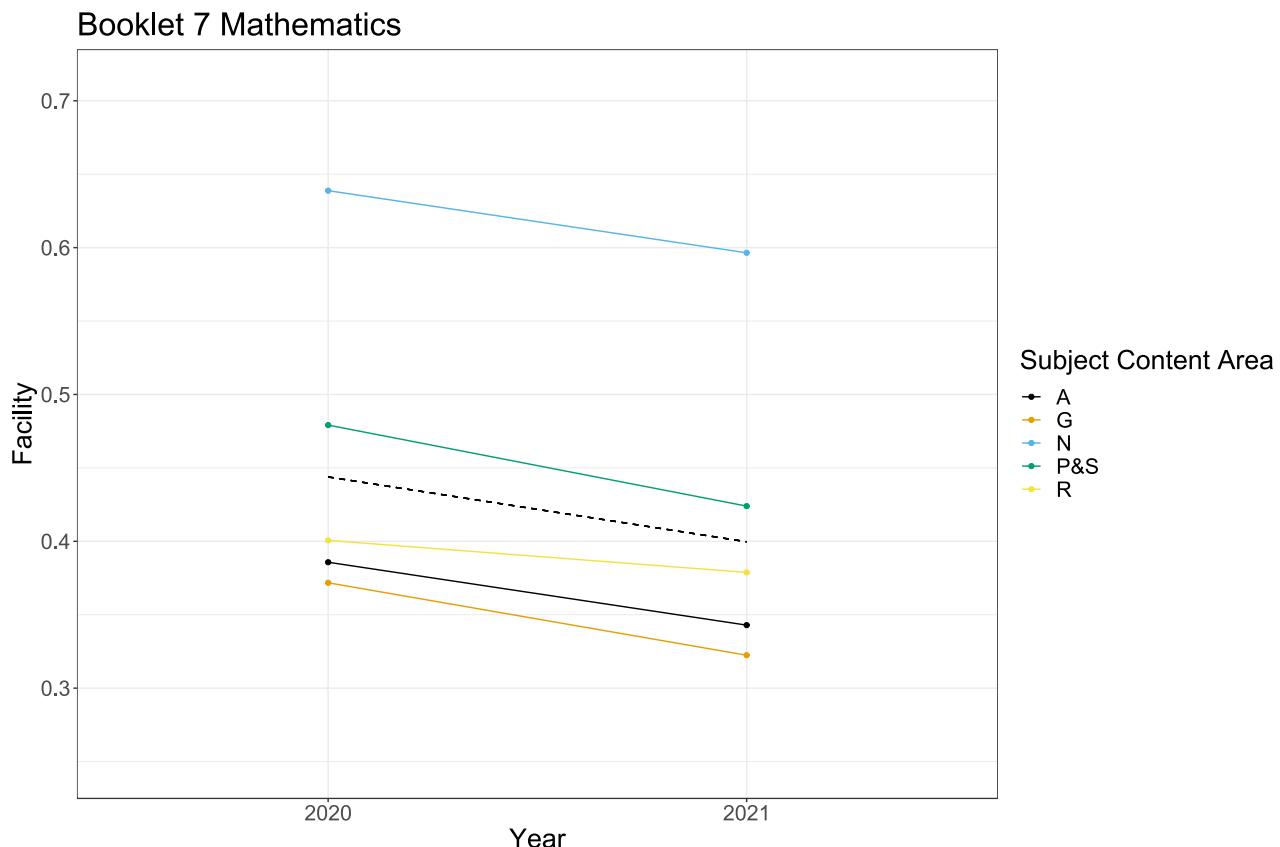


Chart showing the mean facilities for the maths subject areas in booklet 8. This shows a drop in performance is seen in all subject areas. The mean scores and standard deviations are shown in Appendix B2 Table B2.

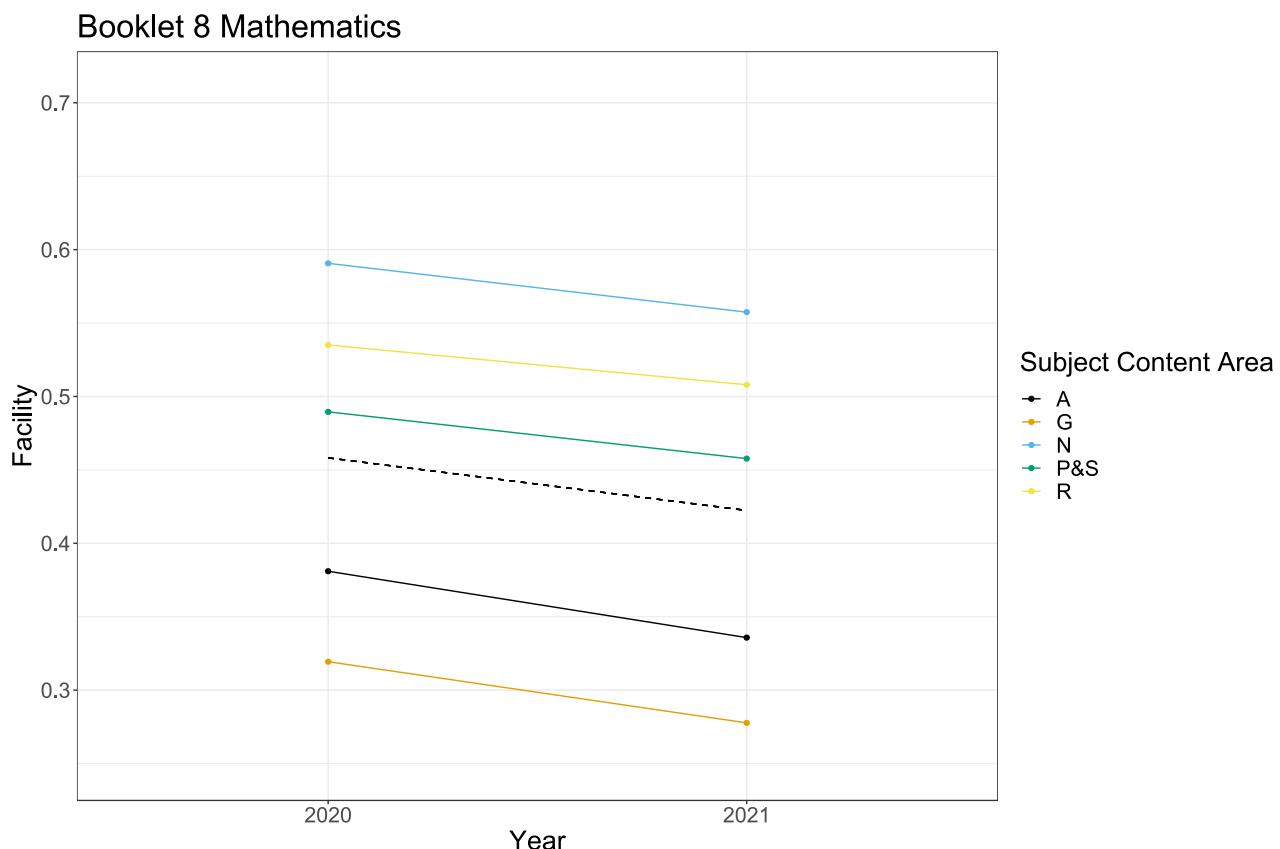


Table B2 Mathematics – mean scores by subject content areas

Booklet	Subject content area	Mean score 2020	Mean score 2021	SD score 2020	SD score 2021
1	A	3.435	2.782	3.066	2.845
1	G	5.693	4.990	4.008	3.771
1	N	7.302	6.682	3.281	3.607
1	P&S	3.618	3.292	2.813	2.775
1	R	5.422	4.914	2.485	2.665
2	A	4.641	4.259	2.516	2.684
2	G	8.091	7.097	6.066	6.270
2	N	4.621	4.176	2.484	2.493
2	P&S	1.882	1.664	1.920	1.919
2	R	4.993	4.560	3.011	3.112
3	A	5.486	5.201	3.893	4.060
3	G	3.395	2.977	4.066	3.855
3	N	3.979	3.793	2.056	2.151
3	P&S	2.004	1.805	1.413	1.412
3	R	6.961	6.838	3.558	3.699
4	A	5.428	5.304	4.406	4.788
4	G	1.283	1.260	1.698	1.691
4	N	8.105	7.781	4.806	4.876
4	P&S	4.665	4.633	2.660	2.636
4	R	4.203	4.196	1.962	1.961
5	A	7.338	6.935	4.311	4.320
5	G	2.476	2.365	2.181	2.088
5	N	4.910	4.430	3.927	3.746
5	P&S	4.316	4.443	2.297	2.284
5	R	3.088	2.816	2.817	2.779

6	A	7.796	7.342	4.918	4.952
6	G	3.608	3.409	2.723	2.747
6	N	3.559	3.313	1.831	1.923
6	P&S	3.483	3.218	2.008	1.933
6	R	3.072	2.959	2.822	2.826
7	A	4.629	4.115	3.899	3.723
7	G	5.576	4.836	4.265	3.916
7	N	5.749	5.368	2.697	2.814
7	P&S	3.833	3.392	2.425	2.290
7	R	2.404	2.273	1.746	1.791
8	A	3.048	2.686	2.854	2.805
8	G	4.152	3.610	3.495	3.424
8	N	5.907	5.574	2.862	3.013
8	P&S	3.916	3.662	2.249	2.161
8	R	5.886	5.587	2.917	3.069

Figure B3 Mathematics – assessment objectives facilities

Chart showing the mean facilities for the maths assessment objectives in booklet 1. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

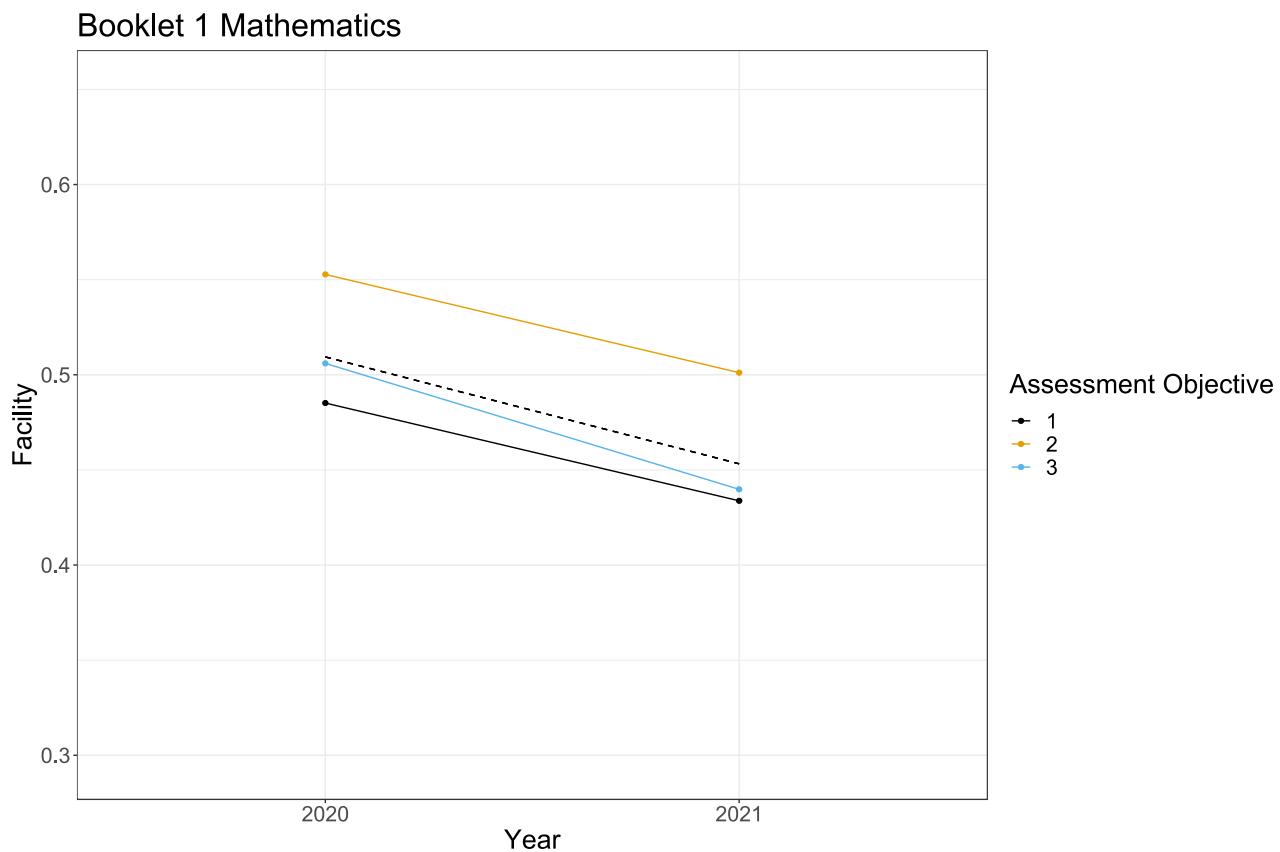


Chart showing the mean facilities for the maths assessment objectives in booklet 2. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

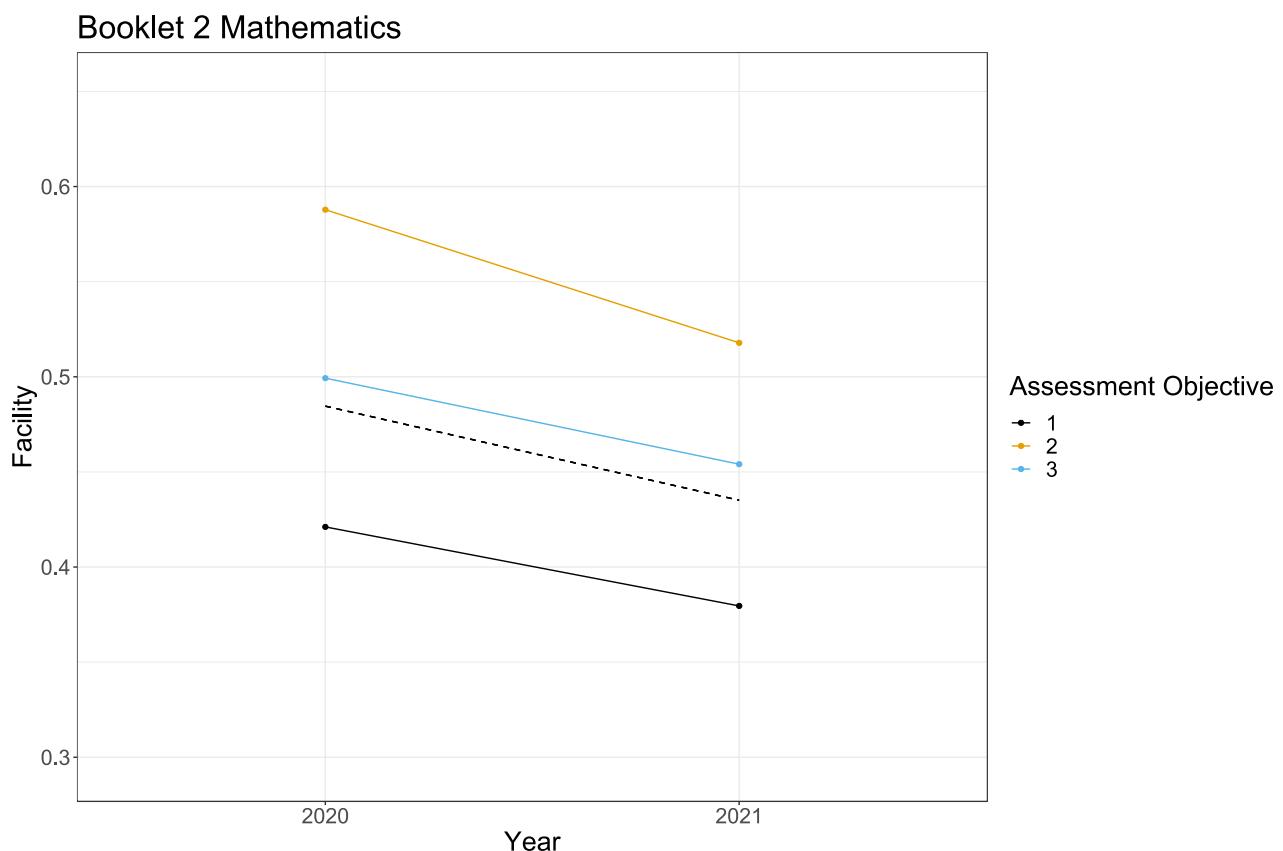


Chart showing the mean facilities for the maths assessment objectives in booklet 3. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

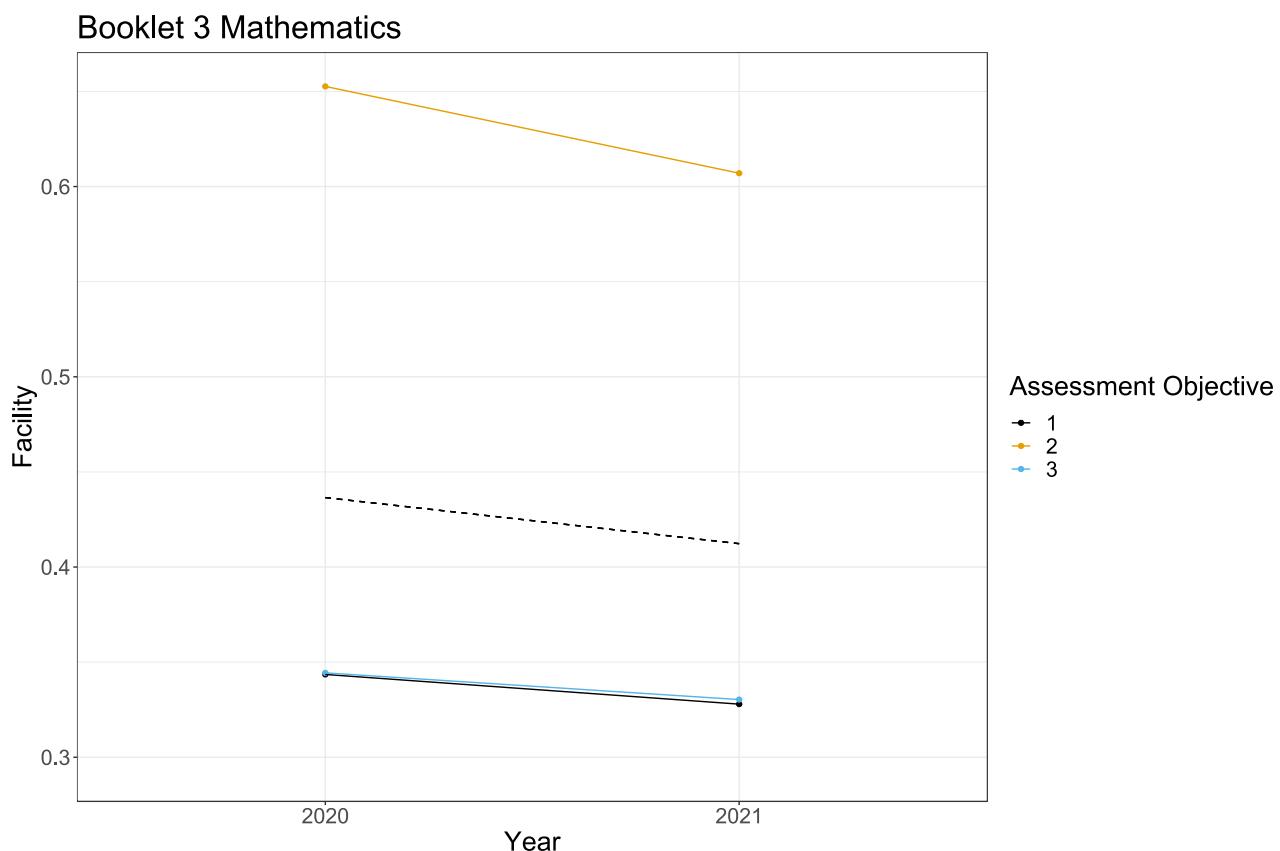


Chart showing the mean facilities for the maths assessment objectives in booklet 4. This shows a drop in performance is seen in almost all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

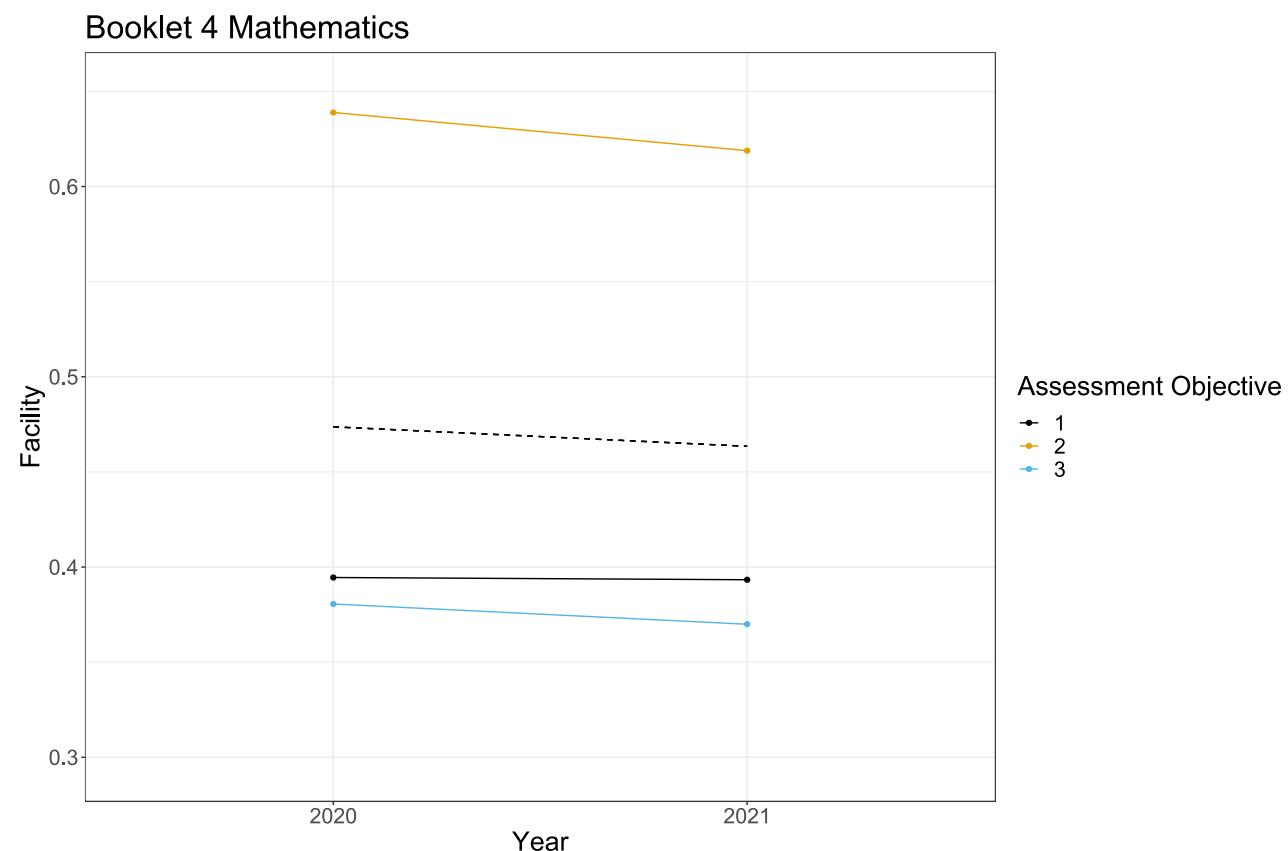


Chart showing the mean facilities for the maths assessment objectives in booklet 5. This shows a drop in performance is seen in almost all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

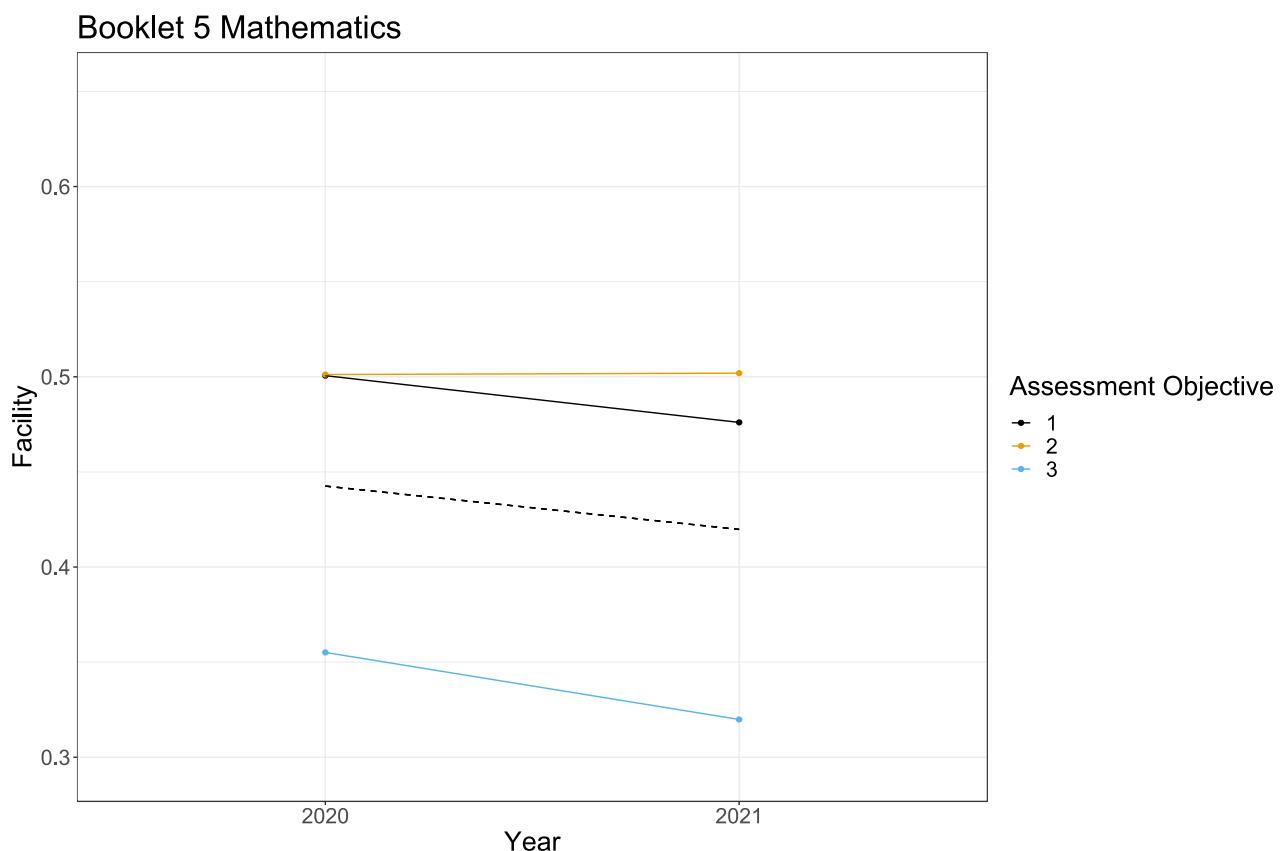


Chart showing the mean facilities for the maths assessment objectives in booklet 6. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

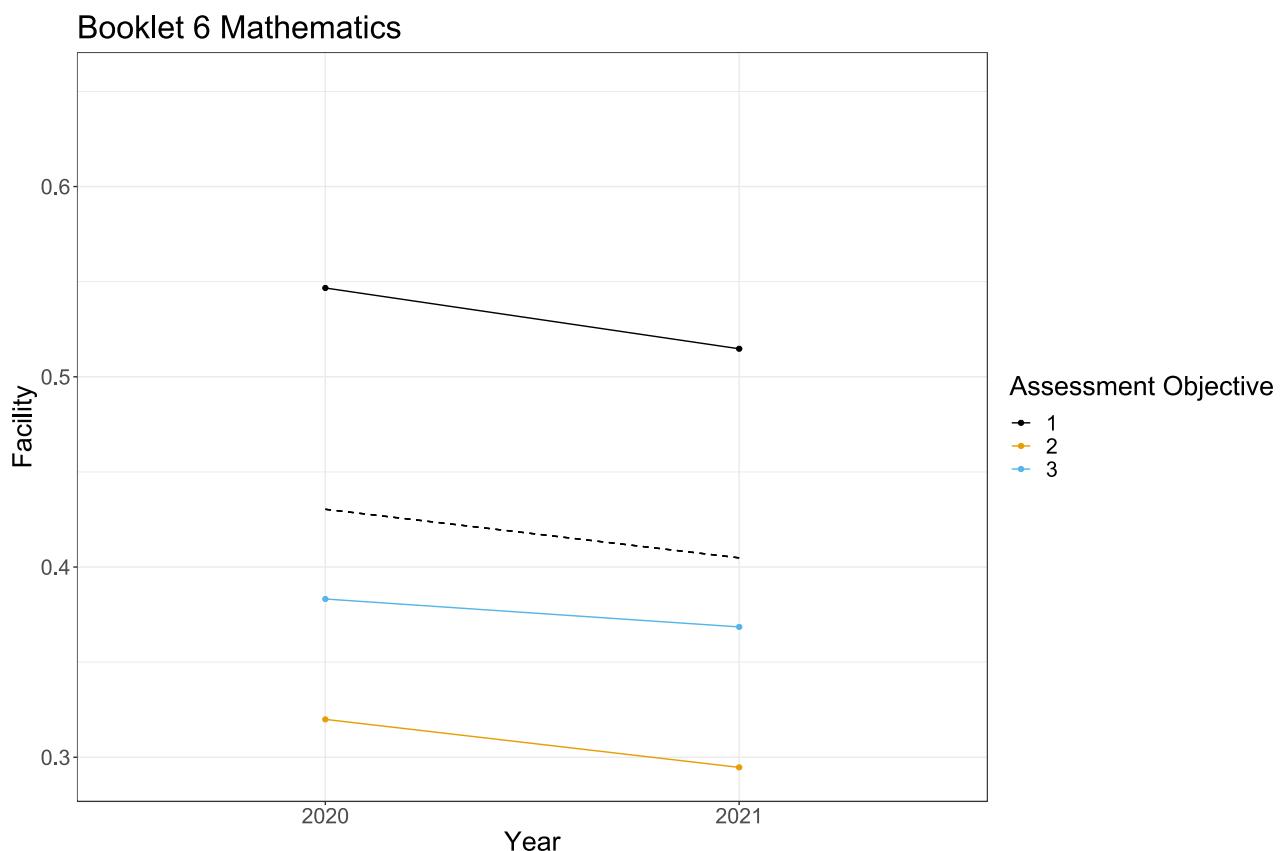


Chart showing the mean facilities for the maths assessment objectives in booklet 7. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

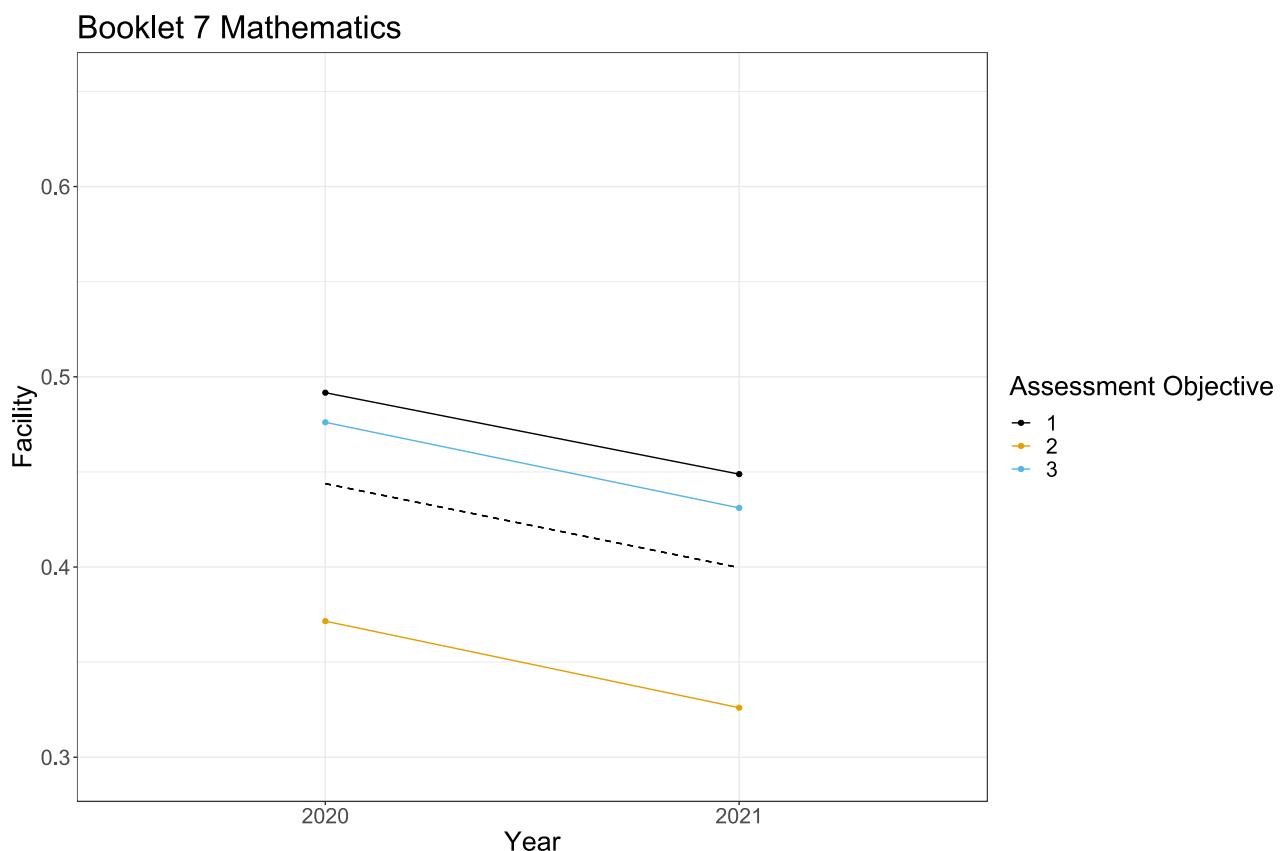


Chart showing the mean facilities for the maths assessment objectives in booklet 8. This shows a drop in performance is seen in all assessment objectives. The mean scores and standard deviations are shown in Appendix B2 Table B3.

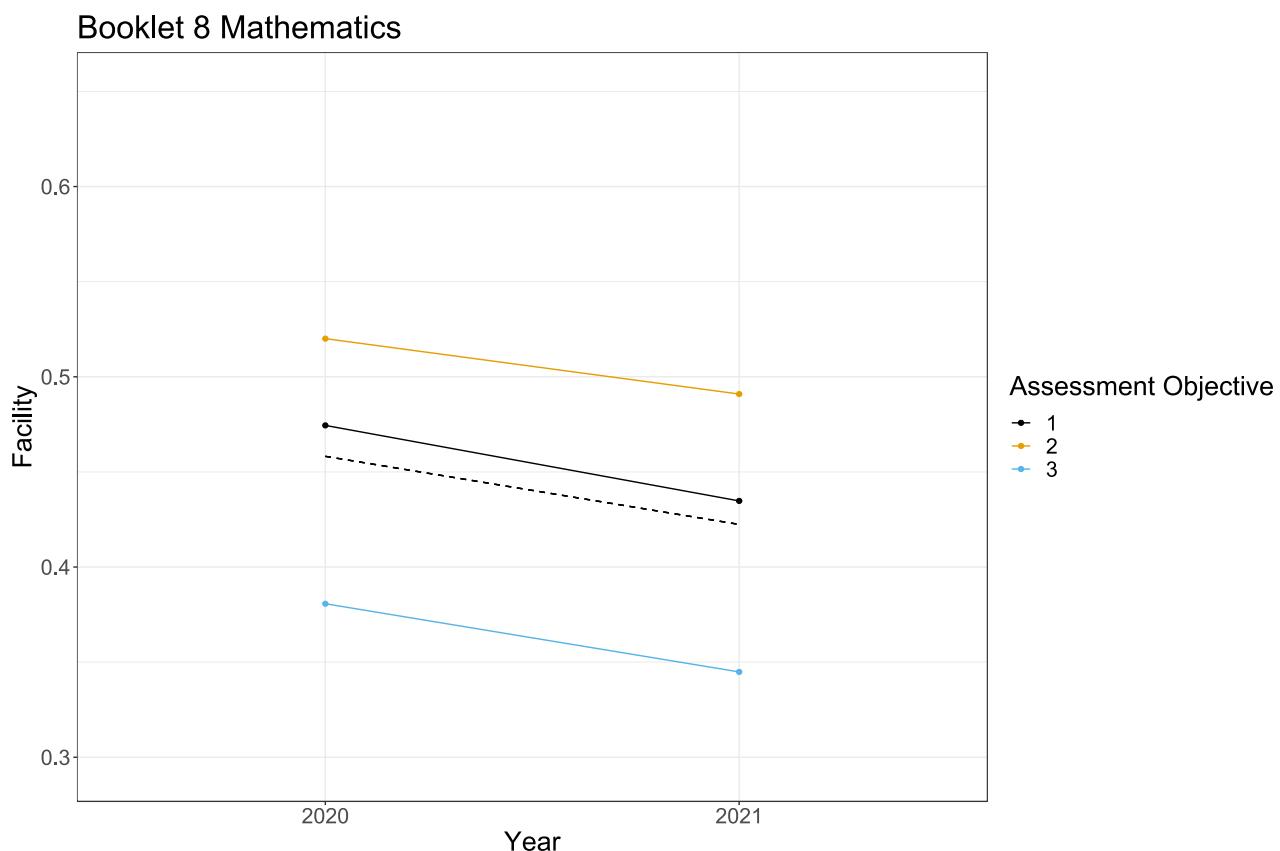


Table B3 Mathematics means scores by assessment objective

Booklet	Assessment objective	Mean score 2020	Mean score 2021	SD score 2020	SD score 2021
1	1	10.188	9.109	5.697	5.599
1	2	7.186	6.515	3.703	3.764
1	3	8.096	7.037	4.551	4.462
2	1	9.685	8.730	6.491	6.528
2	2	7.054	6.214	3.633	3.776
2	3	7.489	6.811	4.446	4.620
3	1	7.558	7.214	5.894	5.844
3	2	9.790	9.105	3.953	4.123
3	3	4.477	4.294	3.962	3.882
4	1	7.495	7.473	5.019	5.245
4	2	10.861	10.521	4.905	4.977
4	3	5.328	5.179	4.390	4.551
5	1	9.011	8.568	5.232	5.112
5	2	6.014	6.023	3.292	3.263
5	3	7.102	6.397	5.852	5.722
6	1	11.480	10.809	5.690	5.837
6	2	5.439	5.010	4.132	4.073
6	3	4.598	4.422	3.089	3.150
7	1	11.799	10.772	6.456	6.344
7	2	7.060	6.195	5.319	4.992
7	3	3.333	3.018	1.910	1.867
8	1	10.438	9.565	5.542	5.617
8	2	6.761	6.382	3.234	3.244
8	3	5.711	5.173	4.115	4.113

Table B4 Mathematics sub-item facilities 2020 and 2021

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M102_202_X1	2	P&S	0.73926	0.680892
M102_202_X2	1	R	0.720167	0.653734
M102_202_X3	2	R	0.585322	0.519884
M103_203_X1	3	N	0.838305	0.777886
M103_203_X2	1	N	0.78222	0.737148
M103_203_X3	3	N	0.841885	0.786615
M103_203_X4	1	N	0.671838	0.631426
M103_203_X5	3	N	0.597852	0.553831
M105_204_X1	3	G	0.705251	0.627546
M105_204_X2	1	N	0.668258	0.599418
M105_204_X3	1	G	0.634845	0.561591
M106_207_X1	1	A	0.72494	0.686712
M106_207_X2	1	A	0.541169	0.479146
M108_208_A1_1	2	G	0.654535	0.609117
M108_208_A2_1	1	G	0.529236	0.493695
M108_208_B1	2	G	0.683174	0.621726
M108_208_B2	2	G	0.443914	0.375364
M108_208_B3	2	G	0.383652	0.304559
M109_209_A1	2	P&S	0.560263	0.483996
M109_209_A2	2	P&S	0.415274	0.380213
M109_209_B1	3	P&S	0.424821	0.373424
M109_209_B2	1	P&S	0.279236	0.234724
M109_209_B3	1	P&S	0.220167	0.191077
M113_213_X1	1	A	0.2142	0.183317
M113_213_X2	1	A	0.168854	0.13967

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M201_303_A1	2	A	0.74477	0.670223
M201_303_B1	2	A	0.642558	0.57808
M201_303_B2	1	R	0.466228	0.42192
M201_303_C1	2	A	0.80275	0.738118
M201_303_C2	2	A	0.390915	0.336566
M205_305_X1	3	R	0.635983	0.609117
M205_305_X2	3	R	0.579797	0.553831
M205_305_X3	3	R	0.631201	0.617847
M205_305_X4	1	N	0.53676	0.513094
M205_305_X5	3	N	0.477585	0.451018
M206_306_X1	1	G	0.368201	0.320078
M206_306_X2	1	G	0.306037	0.276431
M206_306_X3	1	G	0.176928	0.162949
M210_309_X1	1	G	0.391512	0.329777
M210_309_X2	3	G	0.364017	0.293889
M210_309_X3	3	G	0.225941	0.204656
M210_309_X4	3	N	0.205619	0.187197
M211_310_X1	3	G	0.454274	0.42192
M211_310_X2	1	G	0.298267	0.260912
M211_310_X3	3	R	0.240885	0.225024
M211_310_X4	3	R	0.175732	0.14743
M211_310_X5	1	N	0.17633	0.153249
M212_312_X1	1	N	0.297669	0.263822
M212_312_X2	1	N	0.273162	0.231814
M212_312_X3	1	N	0.256426	0.215325

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M301_401_X1	1	R	0.83597	0.826718
M301_401_X2	1	R	0.776801	0.755082
M302_402_A1	2	N	0.883421	0.845111
M302_402_A2	2	N	0.847686	0.812197
M302_402_B1	2	N	0.730521	0.703775
M302_402_B2	2	N	0.671353	0.653437
M304_404_X1_V2	2	P&S	0.662566	0.659245
M304_404_X2_V2	2	R	0.865261	0.835431
M304_404_X3_V2	1	R	0.558875	0.569216
M304_404_X4_V2	2	R	0.496778	0.485963
M307_407_X1	1	A	0.605155	0.594385
M307_407_X2	1	A	0.564148	0.550823
M308_408_A1_1	2	P&S	0.678969	0.667957
M308_408_A2_1	2	P&S	0.492091	0.435624
M308_408_B1	2	P&S	0.482718	0.451113
M308_408_B2	2	P&S	0.346807	0.324298
M311_411_X1	3	G	0.362624	0.352372
M311_411_X2	3	A	0.144698	0.164569
M311_411_X3	1	A	0.15993	0.181994
M311_411_X4	1	A	0.116579	0.125847
M311_411_X5	3	A	0.070885	0.083253
M313_413_X1	1	A	0.173989	0.17909
M313_413_X2	1	A	0.12478	0.135528
M313_413_X3	1	A	0.126538	0.135528
M313_413_X4	1	A	0.037493	0.040658
M403_502_X1	2	P&S	0.776801	0.780115
M403_502_X2	2	P&S	0.592853	0.602294

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M403_502_X3	1	P&S	0.703574	0.713193
M403_502_X4	2	P&S	0.545987	0.556405
M405_504_A1	3	A	0.644405	0.59847
M405_504_A2	3	A	0.608084	0.558317
M405_504_A3	1	A	0.600469	0.555449
M405_504_B1	3	A	0.54833	0.478967
M405_504_B2	1	R	0.420621	0.382409
M406_506_A1	2	N	0.695372	0.669216
M406_506_A2	2	N	0.552431	0.541109
M406_506_B1	2	N	0.508494	0.384321
M406_506_C1	3	N	0.668424	0.64914
M409_509_X1	3	G	0.334505	0.328872
M409_509_X2	3	G	0.356766	0.347992
M409_509_X3	1	G	0.344464	0.31262
M409_509_X4	3	R	0.222613	0.195985
M410_510_X1	3	N	0.447569	0.422562
M410_510_X2	1	R	0.37727	0.358509
M410_510_X3	3	N	0.308143	0.285851
M410_510_X4	3	N	0.314001	0.291587
M410_510_X5	3	N	0.20621	0.185468
M412_512_A1	1	N	0.436438	0.402486
M412_512_B1	1	N	0.250146	0.222753
M412_512_B2	1	N	0.203866	0.183556
M501_601_A1	1	A	0.896429	0.877885
M501_601_B1	1	A	0.8	0.753846
M501_601_B2	1	A	0.6625	0.623077
M503_602_A1	2	P&S	0.882143	0.874038

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M503_602_B1	2	P&S	0.497024	0.516346
M503_602_B2	2	P&S	0.391071	0.438462
M505_604_A1	1	A	0.578571	0.578846
M505_604_B1	1	A	0.635119	0.568269
M507_607_X1	1	G	0.673214	0.664423
M507_607_X2	1	N	0.567262	0.565385
M508_609_A1	3	R	0.5625	0.552885
M508_609_A2	3	R	0.45119	0.4375
M508_609_B1	3	R	0.31131	0.296154
M508_609_B2	3	R	0.178571	0.166346
M508_609_B3	3	R	0.155357	0.150962
M511_610_A1	3	R	0.335714	0.286538
M511_610_A2	3	R	0.3	0.252885
M511_610_A3	1	R	0.271429	0.232692
M511_610_B1	2	R	0.51369	0.510577
M513_613_A1	1	A	0.578571	0.597115
M513_613_B1_1	2	G	0.085119	0.095192
M513_613_B1_2	2	A	0.079167	0.082692
M513_613_B2_1	3	A	0.155952	0.146154
M513_613_B2_2	1	A	0.143452	0.133654
M513_613_B2_3	3	A	0.025595	0.024038
M603_704_X1	3	N	0.889741	0.84518
M603_704_X2	1	N	0.748821	0.687439
M603_704_X3	3	N	0.706958	0.67186
M603_704_X4	1	R	0.650354	0.599805
M603_704_X5	3	N	0.568396	0.519961
M605_706_A1	1	A	0.599646	0.576436

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M605_706_A2	1	A	0.489387	0.461538
M605_706_B1	2	A	0.455778	0.402142
M605_706_B2	2	A	0.313679	0.280428
M605_706_B3	1	A	0.299528	0.264849
M606_708_A1	1	P&S	0.799528	0.743914
M606_708_B1	2	P&S	0.335495	0.259007
M606_708_B2	2	P&S	0.310731	0.238559
M606_708_B3	2	P&S	0.247052	0.178189
M608_710_A1_1	2	A	0.407429	0.360273
M608_710_A2_1	2	A	0.237618	0.208374
M608_710_B1	1	A	0.222877	0.164557
M608_710_B2	2	A	0.129127	0.079844
M611_712_A1	1	G	0.59316	0.552093
M611_712_A2	1	G	0.464623	0.428432
M611_712_B1	2	G	0.341392	0.308666
M611_712_C1	2	G	0.173349	0.140214
M611_712_C2	2	G	0.098467	0.070107
M612_713_A1	1	G	0.440448	0.397274
M612_713_B1	1	G	0.252358	0.232717
M701_802_X1	1	R	0.726521	0.697786
M701_802_X2	1	R	0.144123	0.14437
M702_803_A1	2	P&S	0.969876	0.965351
M702_803_B1	2	P&S	0.412286	0.368624
M702_803_B2	1	R	0.395157	0.3436
M702_803_B3	2	R	0.369167	0.322425
M703_805_A1	1	G	0.565859	0.524543
M703_805_B1	1	G	0.484938	0.384986

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M703_805_C1	1	G	0.645009	0.59384
M705_807_A1	1	N	0.853514	0.828681
M705_807_B1	2	N	0.464265	0.430221
M705_807_C1	2	N	0.498523	0.413859
M705_807_C2	2	N	0.368576	0.392685
M707_808_A1	1	G	0.536917	0.481232
M707_808_B1	1	G	0.536326	0.512993
M709_809_A1	1	A	0.594211	0.546679
M709_809_B1	2	A	0.531601	0.482194
M709_809_B2	2	A	0.319551	0.274302
M711_810_X1	3	R	0.6456	0.606352
M711_810_X2	1	R	0.590667	0.536092
M711_810_X3	3	R	0.21264	0.194418
M711_810_X4	1	R	0.13231	0.133782
M714_814_X1	3	G	0.168931	0.115496
M714_814_X2	1	G	0.165978	0.110683
M714_814_X3	3	G	0.134672	0.087584
M801_101_X1	1	P&S	0.62381	0.590953
M804_104_A1	2	R	0.844643	0.806545
M804_104_A2	2	N	0.532143	0.471607
M804_104_B1	3	R	0.790476	0.73051
M804_104_B2	3	R	0.74881	0.694899
M804_104_B3	1	R	0.463095	0.438884
M806_107_A1	2	N	0.833929	0.790183
M806_107_A2	1	N	0.783929	0.733397
M806_107_A3	2	N	0.559524	0.512993
M806_107_B1	3	N	0.442262	0.39461

Subitem ID	Assessment objective	subject content area	Facility 2020	Facility 2021
M806_107_B2	3	N	0.717857	0.655438
M806_107_B3	1	N	0.317857	0.274302
M811_110_A1	1	A	0.203571	0.171319
M811_110_B1	3	A	0.417857	0.350337
M811_110_B2	3	A	0.36369	0.298364
M811_110_B3	1	A	0.348214	0.289702
M811_110_B4	3	A	0.32381	0.268527
M812_111_X1	3	G	0.285714	0.231954
M812_111_X2	3	G	0.23631	0.176131
M812_111_X3	3	G	0.179762	0.142445
M812_111_X4	1	N	0.125595	0.095284
M812_111_X5	3	N	0.122024	0.093359
M813_112_A1	1	P&S	0.61369	0.570741
M813_112_B1	1	P&S	0.48869	0.446583
M813_112_C1	2	P&S	0.004167	0.00385



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The Mere, Upton Park, Slough, Berks SL1 2DQ

T: +44 (0)1753 574123 • F: +44 (0)1753 691632 • enquiries@nfer.ac.uk

www.nfer.ac.uk

NFER ref. OFMT

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