Good Practical Science - making it happen post-Covid 19

Report on an extensive survey of science educators, investigating new opportunities and challenges for secondary schools and colleges

The Association for Science Education
Promoting Excellence in Science Teaching and Learning

Good Practical Science - making it happen

Practical science in a post-lockdown world; opportunities and challenges for secondary schools and colleges

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The Gatsby Charitable Foundation supports education by strengthening science and engineering skills in the UK, by developing innovative programmes and informing national policy. The Foundation is committed to supporting practical science in schools and colleges. In 2017 Gatsby launched Good Practical Science by Sir John Holman. The report provides a framework for good practical science in schools. Using international visits, surveys and literature reviews, Gatsby developed a series of ten benchmarks for schools to use when planning their own approach to delivering practical science.

The Association for Science Education (ASE) is the largest subject association in the UK. As the professional body for all those involved in science education from pre-school to higher education, the ASE provides a national network supported by a dedicated staff team. Members include teachers, technicians and advisers. The Association plays a significant role in promoting excellence in teaching and learning of science in schools and colleges.
For more information go to www.ase.org.uk

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Promoting Excellence in Science Teaching and Learning

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Introduction

The Covid-19 crisis has touched on all aspects of school life and across all subject areas. As an intrinsically practical subject, science education has been particularly impacted by this year's school closures, with difficulties in carrying out practical work set to continue into the new school year.

The Association for Science Education (ASE) – the largest subject association in the UK – has long been committed to championing the value of hands-on practical science as a key part of an effective approach to science education. The surveys on which this report is based form part of the ASE's ongoing work to ensure that young people have access to frequent, varied and purposeful practical science, led by expert teachers, with strong technical support and suitable facilities and equipment.

In the coming weeks, a second report – taking in both the survey responses and a second, qualitative follow-up – will be released featuring key recommendations for science educators and policy-makers to consider in a post-lockdown world.

Background

The landmark Good Practical Science report, led by Association for Science Education President Professor Sir John Holman, was released by the Gatsby Charitable Foundation in September 2017. The report, based on international evidence, establishes ten benchmarks, specifying what world-class practical science should look like in schools and how they can be achieved. The benchmarks include recommendations for schools, policymakers, Ofsted and teacher trainers.

With strong links across the science education community, the ASE wanted to investigate the effect of the Covid-19 pandemic on the deployment of practical science teaching during lockdown, and investigate the issues that are of most concern to educators as they prepare to fully reopen schools in the autumn.

Methodology

The key findings that follow emerged from an online survey of science leaders and teachers and a second survey of science technicians, from the ASE.

The surveys took place over a two-week period from 22 June 2020, when most schools and colleges were beginning to open again to some students, and to work with new guidance on enabling safe practical work with social distancing. This guidance, provided by CLEAPSS, has been updated and decisions on examinations in 2021 have been taken by Ofqual in the period since the surveys were completed.

Both surveys provided a good representative sample of respondents (by geographical location including Opportunity Areas and Local Authority categories 5 or 6, school or college type, Ofsted grading and range of roles within the science department), which enables us to have a great degeree of confidence in the findings.

Executive summary

This report – based on an extensive survey of of UK science teachers and technicians – provides teachers, policymakers and others with an interest in science education with an indication of the response to the effects of the Covid-19 pandemic on the provision of high quality practical science work for studentsaged 11 and over.

Given the timings involved – the surveys were conducted in the final weeks of the summer term – this report provides both a snapshot of how educators delivered practical science during lockdown and, with planning at the time well underway, a steer to the main concerns ahead of the anticipated full reopening of schools this Autumn.

Key findings summary:

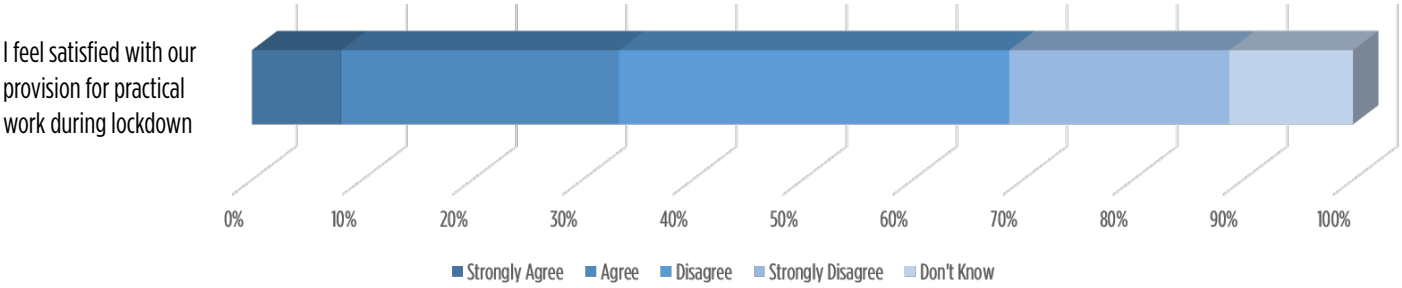
- Almost 60% of respondents (science leaders and teachers) were not satisfied with their school or college provision for practical work during lockdown.
- Schools and colleges are anticipating a big reduction in the frequency of practical science taught from September to all age groups, and there are likely to be 20% of examination classes (GSCE and A level) experiencing no practical science at all.
- Nearly 90% of respondents are concerned about the pressure to catch up on missed content during the lockdown period.
- Over 60% respondents (science leaders and teachers) will focus on teaching content and will minimise practical work.
- Nearly 90% of respondents were concerned about the lack of certainty around 2021 examinations (14-16 and post-16).
- Over 30% of respondents (science leaders and teachers) are not planning for fieldwork and outdoor science work in the next academic year, and only 25% set fieldwork or citizen science activities during the lockdown period.
- Over 80% of technicians have some concerns over an increased workload or changes to working practices.

The findings of this report have been used to inform a further qualitative analysis into the effect of the Covid-19 outbreak on the delivery of quality practical science – viewed through the prism of the landmark Good Practical Science Report – the findings of which will be released in September of 2020. As such, this report makes no commentary or recommendations. Rather, it should be seen as indicative of the challenges the science education community faces over the weeks and months ahead.

Key Findings

Practical work during the lockdown period

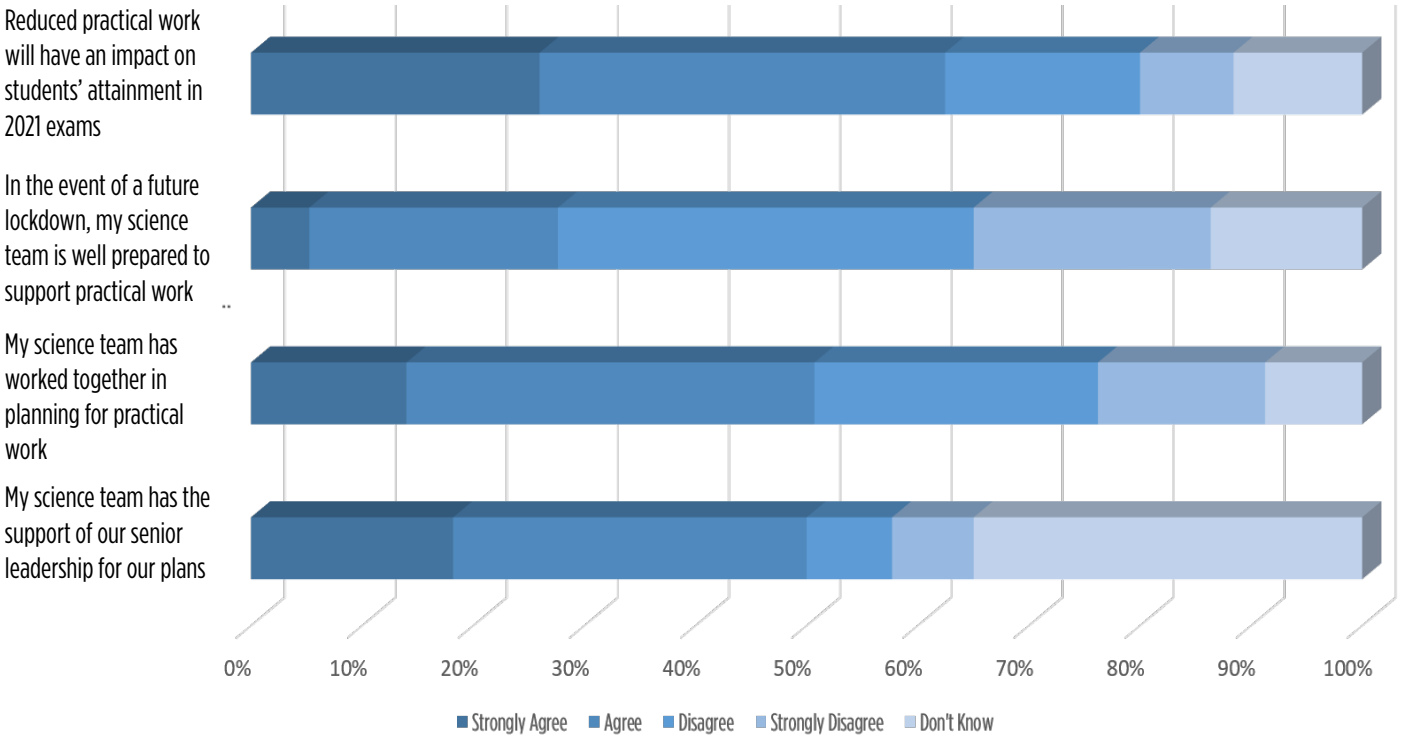
Almost 60% of respondents (science leaders and teachers) were not satisfied with their school or college provision for practical work during lockdown.



Future planning during the lockdown period

Looking ahead, at the time of the survey (end of the summer term) less than 30% of teacher and science leader respondents felt their science team was well prepared to support practical work in the event of a future lockdown. Around the issue of planning for this eventuality, the reported levels of inclusion in plan-making and buy-in from senior management teams were both just below 50%.

Even if a future lockdown were to be avoided, more than 60% of teachers felt that a reduction in practical work would have a negative impact on exams next year for both 14-16 and post-16 pupils (see next page for more details).



Key Findings

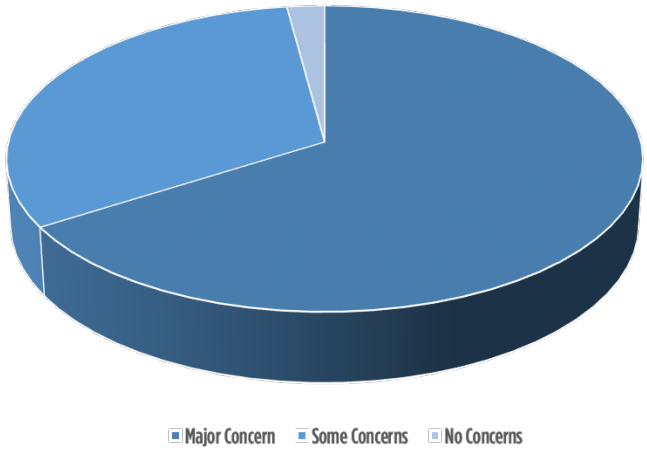
Main concerns ahead of full reopening

A number of key themes emerged around science educators' concerns around practical science around the start of the new term. The obvious difficulties of teaching practical science in a post-Covid world were a clear concern, with issues around social distancing and adequate PPE highlighted by 92% and 81% of respondents respectively.

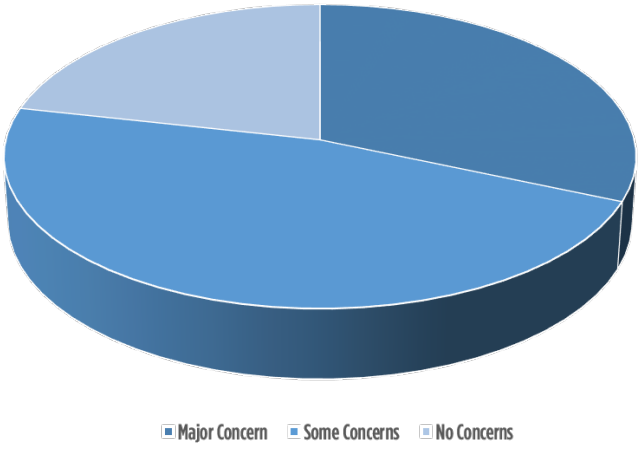
Meanwhile, nearly 90% of respondents reported concerns about the pressure to catch up on missed content during the lockdown period (and potential further periods of lockdown during the next academic year). A similar level of respondents (science leaders and teachers) were concerned about the lack of certainty around 2021 examinations (14-16 and post-16).

What are your concerns, if any, for carrying out practical work post lockdown?

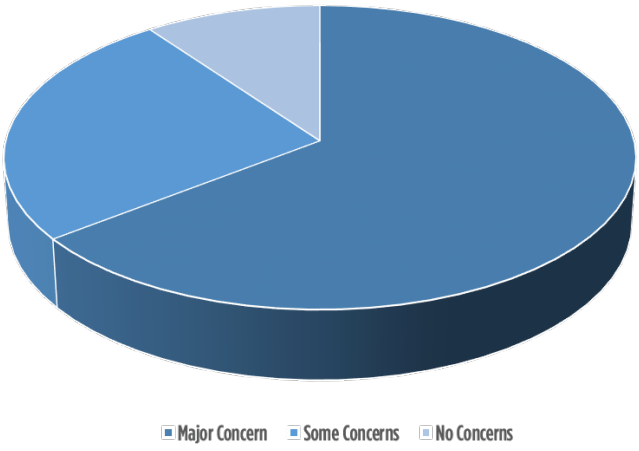
Practicalities of carrying out practical work while social distancing eg. lab and prep room size restrictions



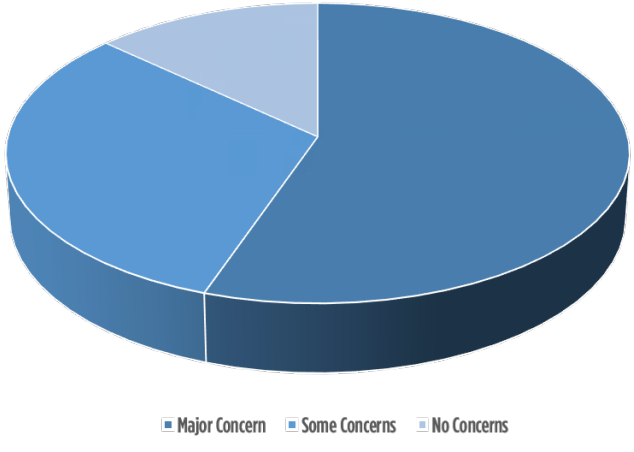
Adequate PPE for staff and students



Uncertainty around 2021 examinations (14-16 and post-16)



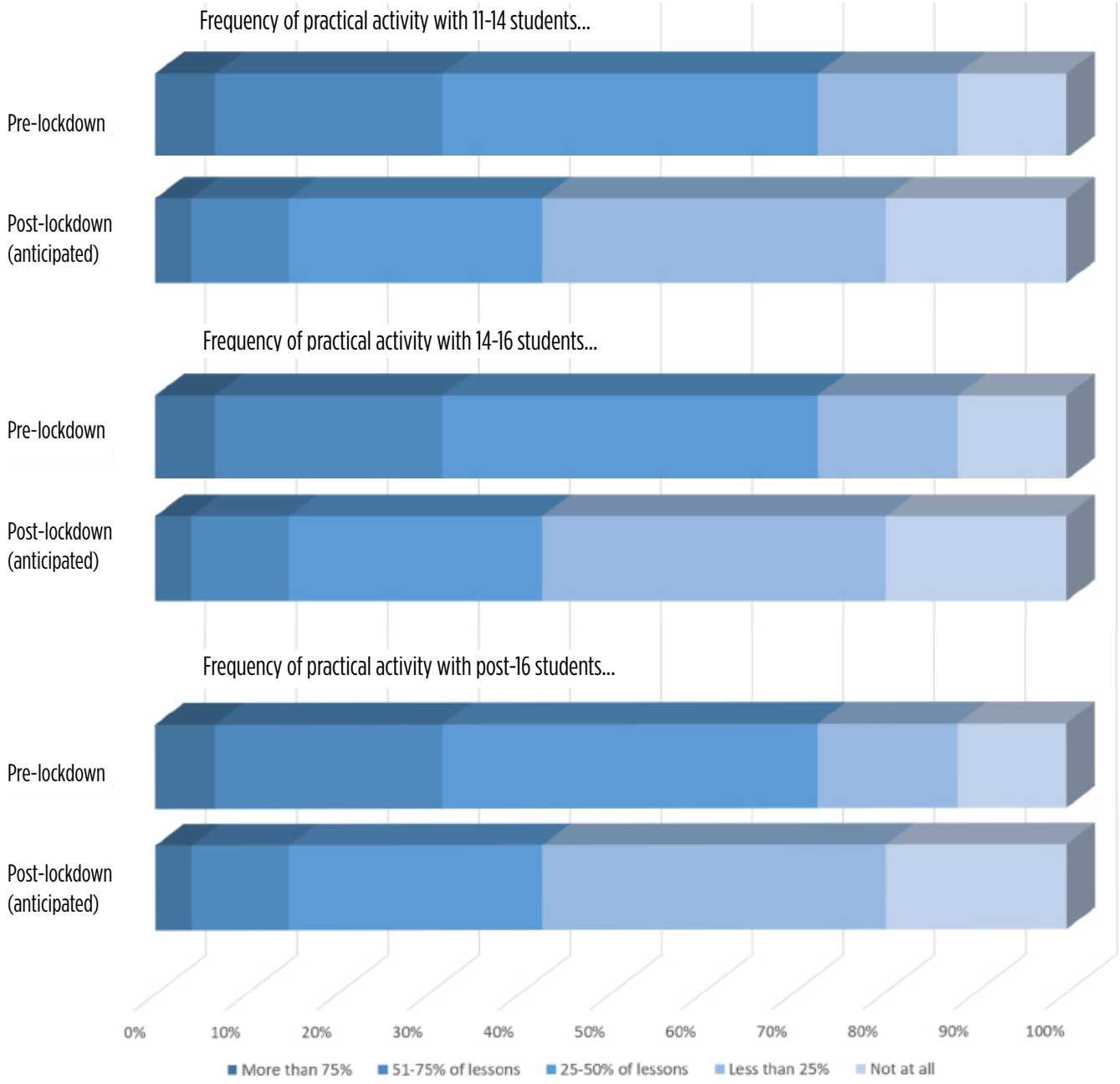
Pressure to catch up on missed content



Key Findings

Frequency, focus and impact on students' attainment

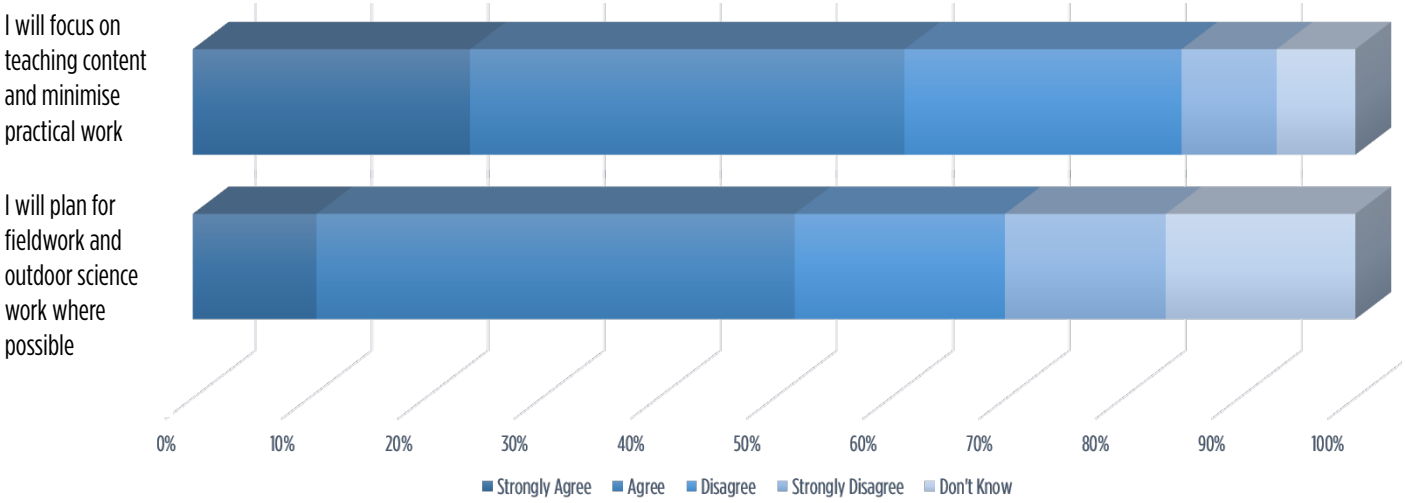
Schools and colleges are anticipating a sharp reduction in the frequency of practical science taught from September to all age groups and – perhaps most worryingly – there are likely to be at least 20% of examination classes (GSCE and A level) experiencing no practical science at all.



Key Findings

Frequency, focus and impact on students' attainment

Over 60% respondents (science leaders and teachers) will focus on teaching content and will minimise practical work. Over 30% of respondents (science leaders and teachers) are not planning for fieldwork and outdoor science work in the next academic year.

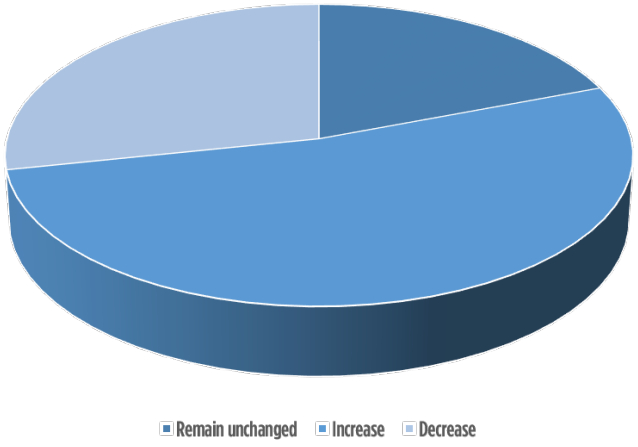


Key Findings

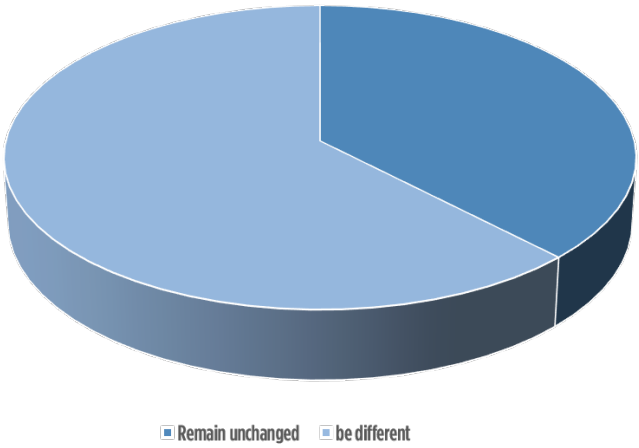
Staffing – technicians

Over 80% of technicians have some concerns over an increased workload or changes to working practices and 25% of technicians anticipate that their workload will not be manageable within their normal hours. Incidentally, approximately 25% of technicians who responded to the survey have been furloughed (from their independent school roles) and, anecdotally, some technicians are fearful of redundancy.

Compared to pre-lockdown, as my school or college reopens to most students, I anticipate that my workload will...

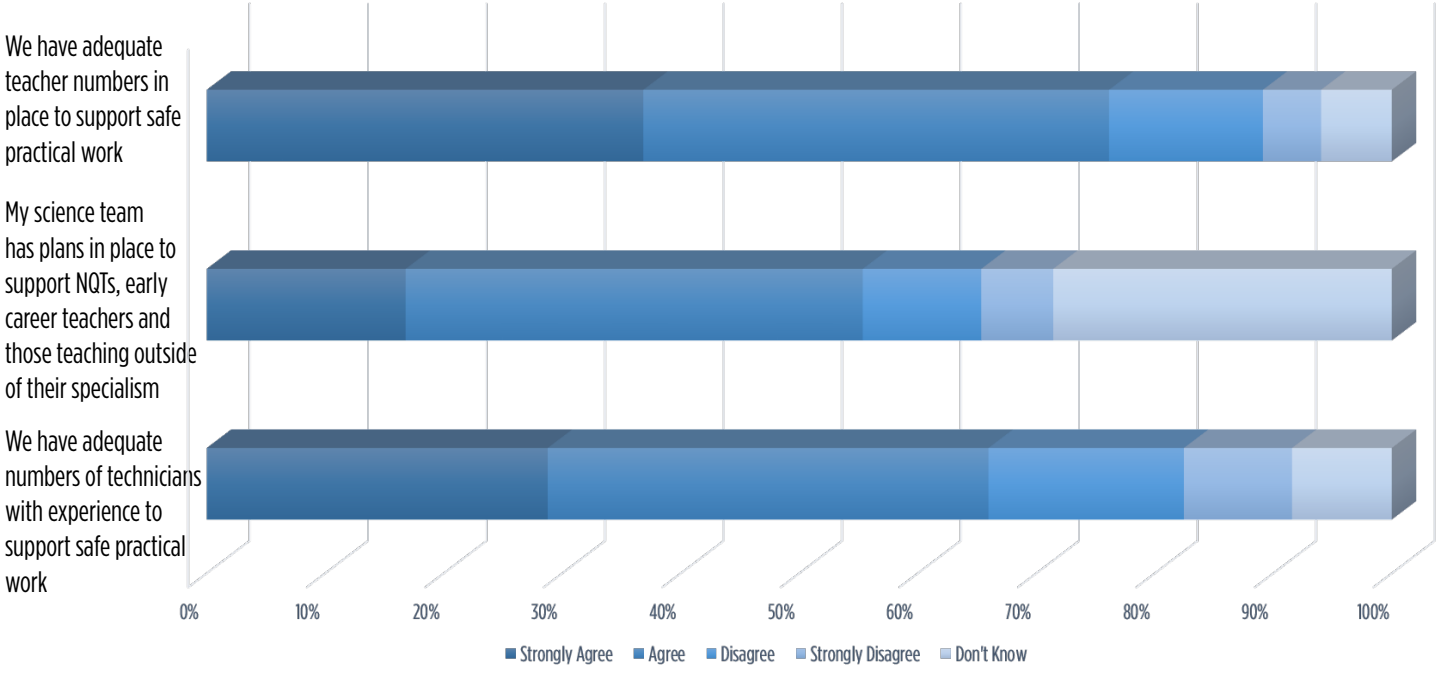


Compared to pre-lockdown, as my school or college reopens to most students, I anticipate my role and tasks will...



Staffing – science leaders and teachers

Eighteen percent of respondents (science leaders and teachers) felt that their school or college does not have adequate teachers with biology, chemistry and physics expertise to support safe practical work (Q27). Sixteen percent of respondents (science leaders and teachers) felt that their science team does not have plans in place to support NQTs, early career teachers and those teaching outside of their specialism (Q27).



Positive outcomes and opportunities arising

Key messages highlighted by the 100 science leaders and teachers, and over 300 technicians, who responded to an open question on positive outcomes and opportunities arising included:

- Some science teams have used the lockdown period to work more collaboratively than previously in planning new schemes of learning for an effective online (or blended) learning offering, and for more effective practical activities when students are in school.

- Some technicians have played a valuable role in these planning and development activities, which they enjoyed and appreciated their recognition, alongside tackling neglected tasks that have always been on the back burner due to time constraints. Time constraints apply particularly to technicians employed on term time-only contracts.

- Many teachers and technicians have capitalised on their time working from home to embrace valued professional development opportunities, such as ASE's Covid-19 science education support webinar series, Institute Of Physics' Covid-19 support and Royal Society of Chemistry's online CPD, and they hope that these professional learning opportunities, together with the time and energy involved, may continue in the future. ASE has also received a record-breaking number of Chartered Science Teacher (CSciTeach) applications over this period.

Appendix - Full Survey Results

Practical science in a post-lockdown world; opportunities and challenges for secondary schools and colleges *(survey of science leaders and teachers)*

Q1 Where are you based?

ANSWER CHOICES	RESPONSES	PERCENTAGE
London	52	12.71%
South East	100	24.45%
South West	39	9.54%
West Midlands	30	7.33%
North West	30	7.33%
North East	12	2.93%
Yorkshire and the Humber	41	10.02%
East Midlands	30	7.33%
East Anglia	35	8.56%
Northern Ireland	6	1.47%
Republic of Ireland	0	0.00%
Scotland	14	3.42%
Wales	13	3.18%
Other	7	1.71%
TOTAL	409	

Q2 Which best describes your school or college?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Maintained 11-16	33	8.51%
Maintained 11-19	62	15.98%
Academy 11-16	33	8.51%
Academy 11-19	107	27.58%
Independent 11-16	5	1.29%
Independent 11-19	71	18.30%
Sixth form college	17	4.38%
FE college	14	3.61%
Special school 11-16	4	1.03%
Special school 11-19	6	1.55%
Other	36	9.28%
TOTAL	388	

Q3 Is your school or college in an Opportunity Area or Local Authority Category 5/6?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	31	7.60%
No	138	33.82%
Don't know	239	58.58%
TOTAL	408	

Appendix

Q4 Number on roll

ANSWER CHOICES	RESPONSES	PERCENTAGE
less than 100	16	3.97%
101 - 500	58	14.39%
501 - 1000	135	33.50%
1001+	194	48.14%
TOTAL	403	

Q5 Your current Ofsted (or equivalent) grading

ANSWER CHOICES	RESPONSES	PERCENTAGE
Outstanding	151	38.82%
Good	198	50.90%
Requires improvement	33	8.48%
Inadequate	7	1.80%
TOTAL	389	

Q6 Does your school or college have a policy for practical work in science?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	231	57.75%
No	94	23.50%
Don't know	75	18.75%
TOTAL	400	

Q7 Has your school or college donated PPE during the covid-19 crisis?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	269	68.10%
No	126	31.90%
TOTAL	395	

Q8 Which of the following best describes your role?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Student or early career teacher (science)	10	2.53%
Student or early career teacher (biology)	4	1.01%
Student or early career teacher (chemistry)	5	1.26%
Student or early career teacher (physics)	2	0.51%
Teacher (science)	48	12.12%
Teacher (biology)	39	9.85%
Teacher (chemistry)	44	11.11%
Teacher (physics)	35	8.84%
Science subject leader	182	45.96%
Other	27	6.82%
TOTAL	396	

Appendix

Q9 Do you have individual ASE membership?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	167	41.13%
No	181	44.58%
Lapsed	58	14.29%
TOTAL	406	

Q10 For students working at home, what provision for practical work, if any, has been made? Tick all that apply

	11-14	14-16	POST 16	TOTAL RESPONDENTS
Experiments to do at home	85.11% 160	37.77% 71	27.13% 51	188
In-house live demonstrations	66.67% 28	57.14% 24	50.00% 21	42
In-house recorded demonstrations	59.34% 54	57.14% 52	48.35% 44	91
External demonstrations	70.49% 86	80.33% 98	63.93% 78	122
Simulations	56.31% 116	74.27% 153	65.05% 134	206
Fieldwork and outdoor science	68.25% 43	44.44% 28	36.51% 23	63
Citizen science	69.39% 34	51.02% 25	55.10% 27	49
Open-ended investigative projects	76.52% 88	31.30% 36	32.17% 37	115

Q11 For students attending your school or college, what provision for practical work, if any, has been made? Tick all that apply

	11-14	14-16	POST 16	TOTAL RESPONDENTS
Experiments and practical activities	58.73% 37	47.62% 30	44.44% 28	63
In-house live demonstrations	44.44% 20	64.44% 29	48.89% 22	45
In-house recorded demonstrations	59.26% 16	55.56% 15	48.15% 13	27
External demonstrations	67.65% 23	79.41% 27	44.12% 15	34
Simulations	59.15% 42	80.28% 57	57.75% 41	71
Fieldwork and outdoor science	44.83% 13	48.28% 14	41.38% 12	29
Citizen science	100.00% 14	64.29% 9	35.71% 5	14
Open-ended investigative projects	68.00% 17	40.00% 10	32.00% 8	25

Appendix

Q12 Have you made any particular provision for students in the first year of their GCSEs or A levels?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	90	29.03%
No	220	70.97%
TOTAL	310	

Q13 These are the five purposes of effective practical science from the Good Practical Science report. Which purposes, if any, did you emphasise during lockdown?

	BIG EMPHASIS	SOME EMPHASIS	LITTLE EMPHASIS	NO EMPHASIS	TOTAL	WEIGHTED AVERAGE
Principles of scientific inquiry	17.59% 54	45.60% 140	20.85% 64	15.96% 49	307	2.35
Understanding of theory	55.21% 175	28.71% 91	7.57% 24	8.52% 27	317	1.69
Practical skills such as measurement and observation	14.94% 46	38.31% 118	29.87% 92	16.88% 52	308	2.49
Student motivation and engagement	40.71% 127	39.74% 124	9.62% 30	9.94% 31	312	1.89
Communication, teamwork and perseverance skills	13.31% 41	32.14% 99	30.19% 93	24.35% 75	308	2.66

Q14 Regarding practical work, have there been any new opportunities or positive outcomes from the covid-19 crisis?

Answered	169
Skipped	243

Q15 Does your school or college have CLEAPSS/SSERC or equivalent membership?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	288	97.63%
No	7	2.37%
TOTAL	295	

Q16 Have you read the CLEAPSS/SSERC covid-19 guidance documents?

ANSWER CHOICES	RESPONSES	PERCENTAGE
Yes	201	67.68%
No	96	32.32%
TOTAL	297	

Appendix

Q17 How are you planning for practical work, with social distancing measures?

Answer Choices	Plans in place	Plans in development	Not yet considered	Not possible	Don't know	N/A	Total	Average
Timetabling for labs (and classrooms) including changeover times	36	116	44	28	60	9	293	2.96
Adequate numbers of teachers	72	83	37	29	65	9	295	2.86
Adequate numbers of technicians	90	56	30	43	58	19	296	2.93
Lab (and classroom) and prep room space plus facilities, for social distancing	37	118	42	39	51	9	296	2.92
Equipment for students working individually or in small cohorts	32	122	53	27	55	7	296	2.91
PPE for staff and students	43	95	55	24	68	9	294	3.02
Sterlising fluids, health and safety practices	62	106	49	13	59	7	296	2.74
Curriculum mapping and sequencing	64	134	41	5	46	4	294	2.48
Enabling 'required' practicals for 14-16 and post 16	32	130	45	14	49	21	291	2.93
Any comments?							74	

Appendix

Q18. These are the five purposes of effective practical science from the Good Practical Science report. Bearing in mind that practical work involves discussion, simulations, use of models as well as experimental or investigative activities, which purposes, if any, will you emphasise from September?

Answer Choices	Big emphasis	Some emphasis	Little emphasis	No emphasis	Total	Weighted Average
Principles of scientific inquiry	145	123	13	4	285	1.56
Understanding of theory	190	83	7	4	284	1.38
Practical skills such as measurement and observation	127	127	25	5	284	1.68
Student motivation and engagement	164	88	17	12	281	1.56
Communication, teamwork and perseverance skills	101	135	33	14	283	1.86
Any comments?					33	

Q19. How frequently did you usually carry out some form of practical activity pre-covid-19 with 11-14 students?

Answer Choices	Responses	Response Percent
More than 75% lessons	48	17.45%
Between 51-75% lessons	123	44.73%
Between 25-50% lessons	69	25.09%
Less than 25% lessons	17	6.18%
Not at all	18	6.55%

Q20. How frequently did you usually carry out some form of practical activity pre-covid-19 with 14-16 students?

Answer Choices	Responses	Response Percent
More than 75% lessons	19	6.88%
Between 51-75% lessons	90	32.61%
Between 25-50% lessons	107	38.77%
Less than 25% lessons	41	14.86%
Not at all	19	6.88%

Q21. How frequently did you usually carry out some form of practical activity pre-covid-19 with post 16 students?

Answer Choices	Responses	Response Percent
More than 75% lessons	17	6.54%
Between 51-75% lessons	65	25.0%
Between 25-50% lessons	107	41.15%
Less than 25% lessons	40	15.38%
Not at all	31	11.92%

Appendix

Q22. How frequently do you anticipate carrying out some form of practical activity with 11-14 students next term?

Answer Choices	Responses	Response Percent
More than 75% lessons	8	2.94%
Between 51-75% lessons	41	15.07%
Between 25-50% lessons	59	21.69%
Less than 25% lessons	103	37.87%
Not at all	61	22.43%

Q23. How frequently do you anticipate carrying out some form of practical activity with 14-16 students next term?

Answer Choices	Responses	Response Percent
More than 75% lessons	4	1.48%
Between 51-75% lessons	35	12.96%
Between 25-50% lessons	69	25.56%
Less than 25% lessons	108	40.0%
Not at all	54	20.0%

Q24. How frequently do you anticipate carrying out some form of practical activity with 16+ students next term?

Answer Choices	Responses	Response Percent
More than 75% lessons	10	3.97%
Between 51-75% lessons	27	10.71%
Between 25-50% lessons	70	27.78%
Less than 25% lessons	95	37.7%
Not at all	50	19.84%

Q25. How likely is it that practical work next term will be restricted to 'required' practicals for 14-16 and post 16?

Answer Choices	Responses	Response Percent
Very likely	184	65.25%
Not very likely	76	26.95%
Not applicable	22	7.8%
Please specify	50	15.38%

Q26. Of the 'required' practicals for 14-16 and post 16, are there any which will be difficult or impossible to take place?

Answered	163
Skipped	249

Appendix

Q27. To what extent do you agree with these statements about practical work, from September?

Answer Choices	Strongly agree	Agree	Disagree	Strongly disagree	Don't know	Total	Average
I feel adequately supported to enable safe practical work	37	76	77	45	50	285	3.59
I feel adequately informed to enable safe practical work	42	104	60	43	36	285	3.23
I feel I have contributed to my science team's planning	91	102	44	21	27	285	2.59
My science team has worked together in planning for practical work	40	105	73	43	25	286	3.17
My science team has the support of our senior leadership for our plans	52	91	22	21	100	286	3.59
My school or college has adequate teachers with biology, chemistry and physics experience to support safe practical work	105	112	37	14	17	285	2.28
My science team has plans in place to support NQTs, early career teachers and those teaching outside of their specialism	47	108	28	17	80	280	3.36
My school or college has adequate technicians with experience to support safe practical work	82	106	47	26	24	285	2.65
I feel satisfied with our provision for practical work during lockdown	23	72	101	57	32	285	3.68
In the event of a future lockdown, my science team is well prepared to support practical work	15	64	107	61	39	286	3.88
I will focus on teaching content and minimise practical work	67	105	67	25	19	283	2.77
I will plan for fieldwork and outdoor science work where possible	30	116	51	39	46	282	3.32

Appendix

Reduced practical work will have an impact on students' attainment in 2021 exams (14-16 and post 16)	74	104	50	24	33	285	2.81
Any comments?						39	

Q28. What are your concerns, if any, for carrying out practical work post lockdown?

Answer Choices	Major concern	Some concerns	No concerns	Total	Weighted Average	Total
Practicalities of carrying out practical work while social distancing eg. lab and prep room size restrictions	187	90	6	283	1.36	285
Adequate PPE for staff and students	89	133	61	283	1.9	285
Adequate equipment for students working individually or in small groups	141	104	38	283	1.64	285
Staffing or personal considerations eg. workload and risks to personal health	128	119	36	283	1.67	286
Students' skills and experiences of working individually with confidence	87	147	49	283	1.87	286
Pressure to catch up on missed content	156	89	37	282	1.58	
Uncertainty around 2021 examinations (14-16 and post 16)	173	76	30	279	1.49	
Other concerns (please specify below)	23	11	51	85	2.33	
Other (please specify)				42		

Q29. ASE has provided support during the covid-19 crisis through our Coronavirus Hub and Webinar series and we have recommended support from other stakeholders. What support, if any, have you found helpful?

Answered	102	Skipped	310

Q30. ASE has provided support during the covid-19 crisis through our Coronavirus Hub and Webinar series. What additional support, if any, would you like from ASE and other stakeholders in planning for practical work from September?

Answered	87	Skipped	325

Q31. And finally, if you are interested in contributing further to ASE's understanding of the opportunities and challenges for practical science in a post-lockdown world, please provide your email address below. This will be kept confidential

Answered	71	Skipped	341

Appendix

Practical science in a post-lockdown world; opportunities and challenges for secondary schools and colleges *(survey of science technicians)*

Q1 Where are you based?

Answer Choices	Responses	Response Percent
London	43	9.11%
South East	110	23.31%
South West	53	11.23%
West Midlands	40	8.47%
North West	49	10.38%
North East	14	2.97%
Yorkshire and the Humber	43	9.11%
East Midlands	36	7.63%
East Anglia	42	8.9%
Northern Ireland	8	1.69%
Republic of Ireland	0	0.0%
Scotland	13	2.75%
Wales	19	4.03%
Other	2	0.42%
Other (please specify)	6	

Q2. Which best describes your school or college?

Answer Choices	Responses	Response Percent
Maintained 11-16	45	9.64%
Maintained 11-19	60	12.85%
Academy 11-16	81	17.34%
Academy 11-19	177	37.9%
Independent 11-16	5	1.07%
Independent 11-19	51	10.92%
Sixth form college	16	3.43%
FE college	10	2.14%
Special school 11-16	0	0.0%
Special school 11-19	1	0.21%
Other	21	4.5%
Other (please specify)	29	

Q3. Is your school or college in an Opportunity Area or Local Authority Category 5/6?

Answer Choices	Responses	Response Percent
Yes	26	5.51%
No	67	14.19%
Don't know	379	80.3%

Appendix

Q4. Number on roll

Answer Choices	Responses	Response Percent
less than 100	3	0.63%
101 - 500	47	9.94%
501 - 1000	177	37.42%
1001+	246	52.01%

Q5. Your current Ofsted (or equivalent) grading

Answer Choices	Responses	Response Percent
Outstanding	133	28.85%
Good	256	55.53%
Requires improvement	64	13.88%
Inadequate	8	1.74%

Q6. Does your school or college have a policy for practical work in science?

Answer Choices	Responses	Response Percent
Yes	290	61.7%
No	57	12.13%
Don't know	123	26.17%

Q7. Has your school or college donated PPE during the covid-19 crisis?

Answer Choices	Responses	Response Percent
Yes	379	80.3%
No	93	19.7%

Q8. Which of the following best describes your role?

Answer Choices	Responses	Response Percent
Technician (science)	301	65.72%
Technician (biology)	36	7.86%
Technician (chemistry)	52	11.35%
Technician (physics)	29	6.33%
Other	40	8.73%
Other (please specify)	66	

Q9. Do you have individual ASE membership?

Answer Choices	Responses	Response Percent
Yes	175	36.92%
No	260	54.85%
Lapsed	39	8.23%

Appendix

Q10. Whilst my school or college was closed to most students, my workload was

Answer Choices	Responses	Response Percent
unchanged	49	11.45%
increased	9	2.1%
decreased	370	86.45%
Please specify	221	

Q11. Whilst my school or college was closed to most students, my role and tasks were

Answer Choices	Responses	Response Percent
unchanged	80	19.32%
different	334	80.68%
Please specify	280	

Q12. Compared to pre-lockdown, as my school or college reopens to most students, I anticipate that my workload will

Answer Choices	Responses	Response Percent
remain unchanged	81	19.24%
increase	221	52.49%
decrease	119	28.27%
Please specify	224	

Q13. Compared to pre-lockdown, as my school or college reopens to most students, I anticipate my role and tasks will

Answer Choices	Responses	Response Percent
remain unchanged	165	37.67%
be different	273	62.33%
Please specify	178	

Q14. What are the positive outcomes and opportunities from the covid-19 crisis?

Answered	322	Skipped	154

Q15. Does your school or college have CLEAPSS/SSERC or equivalent membership?

Answer Choices	Responses	Response Percent
Yes	415	99.76%
No	1	0.24%

Q16. Have you read the CLEAPSS/SSERC covid-19 guidance documents?

Answer Choices	Responses	Response Percent
Yes	403	96.88%
No	13	3.13%

Appendix

Q17. How are you preparing for practical work?

Answer Choices	Plans in place	Plans under development	Not yet considered	Not possible	Total	Weighted Average
Adequate number of technicians to support practicals	86	128	159	37	410	2.36
Technicians have adequate support for working on their own	99	128	169	11	407	2.23
Adequate space for preparation in prep rooms	144	103	116	45	408	2.15
Adequate PPE for staff and students	126	163	100	19	408	2.03
Adequate sterilising fluids for cleaning eye protection between uses	108	176	116	10	410	2.07
Adequate lab space and facilities for students to work individually	41	176	110	81	408	2.57
Adequate lab space and facilities for students to work in small groups	51	168	158	30	407	2.41
Adequate sets of equipment for students to work individually	58	146	116	88	408	2.57
Adequate changeover time to allow for cleaning etc.	26	148	191	41	406	2.61
Timetabling for students in labs (and classrooms) for practical work	27	172	187	18	404	2.49
Any comments?					152	

Q18. How likely is it that practical work next term will be restricted to 'required' practicals for 14-16 and post 16?

Answer Choices	Responses	Response Percent
Very likely	297	77.75%
Not very likely	69	18.06%
Not applicable	16	4.19%
Please specify	116	163

Q19. Of the 'required' practicals for 14-16 and post 16, are there any which will be difficult or impossible to take place?

Answered	283	Skipped	193

Appendix

Q20. To what extent do you agree with these statements about practical work, from September?

Answer Choices	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know	Total	Weighted Average
I feel adequately supported to enable safe practical work	48	115	98	75	37	33	406	3.09
I feel adequately informed to enable safe practical work	57	151	80	63	32	21	404	2.81
My school or college has adequate experienced technicians to support safe practical work	142	154	43	29	25	12	405	2.2
I anticipate my workload will be manageable within my normal hours	41	125	74	74	29	61	404	3.27
Any comments?							99	

Q21. What are your concerns, if any, for carrying out practical work post lockdown?

Answer Choices	Major concern	Some concerns	No concerns	Total	Weighted Average
Practicalities of carrying out practical work while social distancing eg. lab and prep room size restrictions	166	206	20	392	1.63
Adequate PPE for staff and students	88	175	129	392	2.1
Adequate equipment for students working individually or in small groups	119	203	72	394	1.88
Personal risk to health	80	216	98	394	2.05
Increase in workload	105	209	76	390	1.93

Appendix

Changes to my working practices changes	75	230	88	393	2.03
Students' skills and experiences of working individually with confidence	143	211	37	391	1.73
Pressure to catch up on missed content	185	171	33	389	1.61
Uncertainty around 2021 examinations (14-16 and post 16)	143	203	48	394	1.76
Other concerns (please specify below)	50	42	82	174	2.18
Other (please specify)				101	

Q22. ASE has provided support during the covid-19 crisis through our Coronavirus Hub and Webinar series and we have recommended support from other stakeholders. What support, if any, have you found helpful?

Answered	206	Skipped	270

Q23. ASE has provided support during the covid-19 crisis through our Coronavirus Hub and Webinar series. What additional support, if any, would you like from ASE and other stakeholders in planning for practical work from September?

Answered	143	Skipped	333

Q24. And finally, if you are interested in contributing further to ASE's understanding of the opportunities and challenges for practical science in a post-lockdown world, please provide your email address below. This will be kept confidential.

Answered	115	Skipped	361