Science Learning Centre panel February 2012 Practical Science Survey Topline Report:

Prepared for	Gatsby Foundation
Prepared by	EdComs
Date	February 2012

1. Introduction

Gatsby used the National Science Learning Centre teacher panel, managed by EdComs on behalf of MyScience.co Ltd, in order to carry out a survey in January and February 2012 with Science teachers in secondary schools and FE colleges. The survey focussed on teachers' views and experiences of practical work in Science.

This report provides key topline findings from the survey.

1.1 About the sample

The National Science Learning Centre teacher panel, which was used for this research, is recruited from a number of sources. Some are recruited from the Science Learning Centres' own contact databases. Others, particularly those who are not engaged with the Science Learning Centres, are recruited through other channels such as EdComs' own teacher database, databases provided by The Education Company and through social media recruitment, carried out by EdComs' digital marketing division.

1.2 Sample profile

The panel survey received **396** responses overall. The way that the sample was broken down is detailed below.

Table 1: School category

	Total (396) %
Secondary	90
FE College	10

Table 2: Secondary school size

	Total (356) %
Under 1,000 pupils	46
Over 1,000 pupils	54

Table 3: FE College size

	Total (40) %
Under 1,000 pupils	13
Over 1,000 pupils	88

Table 4: School type[1]

	Total (396) %
Academy	32
FE College	9
Sixth Form College	4
Independent School	4
State School	55
Free School	1

Table 5: Region

	Total (396) %
North West	17
South East	15
London	14
West Midlands	11
South West	10
East of England	9
Yorkshire and the Humber	8
North East	8
East Midlands	8

Table 6: Respondent Role

	Total (396) %
Teacher	43
Head of Science	36
Science Co-ordinator	14
Headteacher	3
Other	4

Table 7: Respondents by Subject Specialism

	Total (396) %
Physics	24
Chemistry	27
Biology/Psychology	38
Other Science	7

Table 8: Years in teaching

	Total

[1] Note that respondents were able to select more than one option

	(396) %
Less than one year	2
1 – 2 years	5
3 – 5 years	17
6 – 10 years	28
11 – 20 years	28
More than 20 years	21

Table 9: Key Stage taught[2]

	Total (396) %
Key Stage 3	82
Key Stage 4	89
Key Stage 5	54
No data	1

Table 10: Engagement with Science Learning Centres

	Total (396) %
Attended three or more courses	23
Attended one or two courses	43
Not attended any courses, but registered on the portal	19
No current relationship	15

Where respondents are mentioned as being engaged or unengaged with the NSLC or rSLCs, the definition is based on responses to this question. Those who have attended one or two Science Learning Centre courses, or three or more Science Learning Centres courses are defined as engaged. Respondents who have registered on the portal but not attended a course are considered to be unengaged. Respondents who have no current relationship with a Science Learning Centre are also considered to be unengaged.

Those who are engaged with a Science Learning Centre were also asked whether this was the National Science Learning Centre, a regional Science Learning Centre, or both.

Table 11: Which Science Learning Centres engaged with

	Total (261)

[2] Note that respondents were able to select more than one Key Stage

	%
National Science Learning Centre	34
Regional Science Learning Centre	36
Both	30

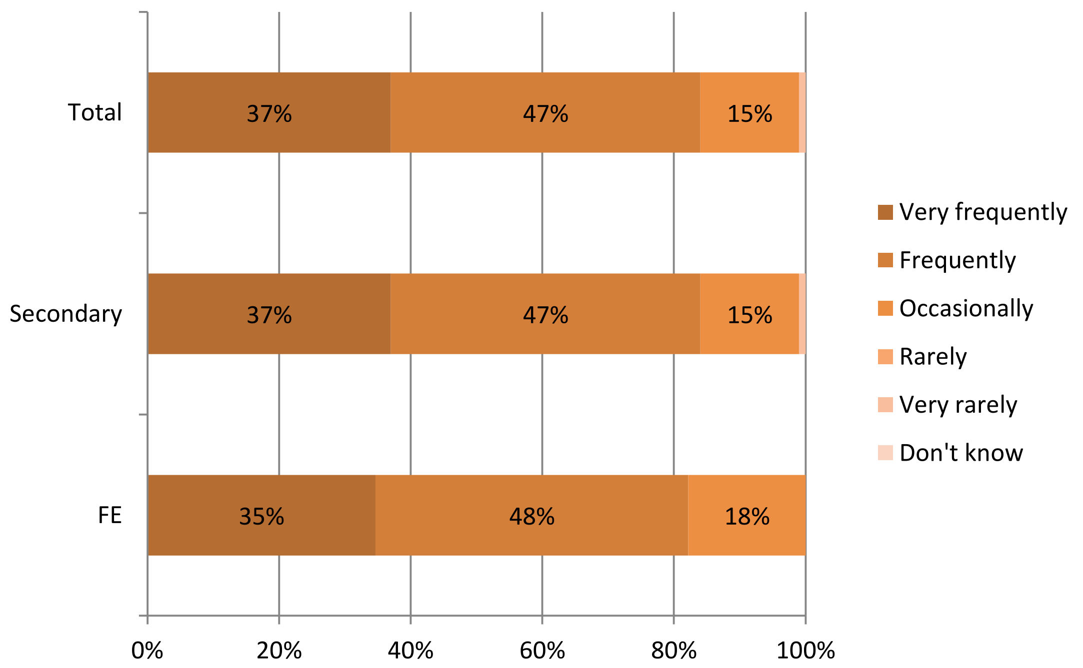
2. Main Findings

The sample that took part in this survey included those from secondary schools and FE colleges. However, it should be noted that respondents were not represented in equal proportions in the survey. Overall, 90% of the respondents were from secondary schools and 10% from FE colleges. Therefore, when considering differing results between these two groups, it is important that the sample group bases are taken into account. However, where there are statistically significant differences, these have been noted in the commentary.

2.1 Practical work in class

The survey began by asking respondents about how often they use practical work with students in their classes.

Figure 2.1.1 How often do you use practical work with your students in Science classes? SINGLE CODE PER ANSWER Base: All respondents, n=396, (secondary=356, FE college=40)

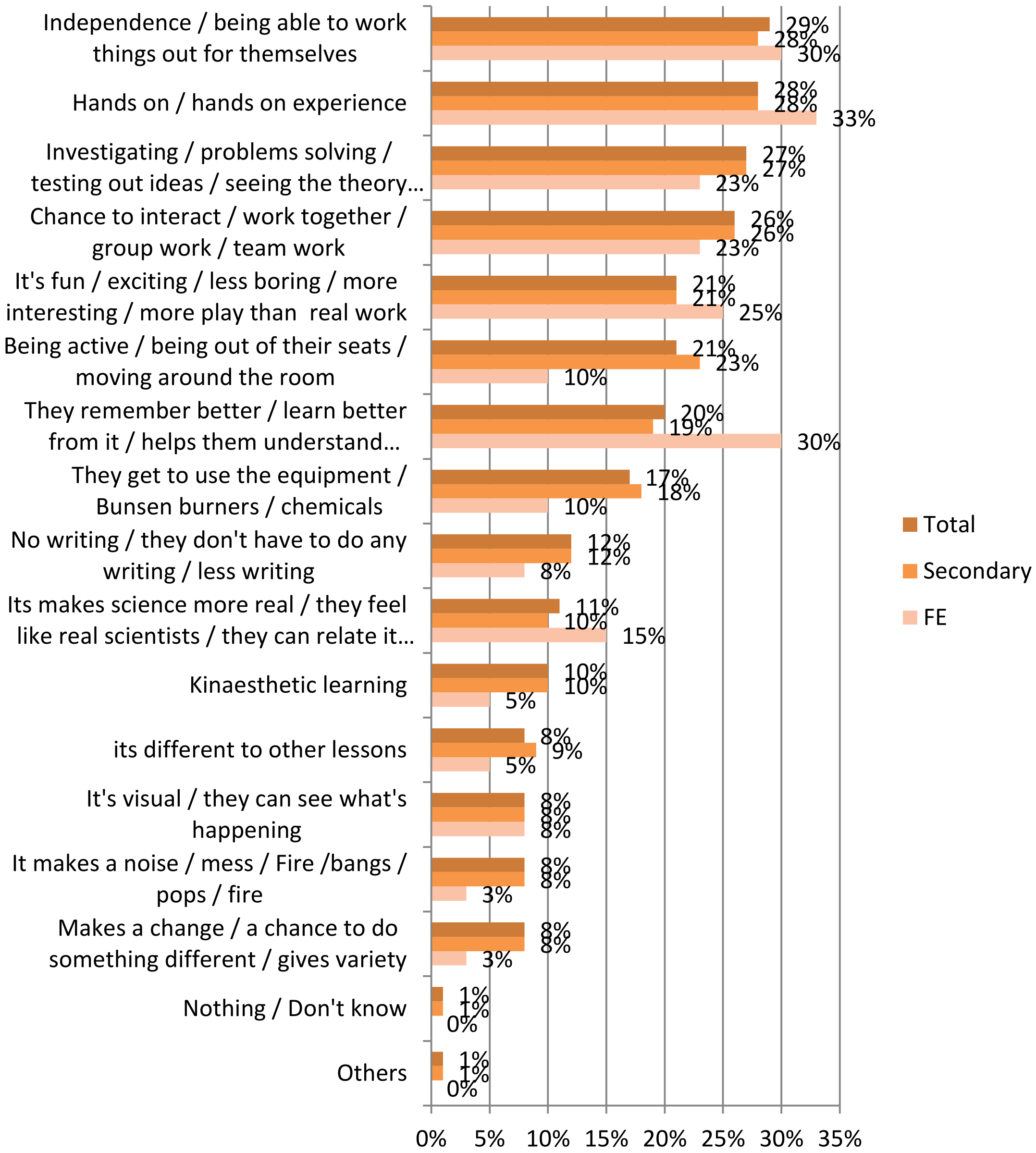


Most respondents said that they use practical work frequently (47%) or very frequently (37%). By contrast, only a very small proportion overall (1%) said that practical work was a rare occurrence.

The reported frequencies were very similar in secondary schools (where 84% said that they used practical work frequently) and in FE colleges (where 83% said the same).

Respondents were then asked an open question about what they thought their students liked and disliked about carrying out practical work.

Figure 2.1.2 What do your students like about carrying out practical work? OPEN QUESTION Base: All respondents, n=396, (secondary=356, FE college=40)



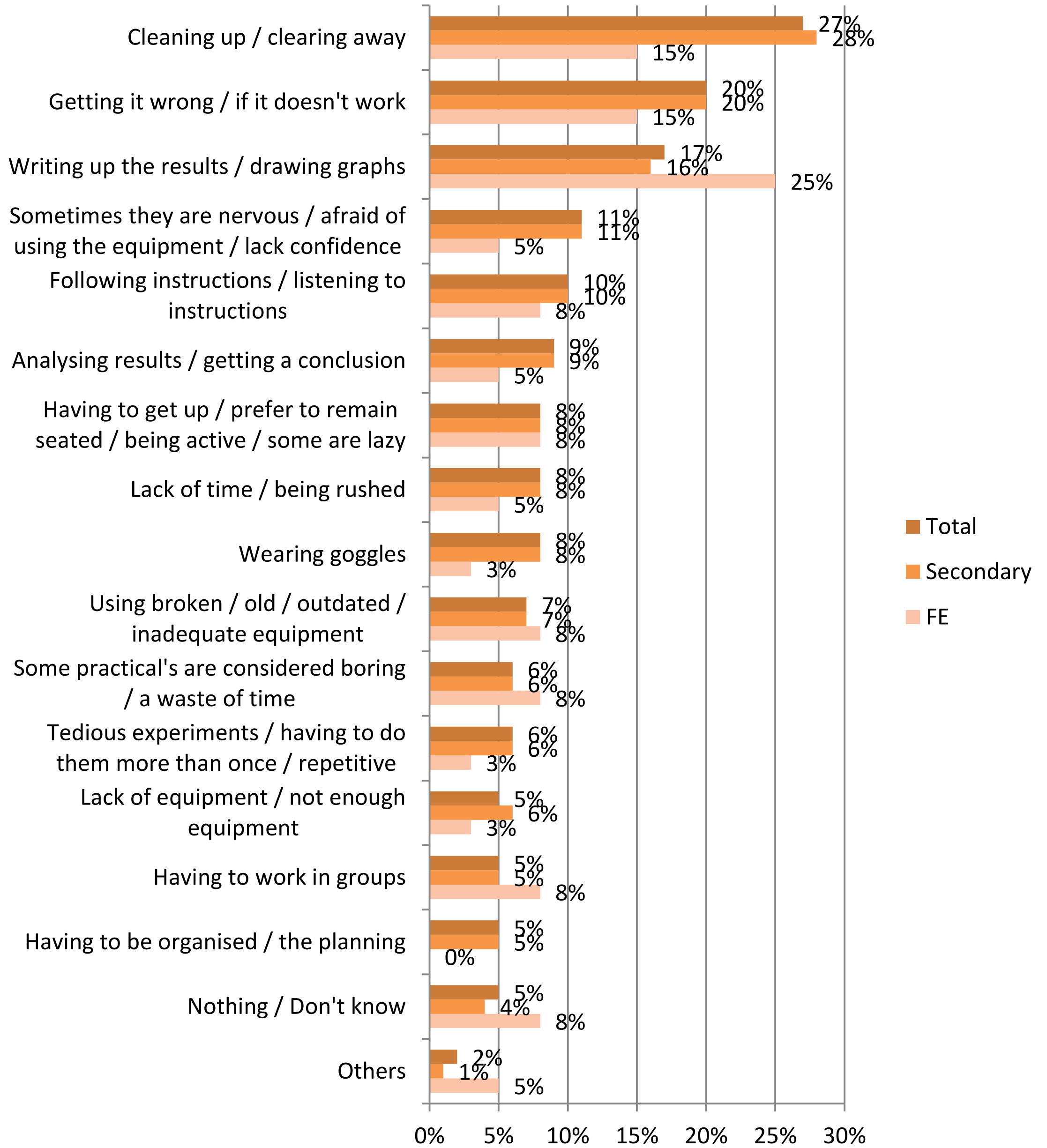
The most commonly given responses almost all related to the fact that practical work offered different challenges to some other types of classroom learning, such as:

- Working independently (29%)
- The hands-on nature of the work (28%)
- The problem-solving element (27%)
- The opportunity for teamwork (26%)

There was also a perception that practical work was more exciting for pupils than other lessons (which was mentioned by 23%). There were no significant differences between the responses that teachers from secondary schools and teachers from FE colleges gave at this question.

The teachers were also asked an open question about their perceptions of what students did not like about practical work.

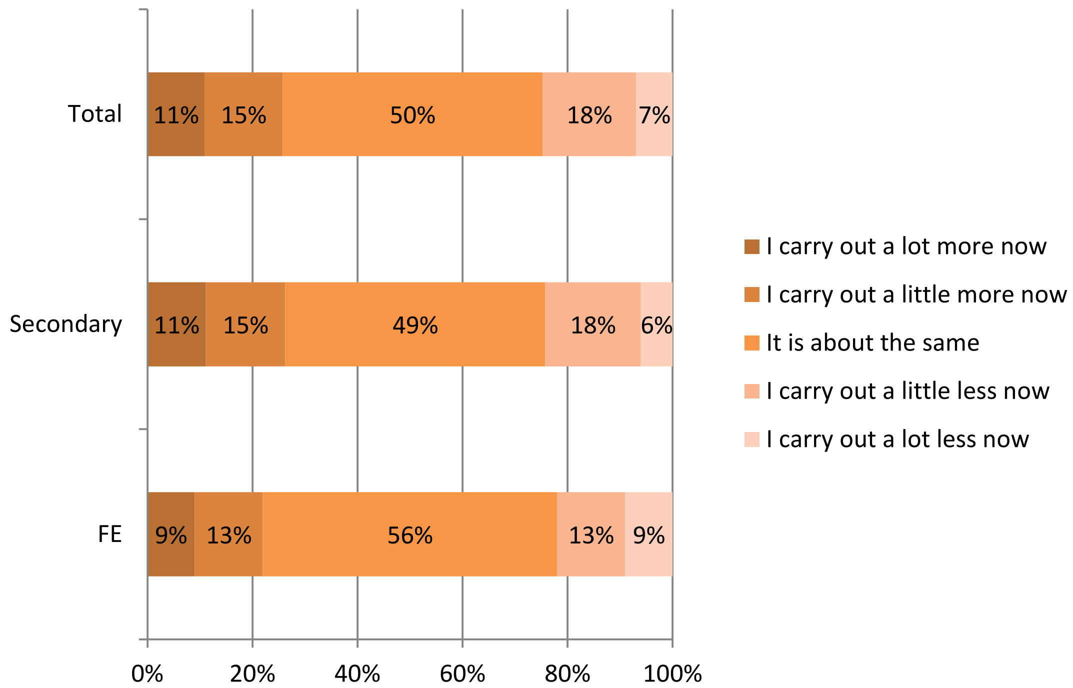
Figure 2.1.3 What do your students dislike about carrying out practical work? OPEN QUESTION Base: All respondents, n=396, (secondary=356, FE college=40)



The most commonly cited dislike was students having to clear away after themselves (mentioned by 27% of teachers), and two of the other five most-mentioned dislikes related to specific tasks, such as having to write up the results (17%) and having to follow instructions (10%). The other most commonly mentioned features both related to a fear of making mistakes. One in five (20%) felt that students were worried about getting experiments wrong, while one in nine (11%) said that they lack confidence using the equipment.

The next question asked the teachers about any changes that they had noticed to practical work over the course of the last five years. In order to ensure that these questions were answered by teachers with enough experience, they were only asked of teachers with more than five years' experience.

Figure 2.1.4 How does the amount of practical work you carry out in Science classes compare with how much you carried out 5 years ago? SINGLE CODE Base: All respondents who have been a teacher for longer than 5 years, n=304 (secondary=272, FE college=32)

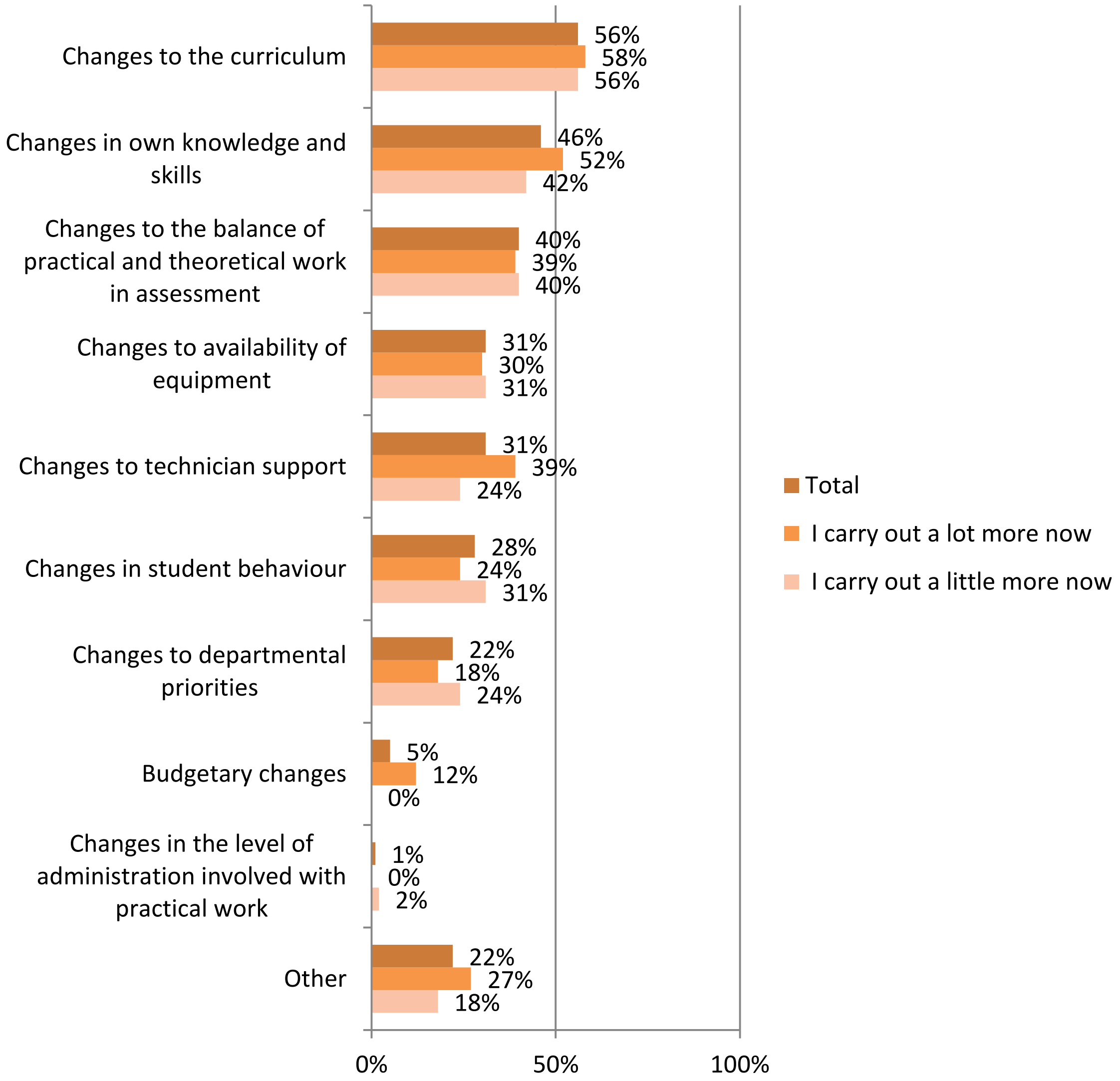


Half of these teachers said that the amount of practical work that they carried out now was about the same as they did five years ago (50%). Roughly equal proportions also said that they carry out more now (26%) as said that they carry out less (24%).

Again, there were no differences in the answers from respondents from secondary schools and respondents from FE Colleges.

Those respondents who said that there had been a change in the amount of practical work they carry out in the last five years were then asked what had caused this change.

Figure 2.1.5 What are the main reasons that you now carry out more practical work than you did? MULTICODE Base: All respondents who carry out a lot/a little more practical work than 5 years ago, n= 78 (a lot more=33, a little more=45)[3]

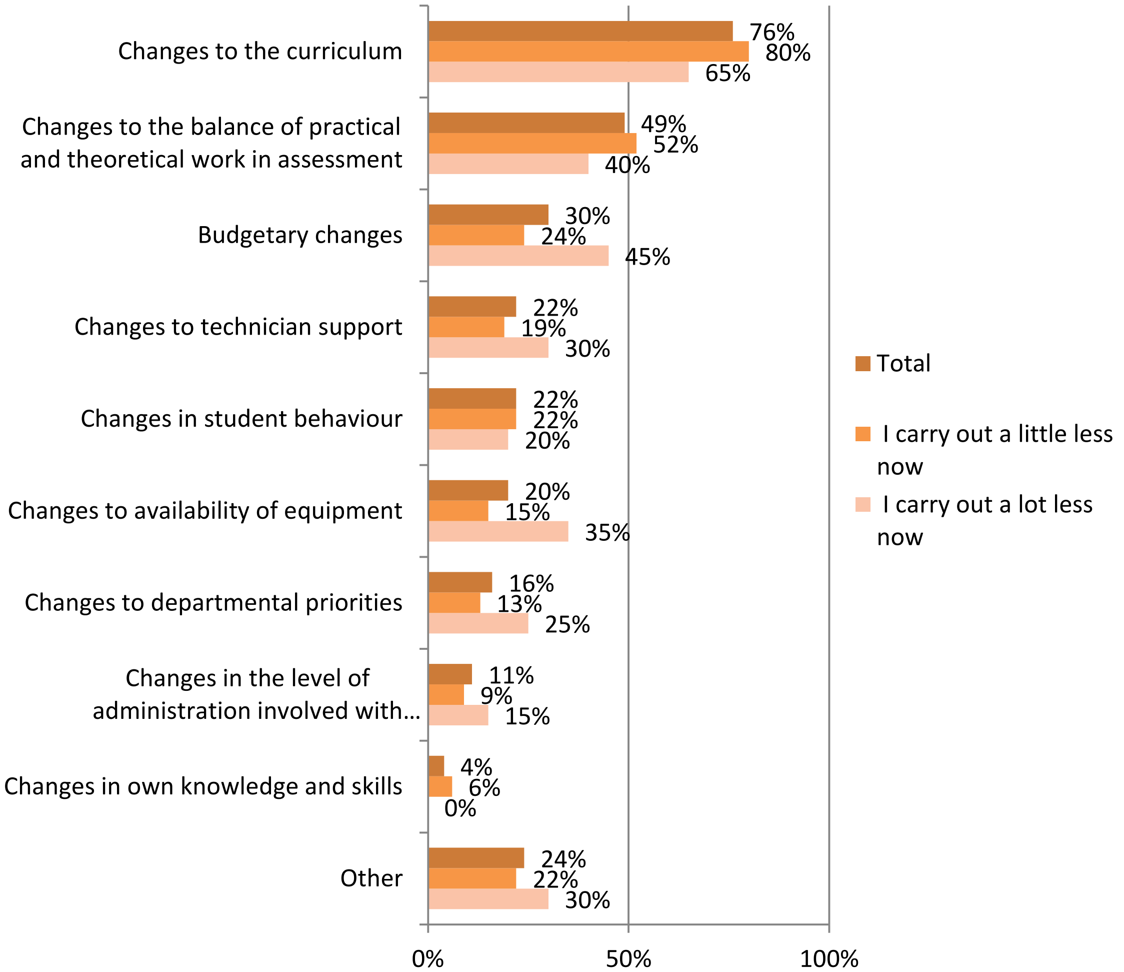


Among those who now carry out more practical work, the most commonly cited reasons were changes to the curriculum (56%) and changes in the teacher's own knowledge and skills (46%).

[3] The base for respondents from FE colleges is too small to chart separately at this question

Those respondents who now carry out less practical work were also asked why this was.

Figure 2.1.6 What are the main reasons that you carry out less practical work now than you did? MULTICODE Base: All respondents who carry out a lot/a little less practical work than 5 years ago, n= 74 (a little less=54, a lot less=20)[4]



Once again, the curriculum was given as the primary reason (with 76% of respondents mentioning this). The fact that the curriculum is given both as the main reason for increasing practical work and also the main reason for decreasing it, may indicate that there is disagreement among some of the teachers who responded as to how the curriculum has changed. The proportion of teachers who were doing less work who mention the curriculum is greater than the proportion who were doing more work (76% compared to 56%). This indicates that among our respondents the curriculum was overall a stronger reason for them to do less practical work than it was to do more practical work.

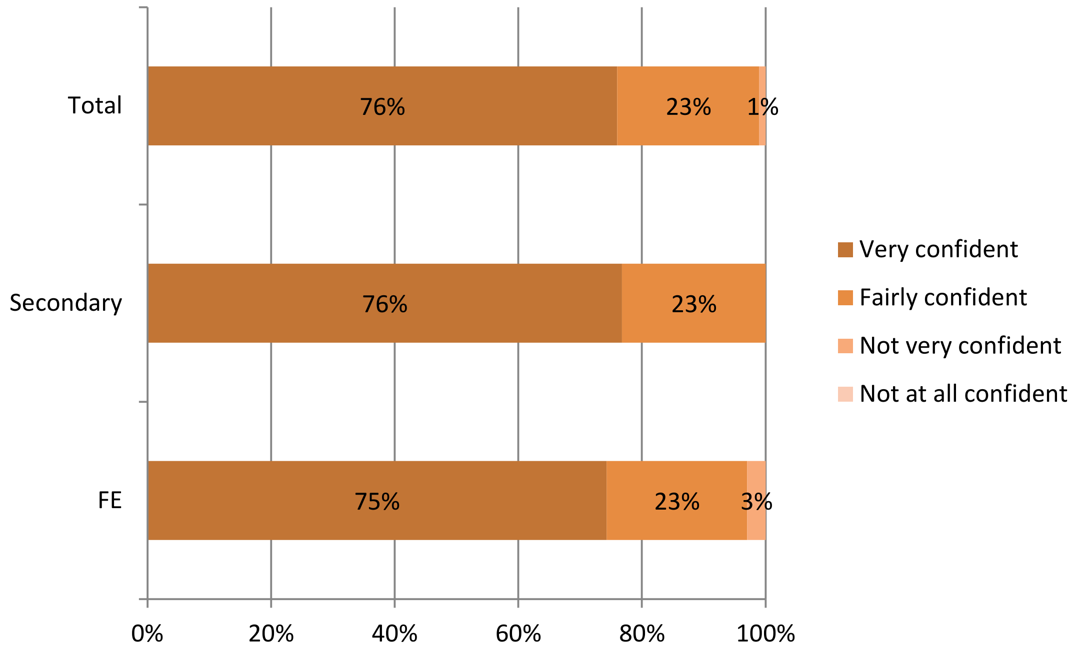
[4] The base for respondents from FE colleges is too small to chart separately at this question

The other most commonly mentioned factor, which almost half of respondents gave, were changes in the balance of practical and theoretical work in assessment (which was mentioned by 49%).

2.2 Expertise in practical work

Respondents were asked how confident they were in using experiments in their teaching.

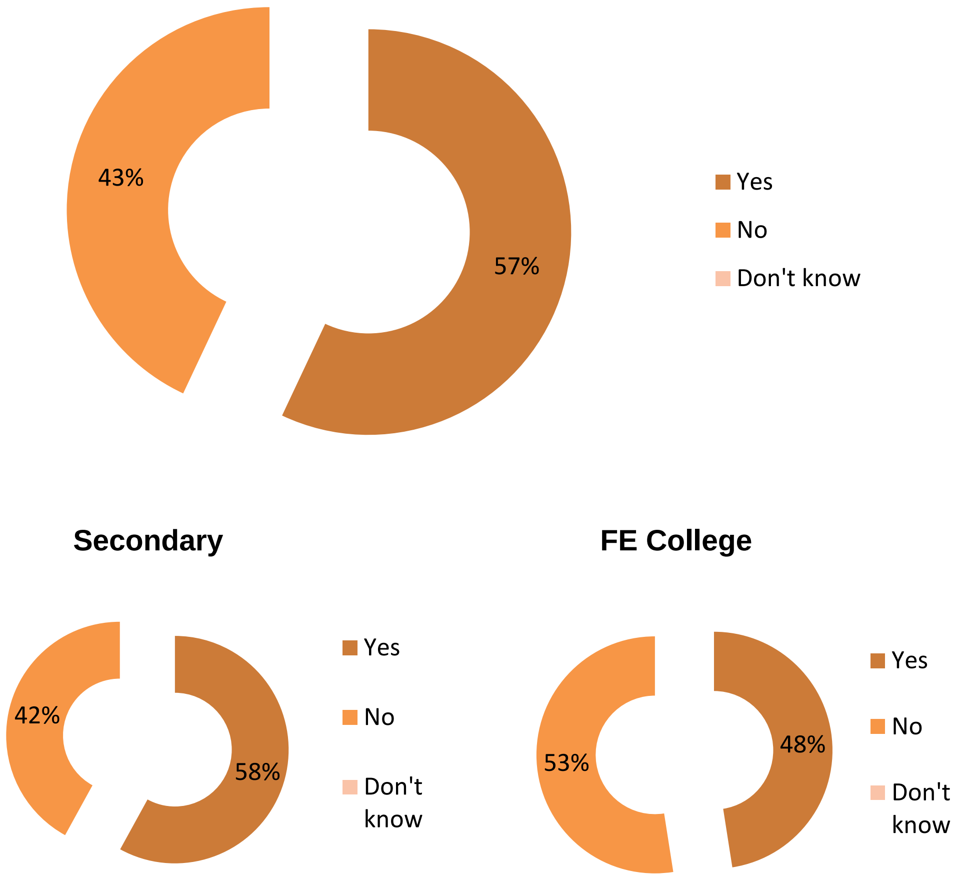
Figure 2.2.1 How confident are you in using experiments as part of your teaching? SINGLE CODE PER OPTION Base: Base: All respondents, n=396, (secondary=356, FE college=40)



There were no problems with respondents' confidence in this. Almost all of the teachers reported that they were confident in using experiments as part of their teaching (99%). Three quarters of respondents said that they were very confident (76%).

Respondents were then asked whether or not they had shared expertise or ideas with colleagues in nearby schools in the past year.

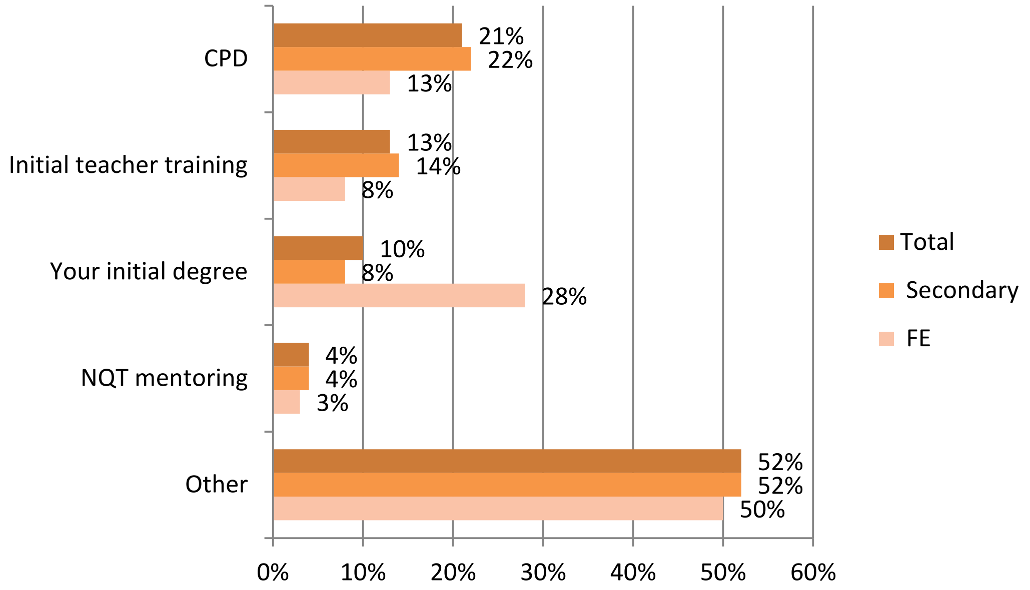
Figure 2.2.2 Have you shared expertise or ideas with colleagues in nearby schools or colleges in the past year? SINGLE CODE Base: All respondents, n=396 (secondary=356, FE college=40)



Many respondents were sharing expertise relating to practical work with other teachers. The majority of teachers have shared expertise or knowledge with their colleagues over the past year (57%). There were no significant differences between the levels of sharing from respondents in secondary schools and respondents in FE colleges.

The teachers were asked what had been the single most effective thing in developing their expertise in using experiments.

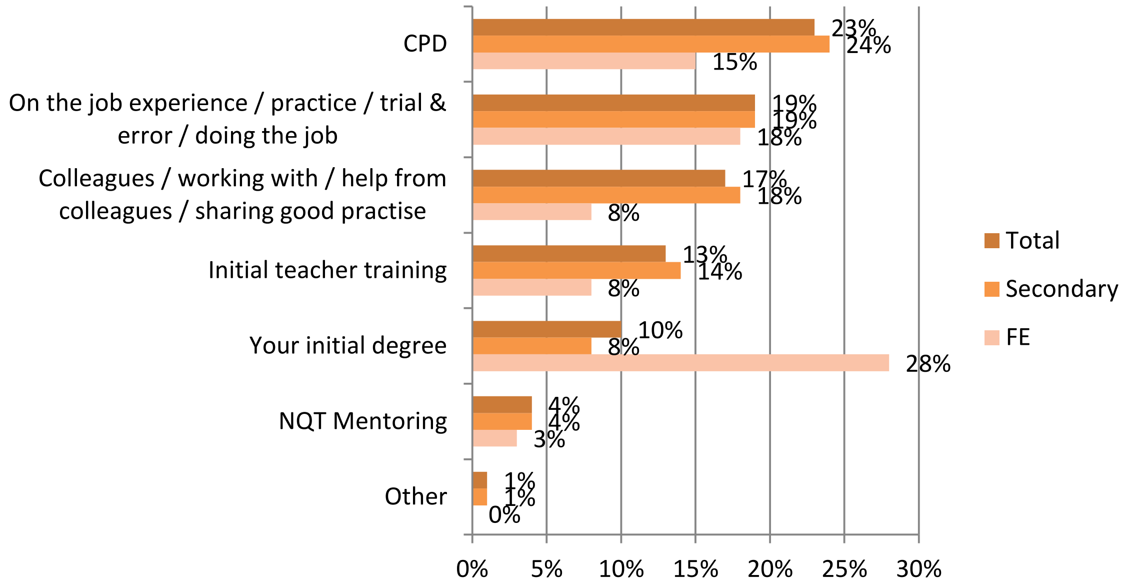
Figure 2.2.3 Which of the following has been most effective in developing your expertise in using experiments? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



The most commonly selected of the pre-code options was that CPD (21%) had been the most effective thing in developing teachers' expertise in using experiments. This was followed by initial teacher training (13%), their initial degree (10%) and finally NQT mentoring (4%). There was a difference between secondary school respondents and FE college respondents in terms of how effective they felt their own initial degree had been. In secondary schools, fewer than one in ten felt that their initial degree had been the most effective thing, although in FE colleges far more teachers (28%) thought that it had. This may be because the respondents from FE colleges are teaching at a more advanced level than many of the teachers in secondary schools, and so have more need for degree-level knowledge.

However, more than half of respondents mentioned that a factor other than those listed above had been the most effective in developing their expertise (52%). The chart overleaf shows these 'Other' responses added to the data.

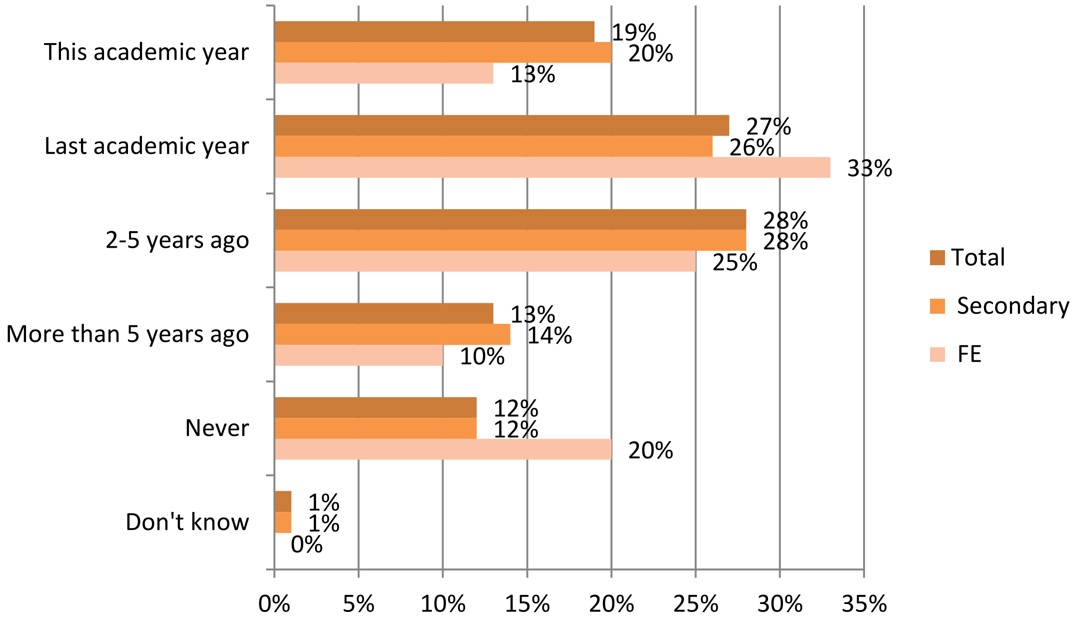
Which of the following has been most effective in developing your expertise in using experiments? SINGLE CODE, WITH OTHER SPECIFY RESPONSES ADDED Base: All respondents, n=396, (secondary=356, FE college=40)



A small proportion of respondents had mentioned CPD in their 'other' responses, raising the total that cited this as the most important factor to just under one in four (23%). Around one in five also mentioned that their expertise had developed in class over time (19%), and a similar proportion said that help and advice from their colleagues had been the most effective factor in developing their expertise (17%).

The teachers were also asked about when they had undertaken CPD that related to practical work in Science.

Figure 2.2.4 When did you last undertake CPD that related to practical work in Science? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)

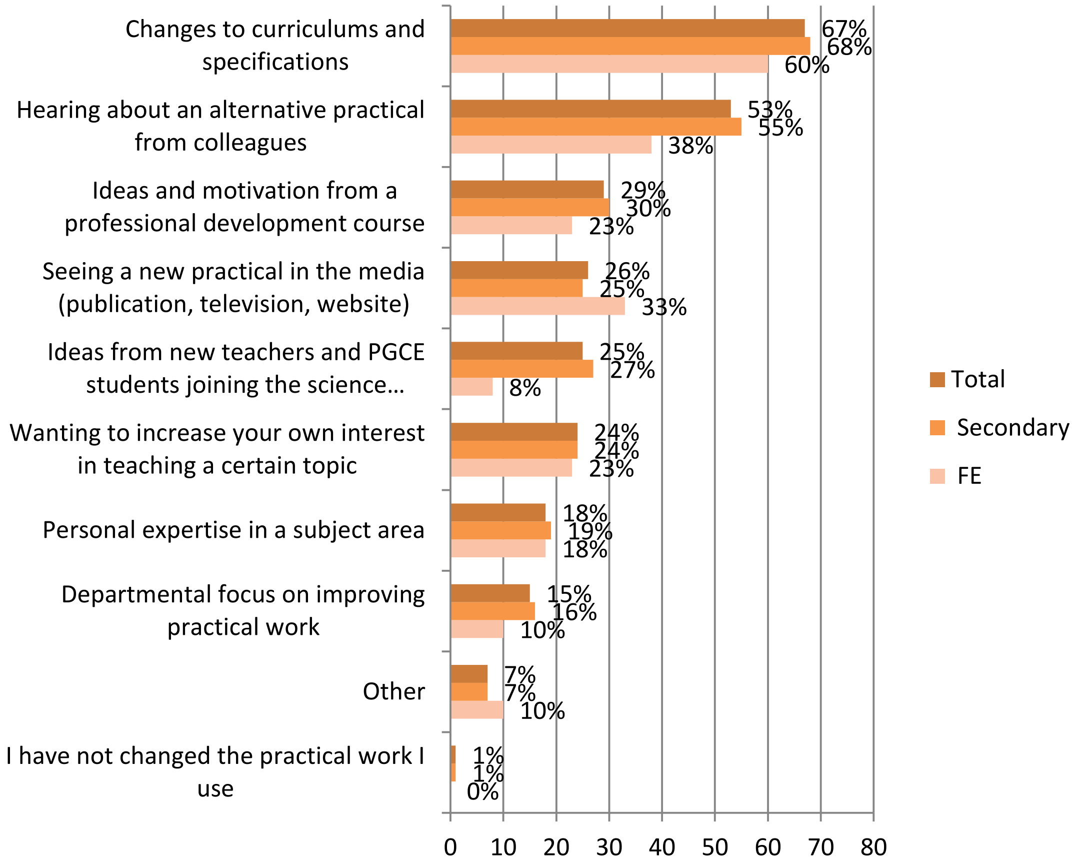


Most teachers who responded to the survey had undertaken CPD in relation to practical work in Science at some stage. Only 12% said that they had never taken part in any. There was no pattern as to how recently this had taken place. Around one in five (19%) had done so this academic year[5], one in four had done so last academic year (27%) and two to five years ago (28%) respectively, and a further one in eight had done so more than five years ago (13%).

[5] Fieldwork for this question was carried out between 16 January and 8 February 2012, and so answers here refer to the academic year 2011/12, up until that point.

Respondents were also asked which factors had led to them making a change in the kind of practical work that they use.

Figure 2.2.5 Which of these factors has led to changes in the practical work that you use as part of your teaching on a subject? MULTICODE Base: All respondents, n=396, (secondary=356, FE college=40)

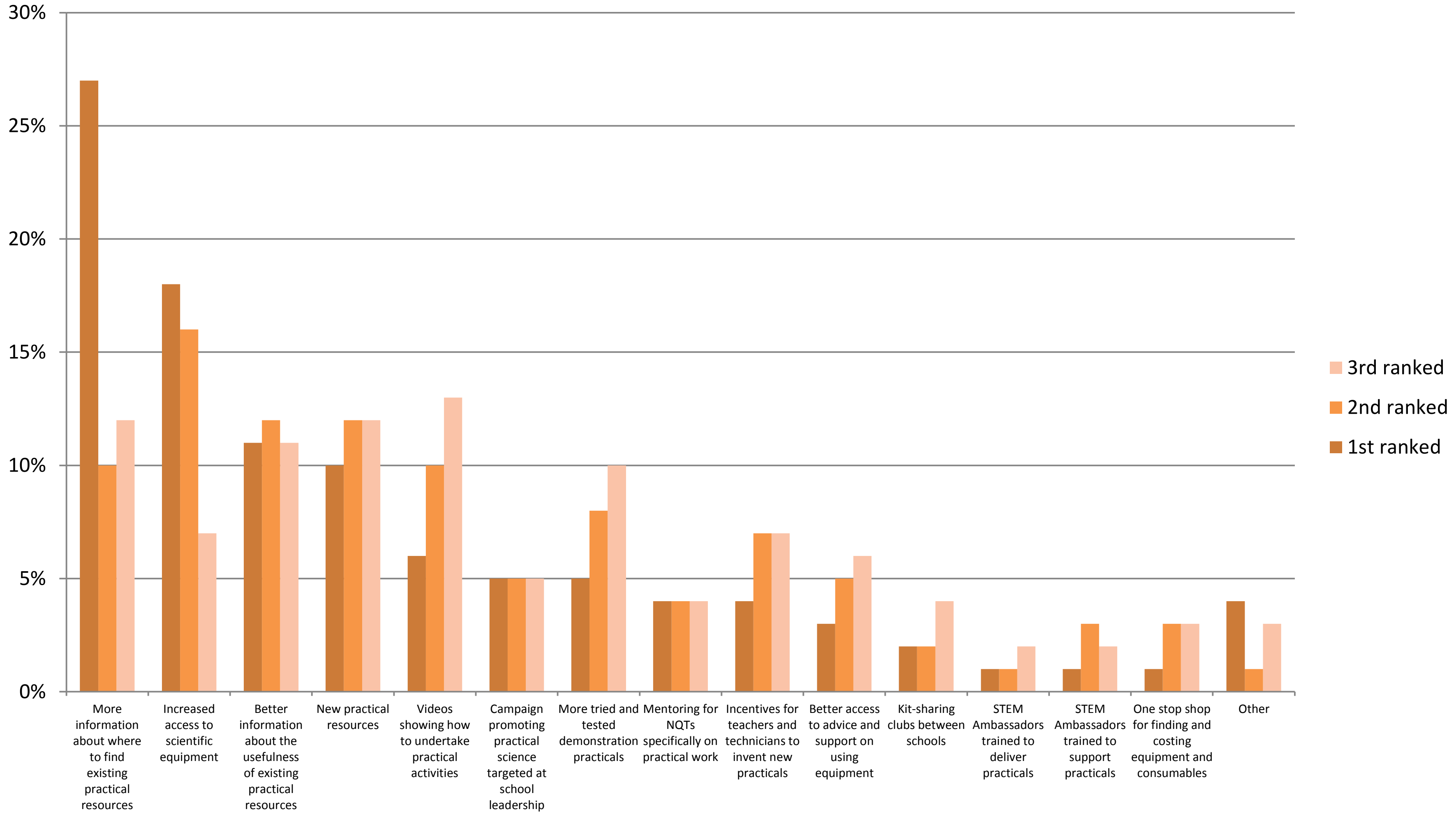


As was the case when they were asked about what had motivated changes in the amount of practical work that they use, the primary reason mentioned for changing the kind of practical work they carry out was that the curriculum had changed (which was mentioned by 67% of respondents). The influence of colleagues was also important, with more than half of respondents saying that hearing about alternative practicals from a colleague had led them to make a change in the practical work that they do (53%). This was even more of a factor in secondary schools than in FE colleges (55% compared to 38%).

The survey also asked respondents to rank a list of suggestions in terms of how useful they would be in improving practical work in schools and colleges.

The chart overleaf shows how respondents ranked the options.

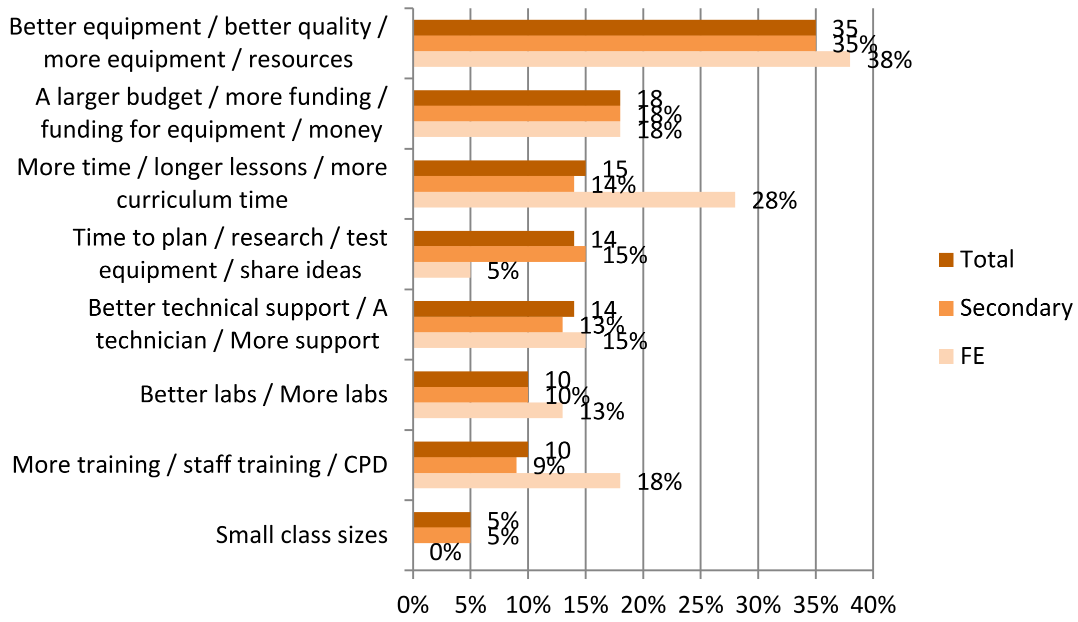
Figure 2.2.6 Which three of the following suggestions would be most useful in improving practical work in schools and colleges? RANK TOP THREE Base: All respondents, n=396, (secondary=356, FE college=40)



The suggestion that teachers most commonly ranked in first place was having more information about where to find existing practical resources (27%). This was more highly ranked than having altogether new practical resources (10%). The second most commonly top-ranked suggestion was increased access to scientific equipment (18%). In third place was better information about the usefulness of existing practical resources, again suggesting that it is not necessarily that teachers require new resources, more that they require some assistance in finding and validating ones which already exist.

This was followed by another open ended question, which asked what one thing would improve the teachers' ability to offer high quality science practical work in their own schools.

Figure 2.2.7 And within your school specifically, what one thing would improve your ability to offer high quality Science practical work? OPEN ENDED Base: All respondents, n=396, (secondary=356, FE college=40)

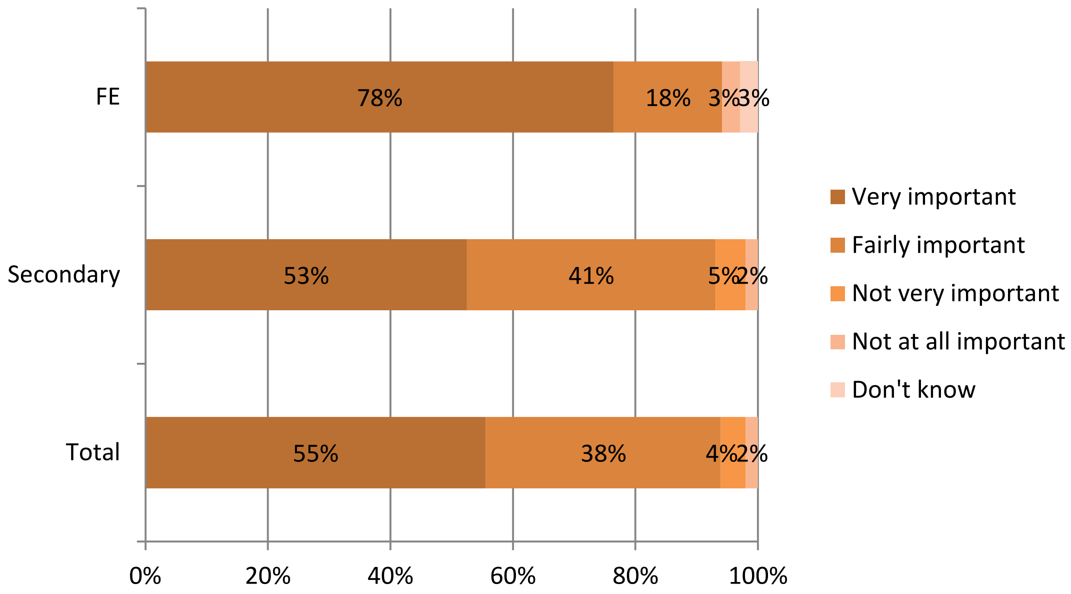


The most commonly given answer was that better quality equipment was necessary (35% of people mentioned this). In FE colleges, more curriculum time, or longer lessons were also considered to be a particular need. Almost three in ten (28%) respondents from FE colleges mentioned that this was the one factor which would improve their ability to offer high quality Science practical work, twice the proportion of teachers from secondary schools who mentioned this (14%).

2.3 Practical work and assessment

The next suite of questions focussed on practical work in relation to assessment. The first question asked how important respondents considered it that practical techniques should be explicitly listed in the National Curriculum.

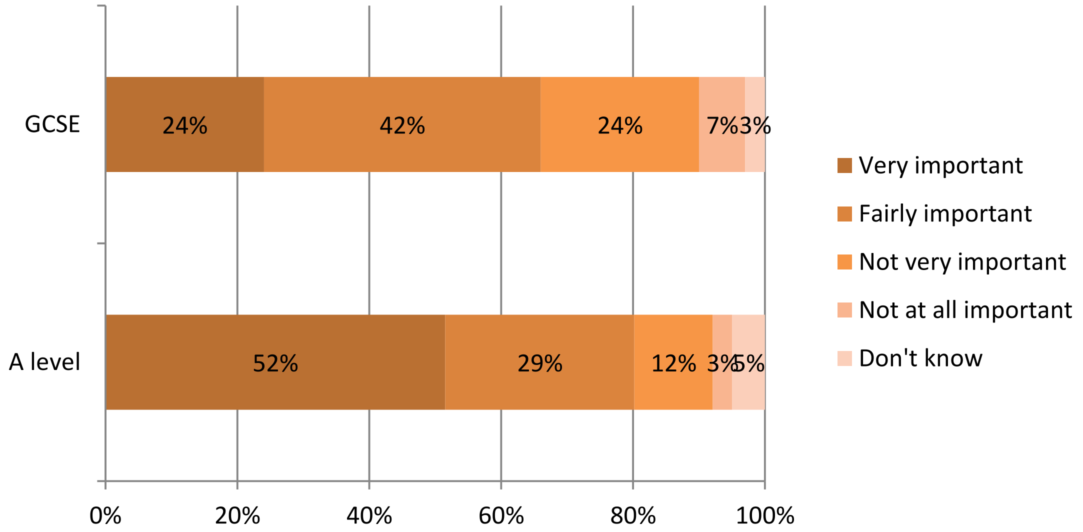
Figure 2.3.1 How important do you think it is that practical techniques should be explicitly listed in the National Curriculum? e.g. the use of microscopes SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



There was almost total agreement from teachers who responded to this survey that practical techniques should be listed in the National Curriculum. More than nine in ten (93%) said that they thought it was important that this should happen, while only six percent said that they did not think it was important. Teachers in FE colleges were particularly likely to say that they thought this was very important, with over three quarters of them responding in this way (78%).

The teachers were then asked how important they thought it was for assessment of practical techniques to take part at GCSE, and at A-level.

Figure 2.3.2 How important do you think it is that practical techniques should be externally assessed? SINGLE CODE PER OPTION Base: All respondents, n=396, (secondary=356, FE college=40)

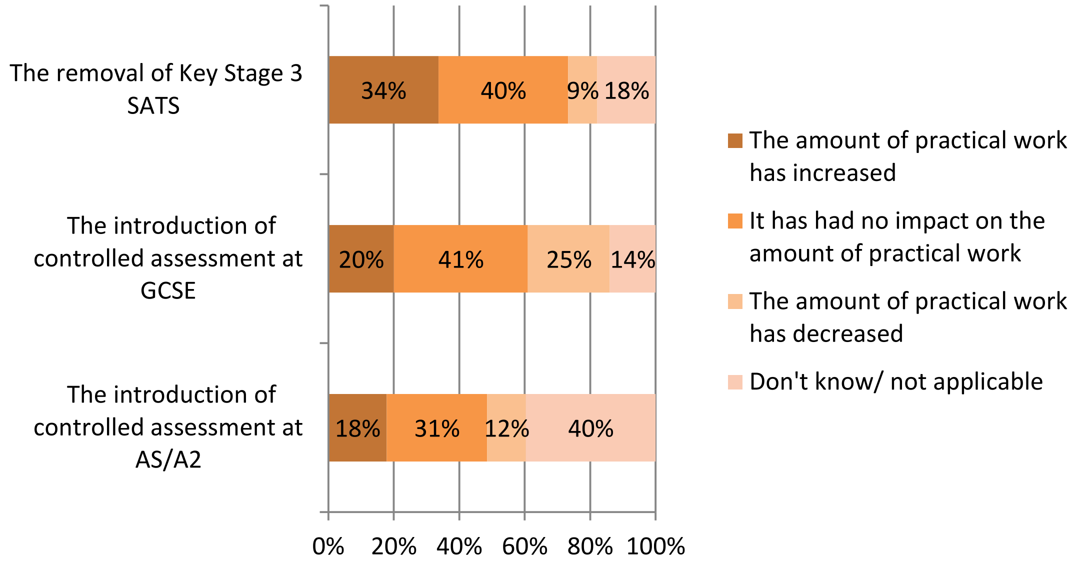


A majority of teachers on the panel agreed that it was important for practical techniques to be externally assessed at both GCSE and A-level.

Two-thirds of respondents thought that it was important that this was done at GCSE level (66%), and this rose to four-fifths (81%) at A-level. There was no difference between secondary school teachers and FE college teachers in their responses to this question. Taken in conjunction with answers to the previous question, it appears that teachers consider assessment of practical techniques even more important at Key Stage 5 than at Key Stage 4.

Respondents were also asked whether any of the recent changes to assessment had affected the amount of practical work that they carry out with their students.

Figure 2.3.3 Thinking specifically about changes to assessment, in what way, if at all, have the following affected the amount of practical work you carry out with your students? SINGLE CODE PER OPTION Base: All respondents, n=396, (secondary=356, FE college=40)



The removal of Key Stage 3 SATs was something which a third of the teachers (34%) said had increased the amount of practical work which they carried out with their students. Fewer than one in ten (9%) said that this change had led to a decrease in the amount of practical work that they do.

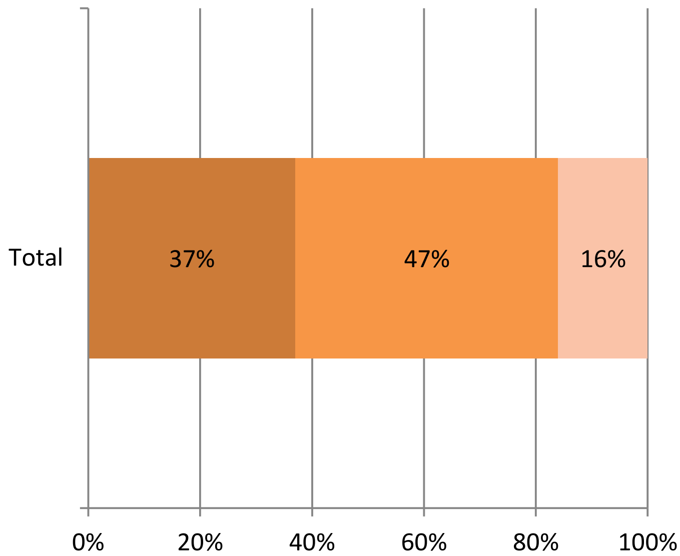
The impact of the introduction of controlled assessment was more mixed. One in five respondents said that its introduction at GCSE level had meant an increase in the amount of practical work that they carry out (20%), but a slightly larger proportion (25%) said that they had decreased the amount that they did with their students. At A-level, around one in six had increased the amount of practical work that they did (18%), but around one in eight (12%) had decreased it.

Teachers were then asked about their school's offer in relation to triple science.

Almost all secondary school teachers who responded to this survey told us that their schools offered triple science (94%). The proportion of FE colleges who offered triple science was much lower (18%) but this would be expected given that triple science is a Key Stage 4 qualification.

Those teachers in schools which do offer triple science were then asked a follow-up question about the volume of practical work that triple science students undertake compared with the volume that double science students undertake.

Figure 2.3.4 Is there a difference between the amount of practical work that triple Science students undertake compared with how much double Science students undertake? SINGLE CODE Base: All respondents whose school offers Triple Science, n=341, (secondary=334, FE college=7)[6]

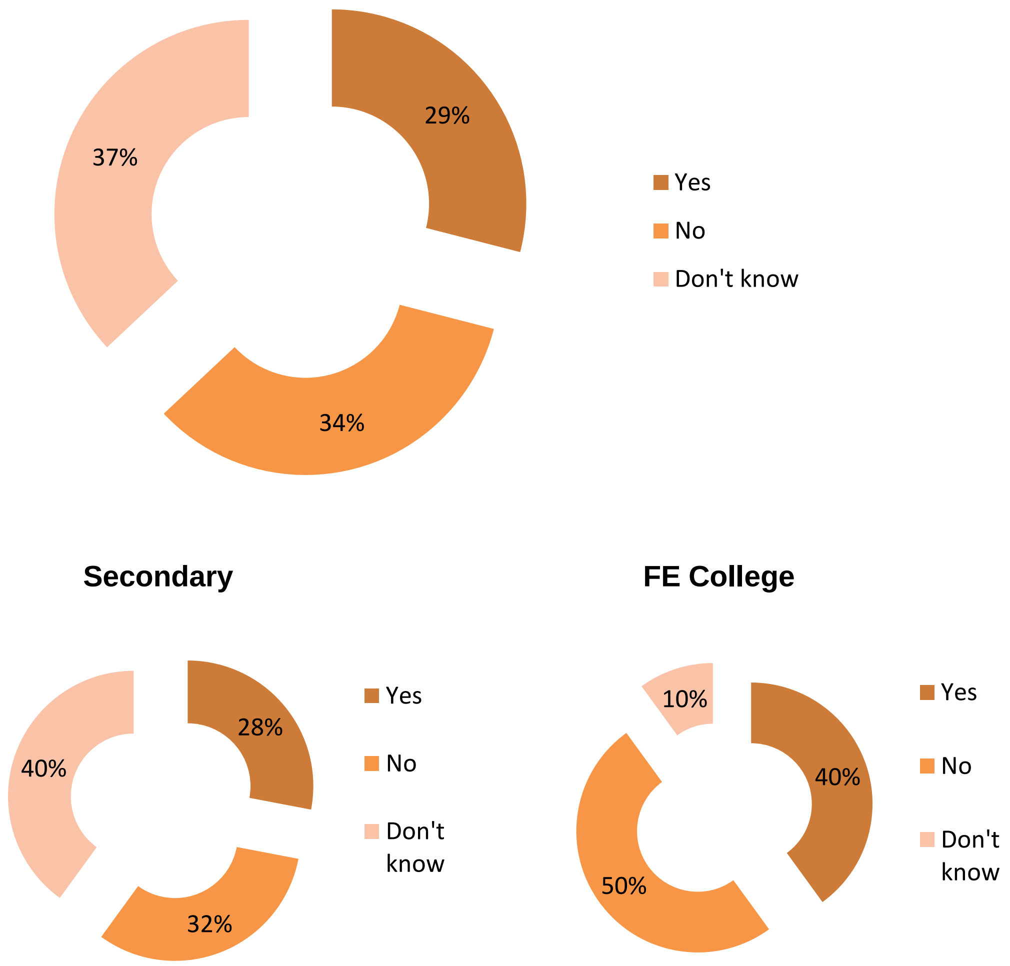


Among the teachers in those schools that did offer triple science, around half said that pupils studying triple science carry out the same amount of practical work as pupils studying double science (47%). In those schools where one set of pupils carried out more practical work than the other, it was more often triple science students who did so (37%), than double science students (16%).

[6] The base for respondents from FE colleges is too small to chart separately at this question

The teachers were also asked whether A-level students at their schools carried out extended projects.

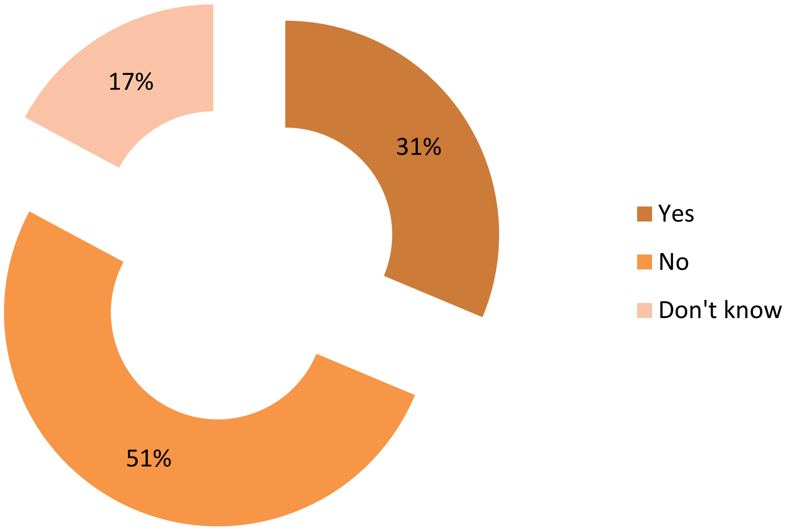
Figure 2.3.5 Do A-level students at your school carry out Extended Projects? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



In around three in ten schools, teachers said that students carry out extended projects (29%), while in around a third of schools teachers said that they do not (34%). There was also a high proportion of teachers who did not know whether extended projects were carried out at their school – perhaps suggesting that awareness of this offer throughout schools may not be particularly high.

Respondents from those schools where extended projects were carried out were asked whether or not any current A-level students were undertaking practical science investigations as part of these projects.

Figure 2.3.6 Are any current A-level students doing a practical science investigation as part of their Extended Project? SINGLE CODE Base: All respondents at schools where students carry out extended projects, n=396, (secondary=99, FE college=16)[7]



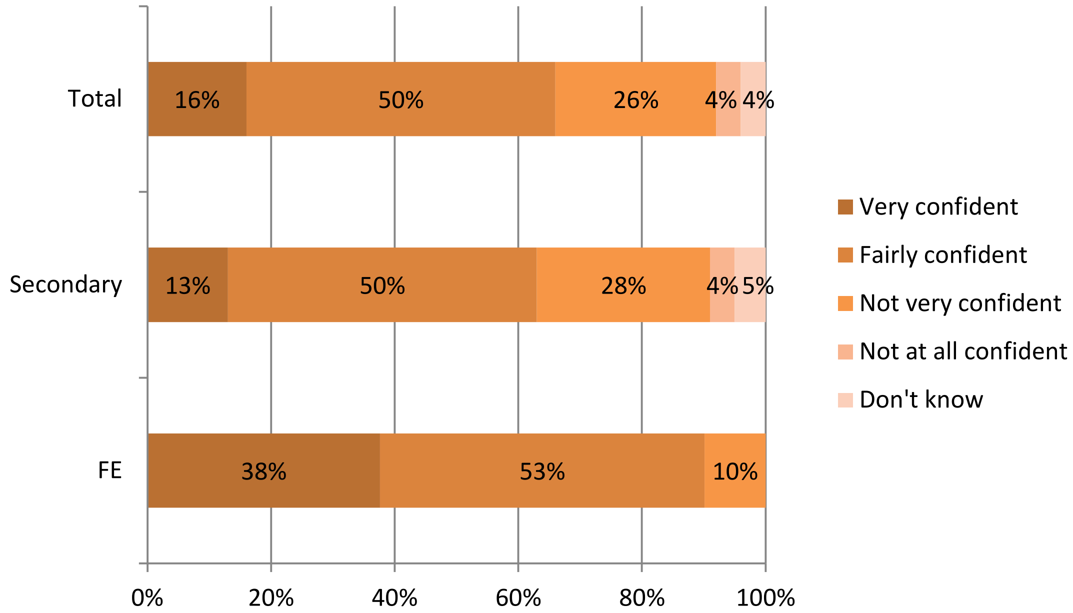
In three in ten schools (31%) students were doing so, although in more than half (51%) practical science investigations were not currently being undertaken as part of extended projects.

[7] The base for respondents from FE colleges is too small to chart separately at this question

2.4 Usefulness of practical skills

Teachers were also asked about how well they felt the practical skills pupils learnt in Science classes equipped them for future study or work in Science.

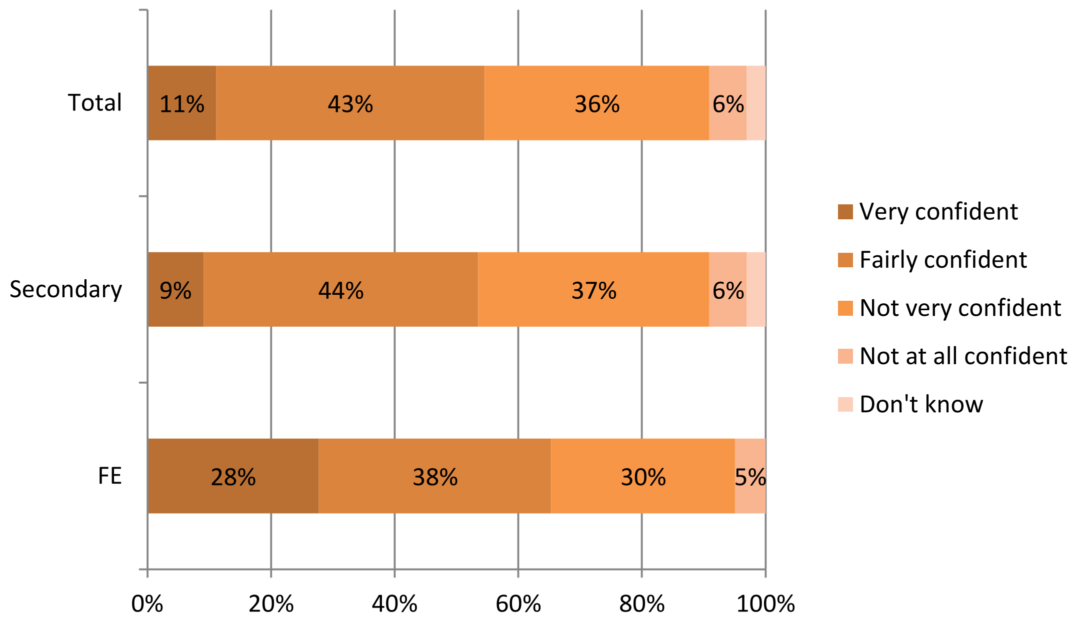
Figure 2.4.1 How confident are you that the practical skills your students gain in Science classes equip them for the following? - Studying Science at university SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



Two-thirds of teachers felt that the skills students learnt did prepare them for studying Science at university (66%). However three in ten (30%) teachers said that they were not confident that this was the case. Confidence was higher among teachers in FE Colleges (90% of whom were confident) than in secondary schools (63%).

When asked about how well they felt that practical skills equipped students for a Science-related job, teachers were less confident. Just over half (54%) overall said that they were confident that this was the case, but just over four in ten (43%) were not confident. There was no significant difference here between the answers from secondary school teachers and teachers in FE colleges.

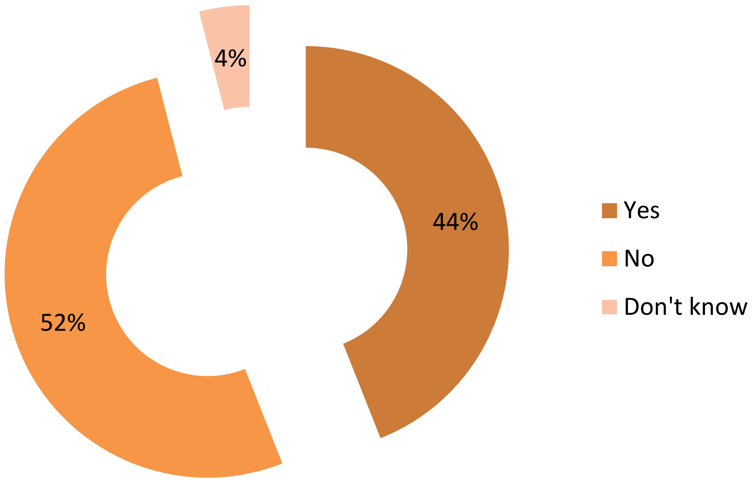
Figure 2.4.2 How confident are you that the practical skills your students gain in Science classes equip them for the following? – A Science-related job SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)

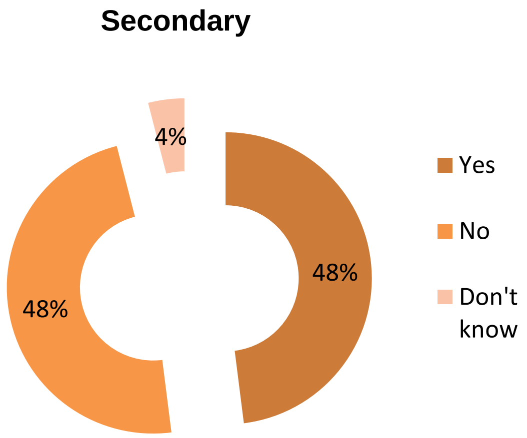


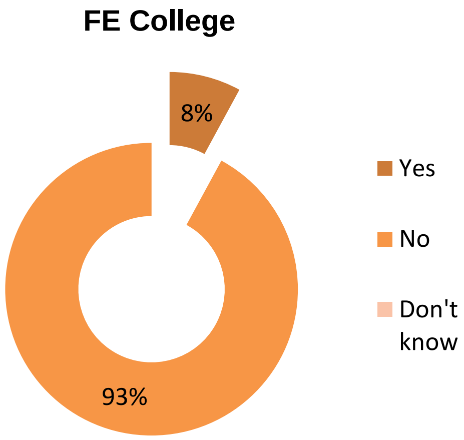
2.5 STEM clubs

Respondents were also asked a series of questions about STEM clubs. The first was whether or not their school offers such a club.

Figure 2.5.1 Does your school offer a STEM club? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)





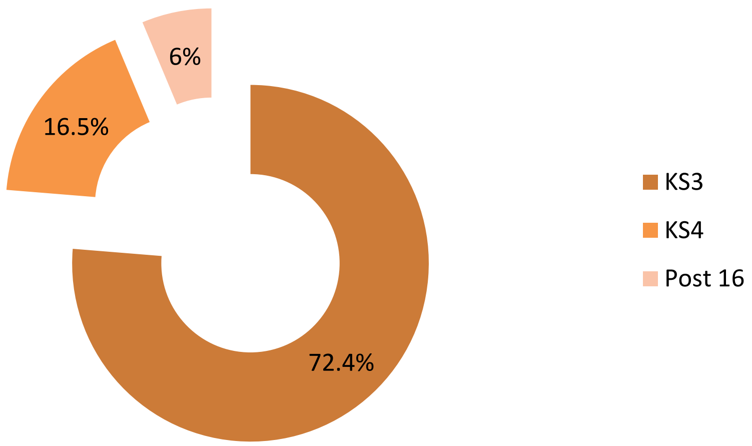


More than four in ten teachers said that their school offered a STEM club (44%), although the proportions of secondary schools and FE colleges who did so were very different. Almost half of teachers in secondary schools said that their school offers a STEM club (48%), whereas the proportion of teachers in FE colleges who did so is much lower – just 8%.

Those teachers whose schools did offer STEM clubs were also asked roughly what percentage of STEM club attendees were from Key Stage 3, what percentage were from Key Stage 4 and what percentage were post 16.

Figure 2.5.2 Roughly what percentage of STEM club attendees are from the following Key Stages? SINGLE CODE Base: All respondents whose school offers a STEM club, n=173, (secondary=170, FE college=3)[8]

Average proportion from each Key Stage

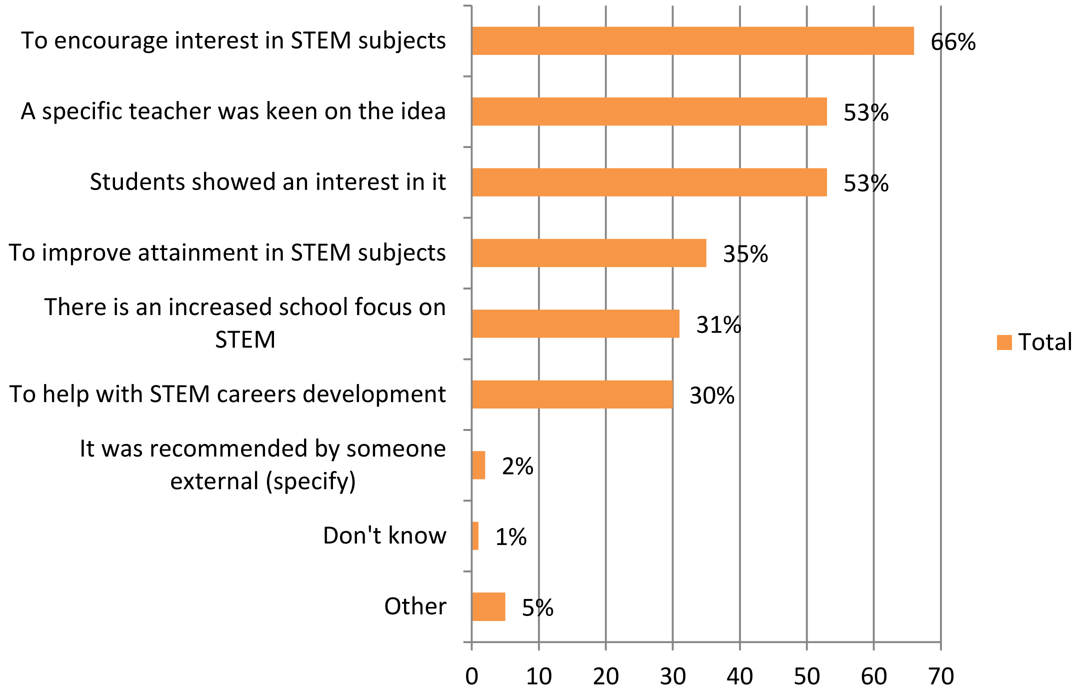


The responses to this question suggest that STEM clubs are generally being aimed at younger secondary school pupils. Those teachers at schools which did offer a STEM club were asked what proportion of attendees were from each Key Stage. The responses suggested that the clubs were largely aimed at pupils from Key Stage 3, who comprised nearly three-quarters of an average club (72%).

[8] The base for respondents from FE colleges is too small to chart separately at this question

The teachers whose schools did offer a STEM club were also asked what the reasons were that the school had decided to offer this.

Figure 2.5.3 What are the reasons that your school has decided to offer a STEM club? MULTICODE Base: All respondents whose school offers a STEM club, n=173, (secondary=170, FE college=3)[9]

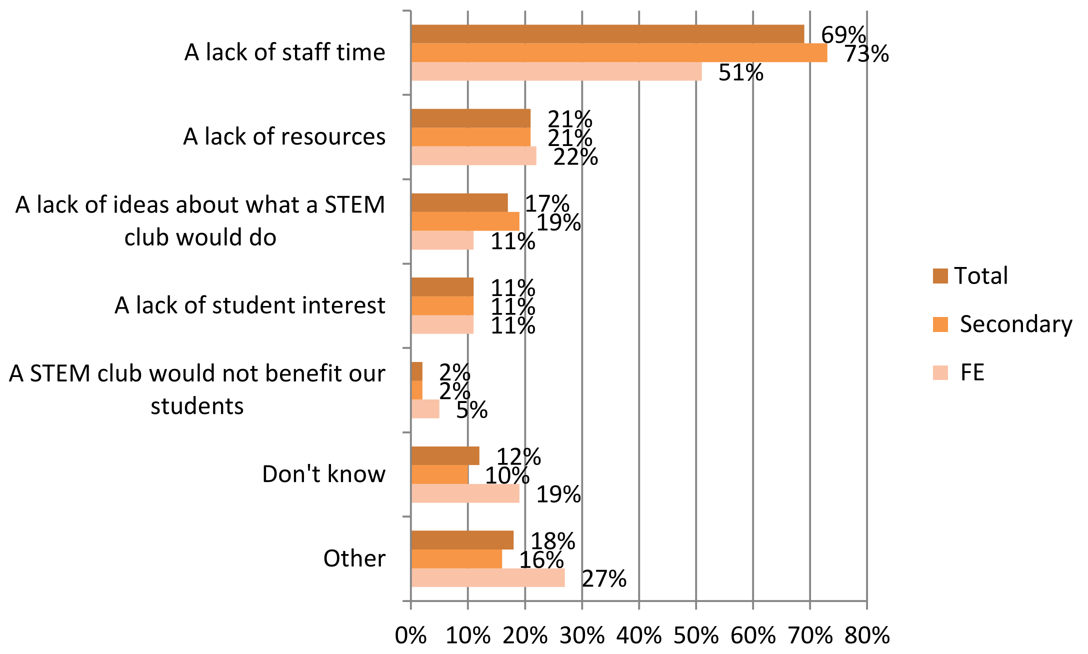


The main reasons that teachers gave for their schools offering STEM clubs were related to stimulating interest in the subject. Two-thirds of schools said that the club was aimed at encouraging interest in STEM subjects (66%), and more than half said that either teacher interest or pupil interest had led to the club's inception (both 53%). Attainment was also mentioned by some teachers, although a smaller proportion than wanted to use the clubs to stimulate interest. Around one in three (35%) mentioned that the club aimed to boost attainment in STEM subjects, and similar proportions mentioned that it was designed to fit in with a school focus on STEM (31%) or to help boost STEM career development (30%).

[9] The base for respondents from FE colleges is too small to chart separately at this question

In those schools where STEM clubs are not offered, the teachers were asked why this was the case.

Figure 2.5.4 What are the reasons that your school does not offer a STEM club? MULTICODE Base: All respondents whose school does not offer a STEM club, n=207, (secondary=170, FE college=37)

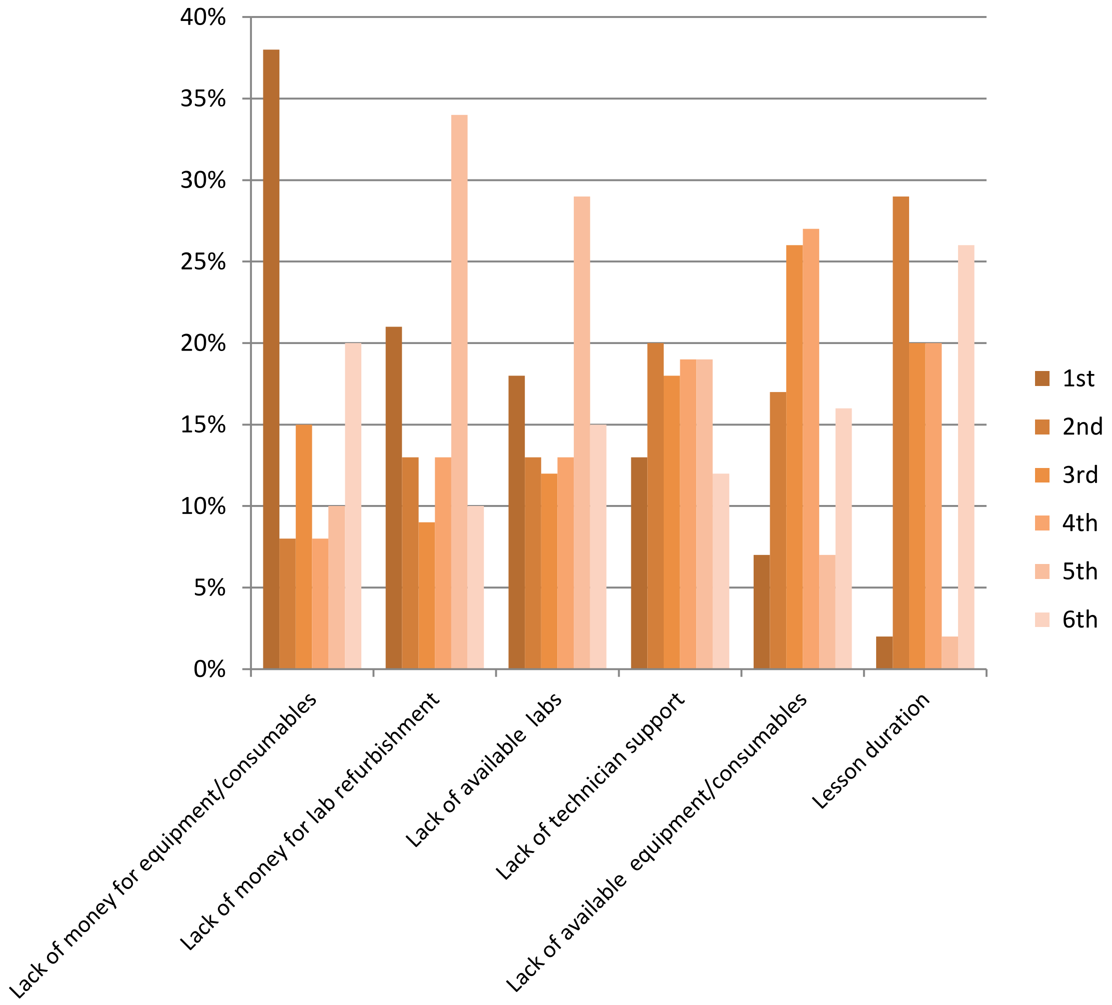


The biggest reason by far was a lack of staff time (which was cited in 69% of cases). This was an even greater barrier among the teachers from secondary schools, 73% of whom mentioned it, compared to 55% of the teachers from FE colleges.

In around one in five cases, teachers also mentioned that a lack of resources (21%) and a lack of ideas (17%) were barriers.

Respondents were asked to rank the factors which limited the practical work that they are able to do in Science.

Figure 2.5.5 Please rank the following factors in terms of the extent to which it limits practical work in science? SINGLE CODE PER OPTION Base: All respondents, n=396, (secondary=356, FE college=40)



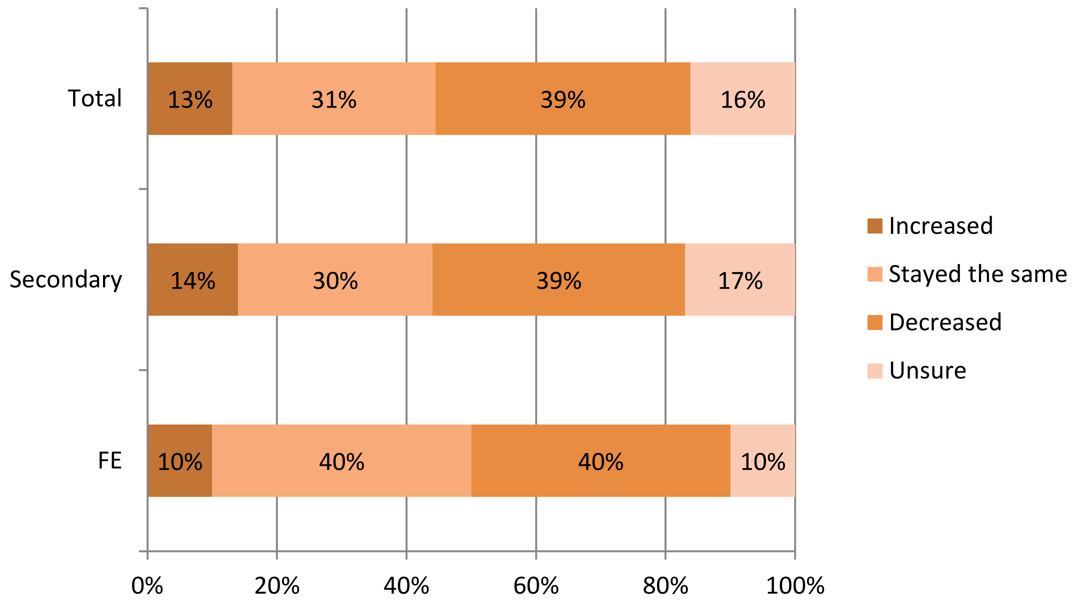
The factor which was most commonly rated as the biggest limiting factor was a lack of money for equipment or consumables, which was nominated by 38% of respondents. Equipment and resources were also mentioned by teachers earlier in the survey, when asked what would be the single factor most likely to improve practical work in their school.

Among the other options suggested, there was no clear pattern in terms of which factors had the greatest limiting effect.

2.6 Funding for practical work

The next series of questions asked respondents about the way that practical work is funded in their schools.

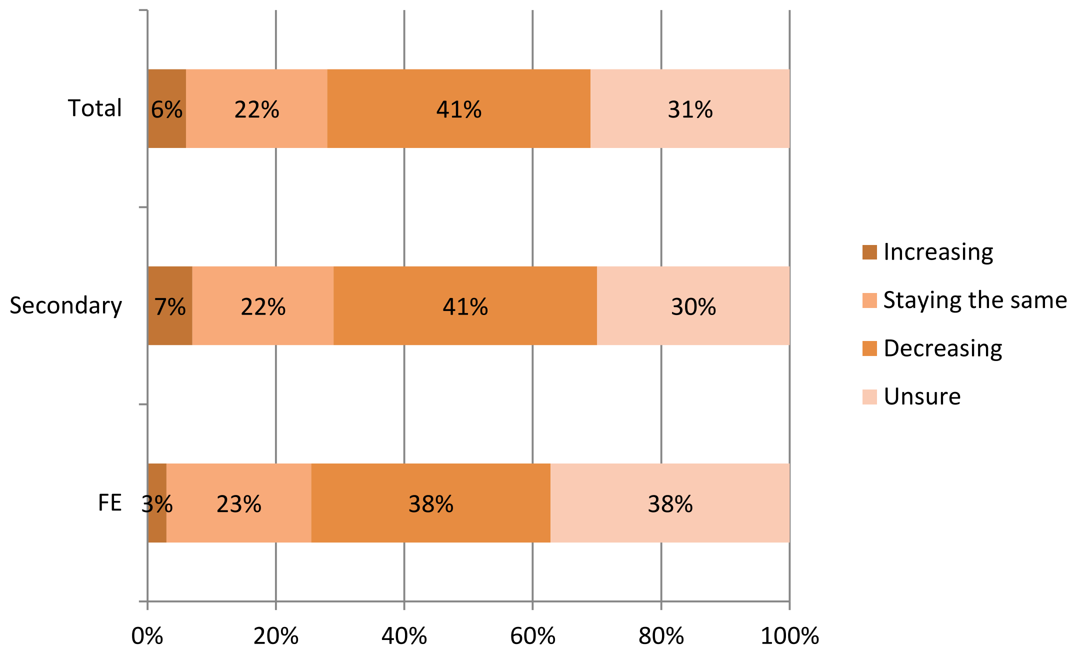
Figure 2.6.1 Has there been a significant change in the spending on equipment and consumables for practical work over the last 2 years? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



Despite the importance that teachers assign to equipment and consumables in the provision of practical work in Science, around four in ten (39%) teachers reported that there had been a significant decrease in spending on these over the last two years. Around three in ten (31%) said that spending had remained roughly the same, and only around one in eight (13%) said that spending had risen.

Respondents were also asked whether there would be a significant change in the spending on equipment and consumables in the next two years.

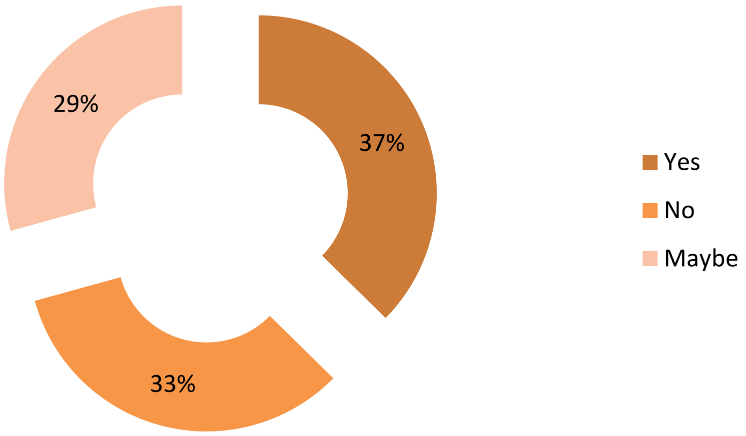
Figure 2.6.2 Will there be a significant change in the spending on equipment and consumables for practical work over the next 2 years? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



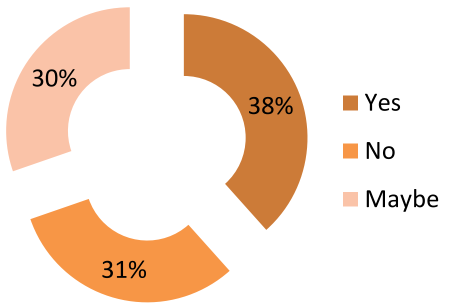
The teachers' predictions for spending on equipment and consumables over the next two years suggested that in many schools it would continue to fall. Around four in ten suggested that they expected spending to fall (41%), while only six per cent expected it to rise. There was also a significant proportion of teachers (31%) who said that they were unsure about what would happen with spending over the next two years.

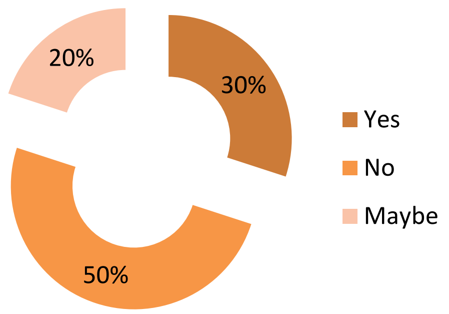
Respondents were also asked if they knew of any equipment in their Science departments that had never been used.

Figure 2.6.3 As far as you know, is there any equipment in your Science department that has never been used? SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



Secondary **FE College**



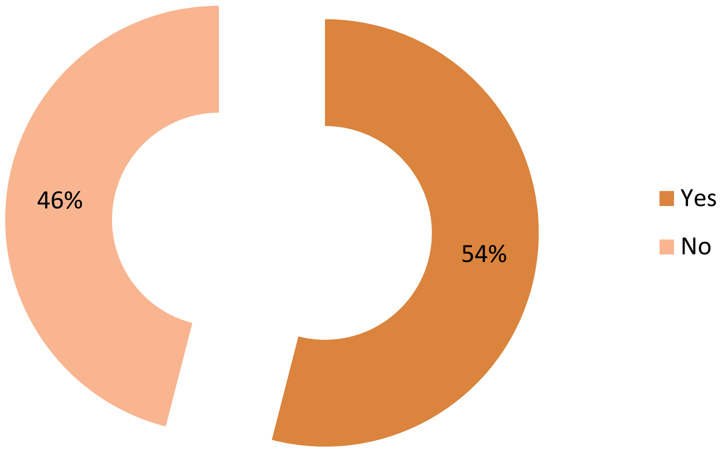


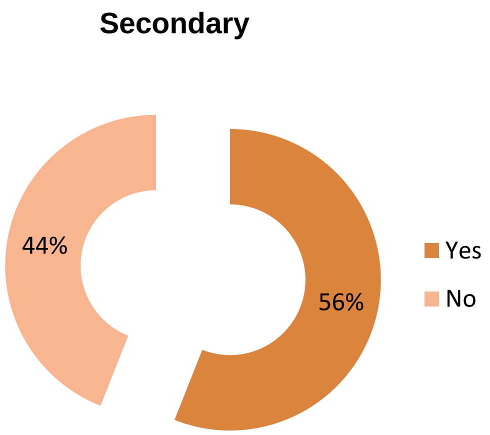
More than a third (37%) said that they did know of this, and a further three in ten (29%) said that this may be the case. One in three (33%) said that they were not aware of any unused equipment.

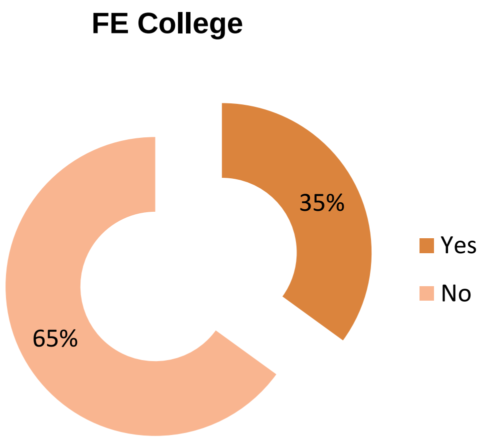
The teachers in FE colleges were more likely to say that there was not unused equipment (50% of these respondents said that this was the case) than those in secondary schools (only 31% of whom said so).

The teachers were also asked whether equipment and consumables were being shared between their schools and other local schools.

Figure 2.6.4 As far as you know, in the last year has your school shared (either borrowed or lent) equipment or consumables with another school for Science?) SINGLE CODE Base: All respondents, n=396, (secondary=356, FE college=40)



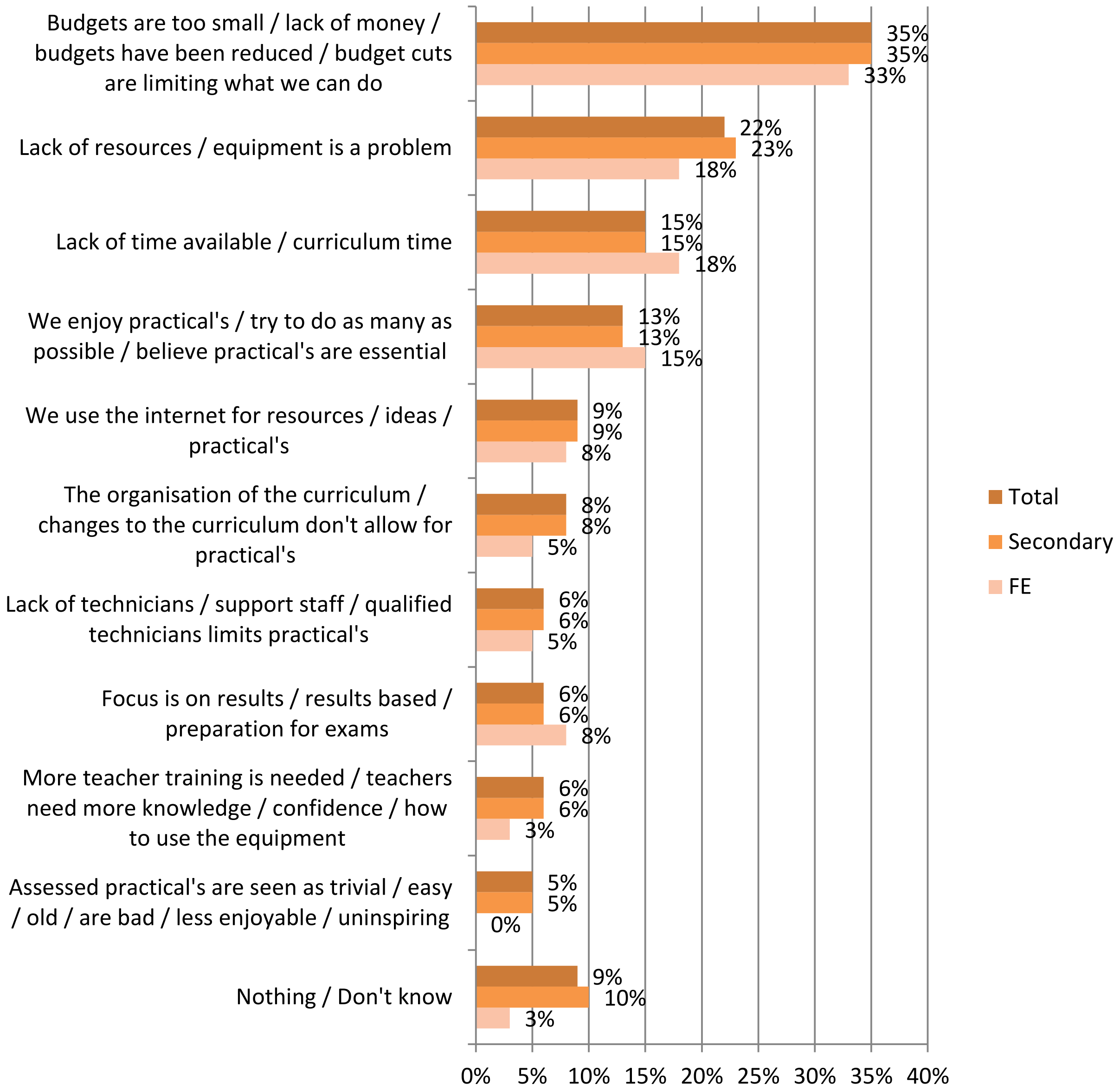




In a number of cases, equipment and consumables were being shared. More than half of respondents said that in the last year, their school had either borrowed or lent Science equipment or consumables to another school (54%). Sharing of resources was significantly more common among the secondary school teachers who responded (56% of whom said that they did so) than among respondents from FE colleges (35% of whom said that they did so).

Finally, respondents were also asked to make any additional comments about practical work in Science.

Figure 2.6.5 Please make any additional comments about practical work in science. We would be particularly interested in views about assessment, budgets, and resources you use to find new practicals OPEN ENDED Base: All respondents, n=396, (secondary=356, FE college=40)



Responses focussed on the factors which limited the practical work that they were able to carry out with their students. Three main limiting factors were mentioned as contributing to this. The first was a lack of money (which was mentioned by 35% of respondents), the second was a lack of equipment and resources (mentioned by 22% of respondents) and the third a lack of available time (which was mentioned by 15% of respondents).