

# ASE SCIENCE TEACHER SOS

## A Report on Improving Science Teacher Retention



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*This report is dedicated to the memory of Andy Latham, Head of Science at Dorothy Stringer School, Brighton and Hove, who was an enthusiastic ambassador for supporting science teachers in all stages of their careers.*

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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](http://www.ase.org.uk)

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# FOREWORD

Retaining experienced teachers in the profession remains one of England's greatest policy challenges. This challenge is particularly acute in science, where we often under-recruit onto training courses and we tend to lose more teachers in the early years of their career. Science teachers face special challenges since they usually teach multiple sciences, some of which they may not have studied themselves at an advanced level. But they are also lucky that they are a relatively large department, usually with dedicated office or lab space to interact with their teaching peers during the working day. The dynamics of departmental relationships are therefore likely to be a significant influence on how science teachers feel about their work.

Heads of Science carry out a diverse and complex role within schools. Many Heads of Science will find it easy to get to know and support each individual teacher in their department, but others will find it more difficult to know how best to do this. The ASE Science Teacher SOS project attempts to systematise and provide a structure for collegial conversations about wellbeing. As the report shows, many science teachers taking part in the study feel that this structure has helped them gain a better understanding of how to support each other in their work.

The project concluded over a period where teachers' daily lives were substantially disrupted by COVID-19. This disruption meant that fewer teachers than normal left the profession in Summer 2021, which impeded the ability of the research team to evaluate one goal of the intervention. I hope that there will be other opportunities to study the impact of these types of teacher support frameworks in the future.

**Professor Becky Allen**

University of Brighton  
September 2021



# Executive Summary



The ASE Science Teacher SOS pilot (ASE SOS Project) originally set out to investigate how schools can use the guidance and activities in the ASE SOS document ([www.ase.org.uk/sos](http://www.ase.org.uk/sos)) to retain good science teachers within their science departments.

Previous research has established that science teachers are more likely to leave the profession within their first five years of teaching, compared to other secondary subjects. There is an ongoing concern that teachers are leaving due to high workload and mental health issues.

The ASE SOS Project uses information about the emotional needs of science teachers (a proxy for wellbeing), their job satisfaction and career intentions, supported via the ASE SOS document to help retain science teachers within their school, or within the profession.

The ASE SOS project recruited 20 state secondary schools in England. Each school had permission from its Headteacher to be involved and identified a science teacher to be the school's SOS representative whose role was to run the project within the school.

The research questions investigated by the ASE SOS Project were:

- A. How can ASE Science Teacher SOS be used to support three aspects of science teacher retention (emotional needs, job satisfaction and career intentions)?
- B. What can be done to improve science teacher retention through strengthening relationships between science departments and senior leaders?
- C. What impact has the Covid-19 pandemic had on science teacher's emotional needs, job satisfaction and career intentions?

## Methods

There were two strands: one for science teachers and one for investigating senior leaders' perspectives on science teacher retention.

The science teacher strand was made up of an online survey at the start and the end of the project, in which science teachers were asked to anonymously answer questions in three parts: emotional needs, job satisfaction and career intentions. These were mostly scaled questions, with a few free text responses. The second survey contained additional questions about the impact of the pandemic and the ASE SOS project.

The responses from the first survey were collated to get an overview of the 'cohort' (174 science teachers, Survey 2 had 120). Then each school SOS representative was given their own school's data alongside the cohort data.

With the ASE SOS researcher, the school representative analysed their data and made decisions and an action plan of how to respond to the data, to improve meeting the emotional needs, improve job satisfaction and understand the career intentions of their science teachers. The ASE SOS document was used as the basis for the interventions, but other strategies were also included.

By comparing their own data with the overall cohort data, school SOS representatives were able to make informed decisions about what to prioritise and if, or when, to make interventions to support science teachers. This comparison was seen as a unique and useful feature of the ASE SOS project.

A different online survey was given to the senior leaders of the 20 schools involved in the project. The survey was made up of ten scaled response questions about aspects of science teacher retention, with two follow-up free text questions. The second survey had additional questions about the impact of Covid-19 and the impact of the ASE SOS project. Survey 1 had 62 respondents, Survey 2 had 45.

## Emotional needs of science teachers

Survey 1 showed that most science teachers felt that they had an emotional connection to others; were able to obtain privacy when they needed to and had a sense of achievement. The areas that were not as well met were: having their status acknowledged; feeling secure in all major areas of their life; and feeling connected to the wider community. This did not change significantly in the second survey.



Around half of the science departments that took part had at least one science teacher dealing with emotional distress or mental health issues. In the most part, Heads of Science were aware of these teachers and were supporting them appropriately.

The impact of Covid-19 on teacher wellbeing was mostly negative. A few respondents found that their work-life balance improved, but for the majority, the negative impacts were significant. Over half of science teachers would like more support for wellbeing next year.

## **Job satisfaction of science teachers**

The highest satisfaction ratings (around 50%) were: getting on with colleagues; being able to talk to their manager; and knowing who to ask for help. Most teachers (around 65%) do not look forward to going to work each day; do not feel able to manage a work-life balance (around 80%); nor feel they have flexibility in their work.

The positive aspects of working in their department included: the people they worked with; collaboration; support; leadership; and students. The negative aspects included: the impact of Covid-19; lack of physical resources; lack of structure or support; distribution of workload; and poor leadership or management.

The question about the impact of Covid-19 on science teacher job satisfaction, showed that for 45% it remained the same, for 41% it decreased, and 14% it increased. The main reasons cited for negative impacts included: increased workload and changes at work due to Covid-19; not being able to do practicals; changing exam arrangements; and poor treatment of teachers by the Government and the media.

## **Career intentions of science teachers**

With regard to career intentions: 89% were happy working in their department whilst 9% of science teachers were actively seeking to leave the teaching profession. In Survey 2, 41% of science teachers said that they had a clearer ideas about their career intentions and 38% said that they would like more support with career planning.

Covid-19 had an impact on some science teachers' career intentions; with 27% having some change to their plans and 7% having significant changes to their plans. Some came to realise that their job was worthwhile and secure, while others considered leaving their school or the profession. Although some were looking to move schools, there has been less movement of teachers and therefore fewer job opportunities.

## **ASE SOS document supporting science teachers**

Each school chose a method of intervention. Some decided to use the ASE SOS document reactively, that is, using it as a support for when science teachers were distressed or thinking of leaving. Most used the ASE SOS document proactively, where they devised a support plan for the whole department or for individuals in need.

Several School SOS representatives used Exercises B and C (analysing and responding to work-life balance). This was used successfully for individuals and as part of a department meeting.

Sharing the summary data from Survey 1 and discussing it with the department was useful when prioritising and providing bespoke strategies of support, or changes to working practices.

A number of other strategies were introduced to support emotional needs, improve job satisfaction or as support for career intentions. These included the use of informal one-to-one meetings between the science lead and their science teachers: opening discussion and sharing practices to improve workload, and proactive succession planning with potential opportunities shared with science teachers.

## **Perspectives from senior leaders**

Most senior leaders recognised the challenges of science teacher retention and had strategies in place for retaining good science teachers.

Over 90% of senior leaders said that they know how to support a good science teacher who is considering leaving their school: support a science teacher who is stressed; and that there is something they can do to keep a good science teacher who is thinking of leaving.

More senior leaders felt willing to make changes within the school or science department to keep a good science teacher than felt able to actually make that change.

Most senior leaders would encourage a good science teacher to teach in another school, but far fewer would suggest other jobs within the science education profession, such as a change of phase, change of sector, or roles outside the classroom.

The main challenges that senior leaders face include: determining who is responsible for retaining science teachers; varied attributions of science teacher retention; understanding science teachers' needs; and philosophical and political dilemmas when dealing with science teacher retention.

## **Impact of ASE Science Teacher SOS**

The ASE SOS project became as much about the survey instrument as it did the ASE SOS document. Using these together, along with the whole cohort comparison data, made a very useful diagnostic and intervention package for science leaders and senior leaders.

The impact of Covid-19 has increased teacher retention in 2021 and it is not possible to attribute any changes in retention in general to interventions put in place by the ASE SOS project. There are individual examples of the positive impact of strategies being used with teachers and within science departments.

When asked if they would support the continued use of the ASE SOS project support package, 74% of science teachers agreed as did 91% of senior leaders.

## **Conclusions**

Together, an understanding of the emotional needs, job satisfaction and career intentions of science teachers on a large scale (national), within a science department, and on an individual level, can contribute to improved wellbeing, job satisfaction and career development.

Science teacher leaders found the survey of emotional needs, job satisfaction and career intentions beneficial for supporting their science staff wellbeing, improving their job satisfaction and understanding their career intentions.

In science departments where the ASE SOS data was used proactively, many science teachers benefitted from the interventions of the ASE SOS project and a range of other support strategies.

Areas that require further attention and support include: science leaders' confidence in dealing with mental health issues; improving working relationships between teachers within science departments, improving understanding of science teachers needs by senior leaders; and working towards a shared understanding and maintenance of a positive work-life balance.

## **Next steps**

The data collected from this project has further potential for more in-depth analysis and this will continue to give insights into impact on different subject specialisms and experience of teachers.

There is significant opportunity for developing working relationships within science departments and strengthening, where needed, the working relationships between science departments and senior leadership teams.

The ASE SOS project has combined the science teacher surveys, ASE SOS document and the strategies developed as a result of the project have been put together as an online package: the ASE Retention Initiative for Science Educators (ASE RISE).

# Recommendations

## **A. Collect, analyse and respond to large data sets to support the needs of science teachers on a national level.**

Data from a large number of schools can give insights into the general needs, engagement and career intentions of science teachers, which can help policy makers, professional organisations and appropriate learned societies to target support for science teachers and their school leadership. This is the intention of the ASE RISE project (Retention Initiative for Science Educators, an online survey and support package for science departments).

## **B. Encourage and support science leaders to use surveys and interventions to respond to the needs of their science teachers.**

To improve science retention, science departments, whatever their retention history, will benefit from an annual detailed anonymous survey and analysis of their staff's wellbeing, job satisfaction and career intentions, to plan bespoke wellbeing support, to maintain or improve job satisfaction, and to understand career intentions, supporting where necessary.

## **C. Where appropriate, improve and maintain the job satisfaction of science teachers by focusing on four areas:**

### **1. Improve support for leaders of science teachers dealing with staff mental health issues**

Many school leaders would like training on responding appropriately to staff with new or existing mental health issues. Training on first response, listening, signposting, and appropriate ongoing support for staff with mental health issues.

### **2. Improve response to maintaining the work-life balance of science teachers**

Science teachers have different needs to maintain a work-life balance. Science leaders can use a survey and interventions to understand the needs of their teachers. For example, where appropriate, science leaders can discuss workload and job satisfaction with the whole department, using an activity like ASE SOS Exercise B and C, which analyse and address work-life balance.

### **3. Improve support for leaders of science teachers to improve and maintain working relationships within a science department**

Heads of Science and school senior leaders may benefit from further training or support on active team-building and conflict management to improve working relationships and therefore job satisfaction. Although there are resources for this, sometimes interventions from neutral, external colleagues may be of benefit e.g. in-house training, exit interviews by an external person.

### **4. Improve support for improved relationships between science teachers and senior leaders**

Science teaching has some unique features and science teachers face different pressures compared with other subjects, e.g. large departments, three distinct core subjects to teach and practical work. Providing support for science line managers who are not science teachers is one way to improve these relationships and enhance trust between senior leadership and science departments. The ASE RISE platform will provide guidance and also research this issue with a view to improving working relationships.

## **D. Improve support for science teacher career guidance and advice.**

Many science teachers want more guidance on their own career planning. This can be achieved by some generic guidance, online support for science teachers and the introduction of one-to-one meetings with science leaders. In addition, school senior leaders could benefit from information on keeping good science teachers within science education beyond classroom teaching or management roles, e.g. change of phase, change of sector or developing others in science teaching. ASE RISE will be able to support some of this.

## **E. Recognise that the needs of science teachers are individual and changing**

Since there is no single solution to science teacher retention and, as time goes on, the needs of individual teachers and science departments change due to external factors (e.g. a global pandemic, a change in exam system, local disruptions), it is recommended that ongoing monitoring of wellbeing, job satisfaction and career intentions will help to inform the support and interventions needed, both reactively and proactively.





The Science Teacher SOS initiative began in 2017 when the Association for Science Education (ASE) noticed that a disproportionate number of new and experienced science teachers were leaving the profession. Science Teacher SOS (ASE, 2018) is an online resource that contains guiding questions, options and links for teachers who are considering leaving science teaching. In addition, there are a set of activities to help teachers assess why they are dissatisfied and what changes they could make to help improve their job satisfaction.

The ASE SOS booklet has had over 3000 downloads and we have received positive feedback from the Department for Education and teaching unions. As a result of this, The Gatsby Charitable Foundation funded a one-year project to evaluate the use and impact of the Science Teacher SOS approach.

This project started in 2019 but was paused during the Covid-19 lockdown period. It resumed, with an additional six months funding granted, and the opportunity to invite more schools to participate.

[www.ase.org.uk/sos](http://www.ase.org.uk/sos)

## Why science teacher retention?

For teaching in general there is a risk of losing teachers due to high workload and impact on mental health (Teacher Wellbeing Index, 2020). More recently, the NEU (National Education Union, 2021) has published data on the impact of the Covid-19 pandemic, showing that 66% of teachers say that job satisfaction has got worse and 35% that they would leave the profession in the next five years citing government distrust, workload, accountability and pay.

For science teachers in particular, they are more likely to leave the profession than other subject teachers. For example, the Education Data Lab (2017) reported that the chance of a science teacher leaving the profession after five years is 5% higher than for similar non-science subjects; for science NQTs (Newly Qualified Teachers), the chances were 20% higher; and for those with physics or engineering degrees, the chances are 29% higher. NFER (2019) researched retention of teachers of science, mathematics and computing and attributed their findings to differing working patterns (e.g. science teachers take longer to plan), lower self-efficacy, and possibly higher paid options beyond teaching. Suggestions to improve retention include improved CPD, improved workload, and improved working conditions (e.g. accountability). This is a complex issue, but remains important because the high turnover of science teachers causes an increase in non-specialist teachers teaching science, which has an impact on pupil engagement with science and attainment in STEM subjects.

## Science teacher retention through understating their emotional needs

This project takes the position of supporting science teacher retention through three interrelated perspectives: the emotional needs of science teachers, their job satisfaction, and their career intentions.

Science teacher retention through three perspectives



## Theoretical perspective

The emotional needs of teachers change in light of their circumstances at work and at home. Human Givens is an organising idea that seeks to understand the emotional needs of people. It is underpinned by psychotherapy and is applied to identify and treat a range of mental health issues (Griffin & Tyrrell, 2013). The ASE SOS pilot has used the nine emotional needs to help to understand the needs of science teachers on a population level, departmental level and individual level.

The Emotion Needs survey (Human Givens, 2011) is an established audit (Tsaroucha et al., 2012) used by doctors, schools and counsellors. It can be used as a proxy for understanding wellbeing and a first step to diagnosing distress and mental illness.

Job satisfaction is often related to emotional needs such as getting praise and recognition; flexibility in work and having better relationships with staff (e.g. Newton, 2021 p. 42). If job satisfaction is high, teachers are less likely to leave a school for negative reasons (Perryman & Calvert, 2020). When schools introduce wellbeing initiatives, it has to be bespoke to individuals rather than one-off or token activities (Brady & Wilson, 2021).

If career intentions are supported, understood and developed, more movement within the science education profession will be positive and we will lose fewer teachers from the science education profession (Allen & Sims, 2017; Newton, 2021).

# The ASE SOS Pilot Project Methods

## Research questions

- A. How can ASE Science Teacher SOS be used to support three aspects of science teacher retention (emotional needs, job satisfaction and career intentions)?
- B. What can be done to improve science teacher retention through strengthening relationships between science departments and senior leaders?
- C. What impact has the Covid-19 pandemic had on science teachers' emotional needs, job satisfaction and career intentions?

## Overview

Included 20 science departments in state schools across England.

Each school had a SOS School Representative (Head or Science or experienced teacher).

Each school worked with an ASE SOS Researcher.

## Methods

- Survey 1 Science Teachers
- Survey 1 School Senior Leaders
- Data Meeting with each school
- Action Plan using ASE SOS Document
- Case Study building with each school
- Interviews with Senior Leaders, Heads of Department and Teachers who were leaving
- Survey two Science Teachers
- Survey two School Senior Leaders
- Data meeting with each school
- Review with each school
- Case study write up

## Ethics

Ethical implications were considered using the British Education Research Association ethical guidelines (BERA, 2014) along with advice and approval from education researchers.

Our main concerns were informed consent, wellbeing, confidentiality and anonymity. All schools were fully briefed on the project's aims and the implications of taking part. Participation of all staff was completely optional. At the end of each survey, mental health support helplines were signposted. In addition, if from the emotional needs survey someone seemed to be in mental distress, we raised it with the SOS representative and offered guidance on how to support them. All schools and individuals had the right to withdraw their data by particular dates.

## Surveys

### Science Teachers

- Online and anonymous
- Demographic questions (gender, specialism, experience, etc.)
- Emotional needs audit – 11 scaled questions
- Job satisfaction – 10 scaled response questions and two open response
- Career intentions – 10 scaled response questions and one open response
- Survey 2 had additional questions: Impact of Covid-19 on wellbeing, job satisfaction and career intentions, and impact of the ASE SOS pilot.

### Senior Leaders

- Online and anonymous
- Demographic questions (gender, specialism, experience, etc.)
- Perspectives on science teacher retention (12 scaled questions and two open response)
- Survey 2 had additional questions: impact of Covid-19 and impact of SOS pilot.

### Cohort Information

- In Survey 1 October/November 2020, 18 of the 20 schools participated.
- In Survey 2 April/May 2021, 19 of the 20 schools participated.
- The average number of teachers in the science departments was 11, within a range of 7 to 24.

## Response rates

### Science Teachers

- Survey 1 n=146, 68% response rate, average 68%, range 0-100%
- Survey 2 n =120, 56% response rate, average 57%, range 0-91%

### Senior Leaders

- Survey 1 n= 62 , 50% response rate, average 47%, range 0-100%
- Survey 2 n = 46, 32% response rate, average 39%, range 0-100%

## Impact of the Covid-19 pandemic

This study took place during the global Covid-19 pandemic, which will have had impact on the emotional needs, job satisfaction and career intentions of science teachers. The timeline below is provided to contextualise the stages of the study and the impact of Covid-19 restrictions on schools.

### Timeline of ASE SOS Project and Changes in Schools in England

Month	Stage of ASE SOS Project	Covid-19 Context in Schools
<b>September 2020</b>	Recruitment	Schools reopen using Covid-secure measures including 'bubbles', pupil home testing and wearing of face coverings.
<b>October</b>	Recruitment	Circuit-breaker lockdown announced, but schools remain open.
<b>November</b>	Recruitment Training Survey 1 launched	Teaching in bubbles.
<b>December</b>	Action plans with school	
<b>January 2021</b>	Action plans with school Interim report submitted Update presented at ASE Annual Conference	Staggered return and mass testing of secondary pupils (at short notice). 5th Jan – schools close and move to remote learning. England goes into lockdown. Government announcement that GCSEs and A-levels are to be based on teacher assessment.
<b>February</b>	Case study building	Remote teaching.
<b>March</b>	Case study building	Schools in England reopen. Bubbles and regular Covid-testing in place. England still under lockdown restrictions.
<b>April</b>	Case study building	Teacher assessments underway for year 11 and 13, increasing workload of testing, marking and moderating.
<b>May</b>	Survey 2 launched Interviews	Shops and some hospitality opens. Face coverings in school no longer compulsory.
<b>June</b>	Case study writing Data analysis	Last phase of restrictions is postponed by four weeks.
<b>July</b>	Final Report writing Submit Final Report	Schools close for summer break.



# Example Case Studies

There was a total of twenty science department case studies produced from this pilot project. Each school was supported in analysing their survey data and comparing it to the whole cohort data, making an action plan and reviewing the impact at the end of the year.

Each participating school was given a pseudonym. Their case studies were made up of the data from both the science teacher surveys, their action plans and notes from any meetings. No individual teachers were identified in the case study. Schools decided whether to take a reactive or proactive approach to the data from the surveys. Below are three example case study summaries.

The data from the Senior Leader surveys were not shared with the individual schools because most schools only had two or three responses, meaning that individuals could be identified.

## Case Study 1 – Improving retention through proactive interventions

This science department used a pro-active approach to using the ASE SOS document and introduced other initiatives. The focus was on improving wellbeing of science teachers.

Survey 1 showed that there was not a strong feeling of connection with the wider community, instead a lack of feeling valued, and lack of sense of control over their own lives. Many of the teachers did not feel that they had a good work-life balance.

As a department, science teachers used the work-life balance audit to identify where the areas of tension were and took steps to address these. In addition, the science lead made sure that the staff felt appreciated by giving them notes or small treats as individuals, or as a whole department.

In Survey 2, the emotional needs data had not changed significantly and science teachers attributed wellbeing issues to the new challenge of TAGs (Teacher Assessed Grades as alternative exam arrangements) and pressures from the senior leaders. The actions taken by the science department to improve wellbeing were valued, but they needed to be supported by senior leaders. The SOS representative felt that although this year had been challenging, some progress was being made.

## Case Study 2 – Improving retention through reactive interventions

This science department had an ongoing issue with retaining good science teachers and was therefore supporting science teaching with long term supply or non-specialist teachers (often PE teachers). Due to the further impact of Covid-19 causing significant staff absence, the school was not able to implement any proactive interventions.

Survey 1 showed that the department morale was low and relationships between science teachers could be improved. There was also a distinct division between science teachers and school senior leaders. Although no interventions were put in place, the SOS representative found the survey data helpful to keep in mind and deal with any issues as they arose, with a more informed understanding of the needs of the science department. When teachers were stressed, the SOS representative did draw on the ASE SOS document for supporting them. They were also offered free CPD from the ASE and other organisations and support with workload.

Survey 2 showed no significant change in wellbeing, although job satisfaction increased in areas of feeling valued, improved morale in the department and sense of achievement. The stability of the department improved with few changes in staff, but hostility and distrust towards the senior leaders remained.

## Case Study 3 – Maintaining retention through proactive interventions

This department did not have a history of high turnover, but did want to improve the wellbeing of their science staff and working relationships within the science department.

The first survey indicated that a number of teachers had emotional needs that were not being met. The Head of Department knew of these and was providing ad hoc support. Although the data showed that the staff were generally satisfied with their job compared to the whole cohort data, it showed that some teachers did not get on as well with their colleagues as they would like. Some teachers did not feel that they could manage a work-life balance.

The Head of Department introduced one-to-one meetings for all science teachers. These were short (30 minutes), non-compulsory, informal and focused just on what the science teacher wanted to talk about: on issues affecting them personally, what they were enjoying, and what their challenges were. The science department and senior leaders had a positive and long-term working relationship.

When schools had to move to online learning, the whole school and science department structured the approach so that no teacher was overwhelmed by the change and ensured that where there was additional workload, some other aspect of workload was taken away. The second survey showed that the science teachers valued the one-to-ones and the approach of the senior leaders and science department to dealing with online learning and the changes to the exam system. There was no significant change in the emotional needs or job satisfaction data, but there were positive qualitative responses.

# Example Department Survey 1 data extracts

## Science Teacher Survey (Nov/Dec 2020)

SCHOOL PSEUDONYM

Dept: Science teacher total: 24 Number of responses: 14 Response Rate: 58 %  
Cohort: Science teacher total: 209 Number of responses: 146 Response Rate: 70 %

Emotional Needs	Never :(														Always :)	
	1		2		3		4		5		6		7			
	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.		
1. Do you feel secure in all major areas of your life?		2%		3%	7%	8%	29%	14%	21%	32%	36%	30%	7%	11%		
2. Do you feel you receive enough attention?		1%		3%	14%	10%	29%	16%	14%	24%	21%	32%	21%	14%		
3. Do you think you give other people enough attention?		1%		1%		5%		18%	14%	36%	50%	29%	36%	9%		
4. Do you feel in control of your life most of the time?		1%		4%	7%	8%	29%	18%	36%	33%	29%	29%		7%		
5. Do you feel connected to some part of a wider community?		3%	14%	4%	7%	10%	7%	17%	36%	24%	29%	26%	7%	12%		
6. Can you obtain privacy when you need to?	7%	1%	7%	5%	14%	9%	7%	12%	14%	25%	43%	29%	7%	19%		
7. Do you feel an emotional connection to others?	7%	2%		1%		1%		1%	7%	10%	14%	27%	71%	58%		
8. Do you feel you have status that is acknowledged?		1%		4%	7%	5%	14%	19%	14%	23%	43%	34%	21%	14%		
9. Are you achieving things and feeling competent in at least one major area of your life?		1%		1%		3%	7%	12%	21%	23%	29%	42%	43%	18%		
10. Are you being mentally and/or physically stretched in ways which give you a sense that life is meaningful?	7%	1%	7%	3%		4%	7%	12%	29%	20%	21%	25%	29%	34%		

Job Satisfaction	Always :)										Never :(	
	1		2		3		4		5			
	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.		
1. I look forward to coming to work each day	29%	16%	43%	39%	7%	23%	14%	18%	7%	3%		
2. I know what is expected of me	36%	35%	29%	36%	14%	13%	14%	10%	7%	7%		
3. I know who to go to for help if I need it	64%	46%	14%	32%		7%	7%	5%	14%	10%		
4. I have flexibility in my work	14%	8%	50%	32%		26%	14%	25%	21%	10%		
5. I get on well with the colleagues in the department	64%	55%	14%	32%		5%	14%	8%	7%	10%		
6. The morale in my department is high	43%	23%	29%	35%	7%	21%	14%	17%	7%	3%		
7. I feel like I make a difference to the department	29%	21%	29%	33%	21%	27%	14%	14%	7%	5%		
8. I feel I can talk to my manager	71%	57%		18%	7%	7%	7%	8%	14%	10%		
9. I feel satisfied with my work	29%	14%	36%	45%	21%	25%	14%	14%		2%		
10. I am able to manage a work-life balance		10%	29%	30%	29%	22%	29%	27%	14%	12%		

Career Intentions <i>Note: blank cells mean zero responses (0%)</i>	Strongly Agree		Agree		Neutral		Disagree		Strongly Disagree		Not Applicable	
	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.	Dept.	Cohort.
1. I intend to be in my current role this time next year.	71%	45%	7%	34%		10%	7%	5%	14%	5%	14%	5%
2. I see myself working at this school for the next three years.	29%	32%	57%	32%		23%	14%	9%		5%		5%
3. I see myself working at this school in the next five years.	14%	21%	29%	25%	43%	29%	7%	14%	7%	10%	7%	10%
4. I am happy working in this science department.	64%	55%	29%	34%	7%	9%		1%	100%	100%	100%	100%
5. I would seek promotion in this science department.*	29%	20%	7%	23%	36%	25%	14%	5%	7%	10%	7%	10%
6. I keep a look-out for other teaching jobs for myself in other schools.	14%	7%	21%	26%	29%	25%	21%	19%	14%	23%	14%	23%
7. I keep a look-out for jobs for myself other than in teaching.	7%	4%	14%	19%	36%	15%	21%	24%	21%	38%	21%	38%
8. I am actively seeking to leave this job.	7%	2%		5%	21%	16%	29%	27%	43%	49%	43%	49%
9. I am actively seeking to leave teaching.		1%		6%	29%	18%	29%	23%	43%	51%	43%	51%
10. I would recommend working in this science department to other teachers	43%	50%	43%	40%	7%	7%		3%	7%	1%	7%	1%
11. I would recommend working in this school to other teachers		29%	71%	45%	14%	15%	7%	9%	7%	2%	7%	2%

\*There was a 'not applicable option' which has not been included (so data may not add up 100%).

#### 11. The best thing about working with this department is:

Friendship and teamwork  
 Friendship, almost everyone is lovely.  
 Making a difference with the students.  
 My colleagues

#### 12. Working in this department could be improved if:

Getting rid of incompetent people  
 I don't feel particularly trusted - I am (we are) 'checked up on' a lot (dept and school wide) but I understand that this is necessary.  
 I had some space and privacy but I sit in an open office of 20+

#### 12. Please describe your current career hopes and intentions in more detail.

Currently on maternity cover. Hope to get a permanent role and TLR in the coming year.  
 Eventually I hope to work in other schools or even abroad if possible  
 happy where i am  
 I am only starting my career as a teacher so I am at the beginning of my career. I am taking it one step at a time as I learn the ropes of teaching as a career.

# Science Teachers' Emotional Needs

The first part of the surveys asked questions about emotional needs, which can be considered as a significant aspect of teacher wellbeing. Individual science departments had their responses compared to the whole cohort data (see example Case Studies). This section summarises the data from the whole cohort and the collated responses by each participating school. Teachers were asked to respond based on all aspects of their life, so the responses may not be linked to their work directly.

Emotional needs most likely to be met	Emotional needs least likely to be met
having an emotional connection to others (98-95%) being able to obtain privacy when they need to (83-84%) feeling a sense of achievement / competence (87-92%)	having their status acknowledged (82-75%) feeling secure in all major areas of their life (73-72%) feeling connected with a wider community (79-81%)

Sum of those choosing scores 5, 6 or 7. (First figure November 2020, second figure May 2021).

## Mental health and science teachers

In survey 1, 10 of the 18 departments had teachers with mental health issues. In most cases, science leaders knew of these issues and how they were being supported.

## Use of ASE Science Teacher SOS strategies

Emotional needs were considered alongside the data from job satisfaction and career intentions.

Part 1 – How are you?

- Used as a prompt for the SOS representative / Head of Science when talking to individual staff
- Signposts for teachers who need support

A lot of the strategies introduced overlapped with improving job satisfaction.

## Future support for wellbeing

Next year, would you like more support for your wellbeing?

Agree	Neutral	Disagree
51%	42%	7%

## Impact of Covid-19 on science teachers' Emotional Needs A

few teachers felt that the changes due to Covid-19 had a positive effect, but most cited a negative impact:

*The last year has been extremely challenging with the continual changes to our working conditions. Online teaching raised my anxiety significantly especially in the first instance when I felt like I was in my training year again. We accommodated all the changes without complaint however we were asked again and again to give more. Giving more when there is already very little left for*

*teachers to give of course impacted negatively on our mental health.*

## Summary of Covid-19 impact on the wellbeing of science teachers 2020-2021

- Threat of catching Covid-19 - concern for themselves and concern for others (family, friends, colleagues)
- Actually contracting Covid-19 themselves and others catching Covid-19
- Personal bereavement

- Loss of a member of staff (death, long covid, isolation)
- Lockdown impact on home life
- Teaching in bubbles
- Moving between rooms (no personal base)
- Working from home (positive and negative experiences)
- Workload (positive and negative experiences)
- Adapting to new ways of working
- Disruption to normal routines – at home and work
- Covering work for ill staff
- Technological issues of working differently
- Isolation – from work and at home, from family and friends
- Unable to support pupils as well as would like to
- Unclear expectations from work
- Sudden changes in working practice
- Less opportunity to socialise, see friends (work and home)

## Improving the emotional needs of science teachers - In Conclusion

In general terms, the relative emotional needs of the science teachers in the cohort did not change significantly during the academic year.

Where teachers do not have their status acknowledged, this can be improved within science departments and schools using strategies such as private and public recognition of work and ability to adapt. However, some teachers attribute this feeling to beyond the school, including perceptions of the general public, the media and the Government.

Where individual teachers were dealing with personal mental health issues, Heads of Science played an important role in supporting them so that they could do their job effectively, alongside professional mental health interventions.

Using the emotional needs survey to establish the emotional needs of science teachers can be useful to:

- Establish the emotional needs of science teachers within the cohort, which can be used as a comparison for individual departments, and provide general support and signposting for department leaders and school leaders.
- Establish the emotional needs of science teachers within a science department and provide specific support and signposting for department leaders and school leaders.
- Raise awareness of mental health needs and wellbeing needs of science staff.
- Acknowledge that a science leader is willing to listen and respond to wellbeing needs.
- Make bespoke adaptations, changes to support all staff.

The ways in which the ASE Science Teacher SOS resource was used to support science teacher emotional needs and wellbeing included:

- Science leaders using the question prompts (How are you?) to support individuals who needed support with wellbeing or mental health. The signposts on that page were used when necessary.
- To establish why a science teacher felt unhappy and identify what could change (Exercise A) was used as a conversation starter.
- Exercise B, the work-life balance analyser, was used on an individual level and in whole department meetings to analyse and address issues of work-life balance.



# Science Teachers' Job Satisfaction

Job satisfaction was measured using 10 questions and two qualitative questions. In Survey 2, three additional questions asked about the impact of Covid-19 on job satisfaction and CPD opportunities.

## Job satisfaction from Surveys 1 & 2

Highest satisfaction	Least Satisfaction
Getting on with colleagues (48-51%)	Looking forward to going to work each day (43-46%)
Can talk to their manager (51-44%)	Being able to manage a work-life balance (23-22%)
Know who to go to for help (54-47%)	Having flexibility in their work (24-21%)

Note: Percentages are the sum of those choosing 'Strongly dis/agree' or 'Dis/Agree'. First figure November 2020 (n=174) - second figure May 2021

(n=120). What teachers said were the best things about working in their science department:

- General: the team, people, colleagues
- Collaboration between colleagues
- Support from colleagues
- Leadership within department and/or within school
- Student success and/or achievement
- The students themselves

What teachers said could be improved in their science department:

- COVID-19 related responses e.g. no Covid-19, "Covid wasn't a thing"
- Improved resources: classrooms, resources, laboratories
- Time for collaboration / curriculum development / professional development
- More structure
- More support
- More equity of the work distribution / or people doing their bit
- Better management/leadership within department
- Better understanding/leadership from senior leadership

Survey 2 the word 'Covid' was not mentioned, but ongoing consequences of Covid-19 were, including:

- Being able to do practical work again / with more year groups / more often
- Teaching arrangements: bubbles, own classroom, teaching in the laboratory
- Stability in staffing: illness / turnover / low numbers of science teachers
- General comments about 'getting back to normal'

Note: Survey 1 112 written responses, Survey 2 91 written responses

## Strategies used to improve job satisfaction

Strategies used by science departments to improve job satisfaction:

- Whole department meeting about ASE SOS survey results
- Introduction of one-to-one meetings
- Informal meetings with staff (including virtual coffee mornings, online quizzes)
- Providing a space and time to meet in school
- Individual interventions (talking directly to a colleague, asking a colleague to intervene).

## Examples of use of ASE Science Teacher SOS Document to support job satisfaction

Exercise B and C – Analysing my work-life balance and Making Changes to my work-life balance.

These two exercises were used by individuals or by whole departments together to understand the impact of workload and work-life balance. This resource was used to start a discussion about the workload pressures and how these can be tackled.

Science teachers within the same department can have different perceptions on workload and work-life balance. By doing these exercises, coping strategies, organisational approaches and mindset to work can be shared, challenged and changed.

## Impact of Covid-19 on science teacher job satisfaction

While a slight majority of science teachers didn't report a decline in job satisfaction (45% reporting that job satisfaction remained the same and 14% reported that their job satisfaction had increased) a significant minority (41%) said that it had decreased.

The reasons for the positive impact of Covid-19 on job satisfaction included that the workload had improved/decreased and not having to commute when working from home. For example:

*Having fewer year groups to teach has allowed me more time to plan more effective lessons. By teaching the same lesson to multiple different classes, I can reflect on the lesson and make improvements for when I teach it to my next class more meaningfully.*

The negative impact of Covid-19 on job satisfaction included:

- Workload increased
- No practicals
- Having to move between classrooms
- Feeling rushed, chaotic
- Poor treatment of teachers by Government
- Lack of stability
- Deterioration in student behaviour
- Unable to teach to best ability
- Exam arrangements: Pressures and responsibility of TAGs

## Example quotes from science teachers

*Frustrating to try and be the best teacher I can be whilst having to run around the school like a headless chicken between classes. I want my own space.*

*I am dissatisfied by the way teachers have been treated during the pandemic.*

*I had always intended to leave teaching in 2022. The way we have been treated during the pandemic has served to reinforce my determination to leave.*

*With science being a practical subject, not being able to give students practicals to do, or allow them to do group work, has drastically decreased the engagement of my classes. I don't feel proud of my teaching this year, and have found it very demoralising.*

## Job satisfaction conclusions

There is a wide range of perception with regard to the aspects of job satisfaction; it is subjective, but there are several strategies that schools can use, or initiatives to employ to improve job satisfaction.

The highest ranked aspects of job satisfaction were associated with positive relationships and support.

The lowest ranked aspects of job satisfaction were associated with morale: looking forward to coming to work, work-life balance, and flexibility in work.

In addition, science teachers think that their job satisfaction can be improved via improved resources (physical environment), support, structure, equity of work distribution and improved relationships with management and school leadership.

Although relationships with colleagues within departments ranked highest, around 40% of responding science teachers do not feel that they get on well with their colleagues. There is scope to improve relationships within departments.

The two factors that could improve job satisfaction are:

- Managing workload and having a work-life balance
- Improving working relationships within the science department, between staff and managers and between staff and senior leadership.

Interventions that appear to improve job satisfaction include addressing work-life balance and workload issues explicitly and working together to stabilise and maintain these. Improving communication between individual teachers, Heads of Science and senior management to ensure mutual understanding of roles and expectations.

Covid-19 has made little impact on 45% of science teachers' job satisfaction, but 41% reported it had decreased. Positive impact of Covid-19 included reduced workload and an improved work-life balance. However, the negative impact was far-ranging due to the disruption caused by lockdowns and Covid-19- restrictions, which mostly affected science teachers' ability to teach.

# Science Teachers' Career Intentions

The ranked statements are in an order we would hope for from science teachers, with most teachers feeling able to recommend their science department to other science teachers (90-84%)<sup>1</sup> and most intending to be in their current role next year (79-73%). In May, 89% of teachers were feeling happy to work within their department and 9% were looking to leave teaching.

Comparing the ranked position of Career Intentions between May 2021 and Nov 2020:

Position May 2021	Career Intentions	Position Nov 2020	Change
1	I am happy working in this science department.	1	0
2	I would recommend working in this science department to other teachers	2	0
3	I intend to be in my current role this time next year.	3	0
4	I see myself working at this school for the next three years.	4	0
5	I see myself working at this school in the next five years.	6	1
6	I would seek promotion in this science department.	7	1
7	I keep a look-out for other teaching jobs for myself in other schools.	8	1
8	I am actively seeking to leave this job.	10	2
9	I keep a look-out for jobs for myself other than in teaching.	9	0
10	I would recommend working in this school to other teachers	11	1
11	I am actively seeking to leave teaching.	5	-6

A majority completed the optional question that asked them to detail their career intentions. The qualitative data from Surveys 1 and 2 show the general career intentions of science teachers.

- Continue to develop their teaching
- Satisfied with current situation/role
- Resigned to current situation
- Desire extra responsibility
- Seeking promotion within the science department (now or in the future)
- Promotion within current school (Head of Year, senior leadership)
- Develop skills in leadership
- Want a change in hours (Part-time / Full-time)
- Take a career break (study or travel)
- Change school (for promotion)
- Teach overseas
- Preparing for retirement
- Leave the classroom for something else in science education
- Leave teaching completely
- Uncertain

How did science departments respond to improving career intentions?

The types of intervention that some schools chose to use included:

- Opening up the conversation for people who wanted to talk about career progression
- Those who were uncertain about their next steps could discuss the various options within the department (short, medium and long term) and those within school and understand the opportunities beyond school
- Some SOS representatives recognised that some science teachers were happy in their current role with or without responsibility
- Offering the opportunity to talk about career progression or opportunities within the department or school as part of one-to-one sessions was beneficial for those who were unsure about their next steps

Examples of use of ASE Science Teacher SOS Document to Support Career Intentions

The ASE SOS document includes a range of options for career pathways, career options, and alternatives to secondary science classroom teaching, and identifies the transferable skills that teachers have. This was recognised as an opportunity by some SOS representatives, but it was not explicitly used in this way in the pilot.

Science teachers' responses:	Yes (%)	Neutral (%)	No (%)
Do you have a clearer idea about your job intentions than you did in November?	41	46	13
Would you like more support with planning your career?	38	54	8

Impact of Covid-19 on science teachers' career intentions

To what extent has the Covid-19 pandemic affected your career intentions?

65% said no change, 27% said some change and 7% said they had changed significantly.

Other comments made in response to the impact of Covid-19 on the change in career intentions:

- Considering leaving the school (e.g. increased poor behaviour, poor senior team)
- Considering leaving the profession (e.g. with more flexibility, less admin, lower workload)
- Unexpected new job opportunity within teaching
- Taking on additional responsibility at school
- Moving for domestic / personal circumstances
- Moving to teaching at university (HE sector)
- Job worthwhile and secure
- Want to move schools, but fewer job opportunities.



# Understanding Senior Leaders' Perspectives on Science Teacher Retention

The senior leadership team in a school can have a significant impact on the wellbeing, job satisfaction and career intentions of science teachers. We engaged with senior leaders to ask their perspectives on science teacher retention and the impact of the ASE SOS project.

Most senior leader respondents recognised that there is an issue with science teacher retention.

Most senior leader respondents gave an account of what they / their school was doing to retain science teachers; some made it clear that the strategies were for teachers of all subjects, not just science.

## Supporting science teachers' wellbeing and career

Between the two surveys there was an overall positive shift and certainty with respect to being able to support science teacher wellbeing and changes in career.

98% of know how to support a good science teacher who is considering leaving their school.

94% of senior leaders felt able to support a good science teacher who is stressed or overwhelmed.

92% of senior leaders feel that there is something that they can do to keep a good science teacher.

## Willingness and ability to make changes for science teachers

To keep a good science teacher:

34%-66% said they would be willing to make changes within the science department.

82% said they would be able to make changes within the science department.

80% agreed they would be willing to make changes within the school.

70% agreed they would be able to make changes within the school.

## Keeping science teachers in science education

91% would encourage a science teacher to teach science in another school.

For science teachers who are certain to leave teaching, about half of respondents said that they would suggest science teaching in another phase, with around 10% disagreeing.

Around half agreed that they would suggest staying in science education in another sector, with around 10% disagreeing with the statement.

In both cases around 35% respondents were neutral on this.

## Challenges of science teacher retention for senior leaders

There were four themes from senior leaders' written responses to the questions.

*"This is a controversial balancing act so that all teachers are valued and colleagues do not hold schools to ransom. All staff wellbeing and value is important (sic)."*

Responsibility for retaining science teachers	Attributions of science teacher retention	Understanding science teachers' needs	Dilemmas when dealing with science teacher retention
Not all senior leaders felt responsible for retaining science teachers.	Perceptions on retention including geographical variations.	Not all science line managers have been science teachers.	The desire to treat all teachers the same regardless of specialism.
In most cases it was the headteachers final decision.	Competition with other schools for science teachers.	Science teaching may have specific pressures or needs that other subjects do not e.g. practical work, core subject etc.	The pressure to compete within market forces.
Every case is individual.	Quality of training of science teachers.		Philosophical and political tensions.

*"If a teacher is 'certain' about leaving then it's probably too late to try and keep them. This is a very tough job and it requires a high level of resilience and commitment. There are only so many accommodations that can be made without compromising provision for students."*

What asked what the challenges faced and strategies used by senior leaders, they said:

Main challenges of retaining good science teachers	Strategies used to retain good science teachers
<ul style="list-style-type: none"> <li>• (Lack of) opportunities within school / competition</li> <li>• Science Teacher Shortage/Training issues</li> <li>• Feeling valued</li> <li>• Pressures of (science) teaching</li> <li>• More opportunities beyond teaching</li> <li>• Poor communication</li> <li>• Team dynamics / Conflict in ethos</li> </ul>	<ul style="list-style-type: none"> <li>• General retention strategies for all staff</li> <li>• Being involved in training (ITT)</li> <li>• Specific CPD and Wellbeing</li> <li>• Recruitment process</li> <li>• Promotion opportunities / Succession planning</li> <li>• Incentives, flexibility and responsibility</li> <li>• Sympathetic timetabling</li> <li>• Resolution management</li> </ul>

## Impact of the ASE Science Teacher SOS Pilot

From this relatively short study of nine months, in a context never been seen before, it is not possible to make claims about the direct impact of the ASE Science Teacher SOS on science teacher retention.

However, there are some tentative claims to be made, based on the data presented about the impact of the ASE SOS interventions on individual school representatives, science departments and science teachers. In addition, substantive claims can be made about the perceptions of the participating schools on how useful the ASE SOS project has been, for them, in supporting the science teachers in their schools.

Science lead teachers did find the exercise of doing a questionnaire useful for insights into the needs of their department. Just reviewing the data, without proactive changes or an action plan, allowed them to deal with any arising issues in a more informed way.

Just doing the survey allowed for a department meeting to focus on changes that could be made within the department and a shared understanding of the challenges facing individual teachers and the department as a whole.

In some situations, the data from the survey allowed the opening of a dialogue between the science leader and the senior leadership team. It was suggested that instead of a list of 'moans', the survey data gave tangible issues to deal with.

Science teachers found the process a useful method to be able to share concerns in a safe (anonymous) way.

Being involved in the project has allowed senior leaders to identify the issues with science teacher retention, revisit some of the issues unique to science teachers and, in some cases, improve communication and redirect support to science teachers.

# Conclusions

This pilot project set out to answer two questions, with the third becoming pertinent following the emergence of Covid-19. Here are the main conclusions for each research question.

*How can ASE Science Teacher SOS be used to support three aspects of science teacher retention (emotional needs, job satisfaction and career intentions)?*

The ASE SOS document was used in a variety of ways to support the aspects of science teacher retention. The online surveys were intended to be a research instrument, but they became integral to informing the support strategies.

The work-life balance audit (Exercise B&C) was the most widely used resource. This was used by individual teachers or as a whole department exercise, to identify the key issues and implement change where necessary.

Some science lead teachers found the structure of the questions in the 'How are you' section a useful support when talking to teachers who had concerns about mental health or stress.

Several departments used the opportunity to introduce their own strategies, including one-to-one support meetings, ways to improve job satisfaction, and conversations on career progression and opportunities.

*What can be done to improve science teacher retention through strengthening relationships between science departments and senior leaders?*

A common concern from science teachers was that senior leaders did not understand the issues specific to science teaching e.g. the importance of practical work, the organisation and planning associated with practical work, teaching outside their subject specialism, and sometimes the stress of doing practical lessons. The surveys did help to reveal these specific pressures and senior leaders who were able to respond to this.

It is clear that a majority of senior leaders have a good understanding of how to support and retain science teachers and are aware of the challenges facing science teacher recruitment and retention. However, there is also evidence of philosophical viewpoints that cannot be resolved easily.

The ASE intends to research this issue further with a view to strengthening relationships between senior leaders and their science departments. We recognise that senior leaders have their own challenges in managing wellbeing, job satisfaction and career intentions of a whole school, which need to be balanced with the specific needs of science teachers. We suspect that improved understanding can be achieved through online resources for new and existing line managers and strategies to empower Heads of Department with open communication and conflict resolution skills.

*What impact has the Covid-19 pandemic had on science teacher emotional needs, job satisfaction and career intentions?*

Covid-19 did impact all science teachers in some way throughout this study. A few teachers found that the changes in work due to Covid-19 had positive impacts on their wellbeing and work-life balance. However, a majority of science teachers found it had a negative aspect on at least one of the three areas studied.

The emotional needs profile of science teachers did not change overall in the six months, but the particular challenges for science teachers at home and at work did. This study emphasises the importance of considering teachers' emotional needs holistically, rather than just at home or at work.

Science teachers on a personal level had to deal with a range of challenges, with disruption to routine due to lockdown and working from home, health concerns of their own or their loved ones, dealing directly with having Covid-19 personally or within the family, along with its long-term effects and sometimes, sadly, even death in the family or of colleagues.

At work, science teachers had a complete change of practice and routines: working in ‘bubbles’ or a fixed teaching space, often not in a laboratory, unable to do practical work, and having to move to online teaching, often alongside other rapidly changing demands from their leaders and the government.

Job satisfaction varied throughout the pandemic, with some teachers enjoying the challenge of change and others finding it too much to bear. In some cases, job satisfaction was improved due to improved relationships with colleagues, for others the isolation within school and working from home reduced opportunities to support one another. One of the main concerns was not feeling that they could do their job ‘properly’ and this led to reduced morale.

Overall, Covid-19 reduced the movement of teachers between jobs and this was seen in other studies. Covid-19 changed some science teachers’ personal and professional plans significantly. This does mean that we are unable to make any claims that the ASE SOS document and pilot had any direct impact on science teacher retention at this time.

## Next Steps: Further Analysis and RISE

This report represents a top-level analysis. There is scope for more detailed analysis including:

- Comparison of needs of teachers of biology, chemistry and physics.
- Comparison of needs of teachers at different stages of their career.
- Understanding the needs of those who are considering leaving teaching.

In addition, the data offer insights into how to support and improve relationships between science teachers within departments and between science teachers and their senior leaders. The ASE has been supported in investigating this issue further as part of ASE RISE.

The model of using a short survey at the start of the academic year, which is able to be compared to a larger data set, is a powerful tool for science leaders to be able to audit, support and plan for their staff wellbeing, job satisfaction and career progression. It has been adapted to be an online resource available to Heads of Science through the ASE, which allows them to use the audit, have the comparison data, and have an online platform with resources and tools to support their department in wellbeing, job satisfaction and career intentions.



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