

UK School Science Technician Survey 2016



Results and Analysis

Gratnells

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This report was compiled by Chris Galvin and Steven Knight
at Preproom.org.

We would like to thank Gratnells for their continued support of
Preproom.org, our **#techognition** campaign and for producing the
printed version of this report that we will be presenting to academy
managers, members of parliament and prominent
science communicators throughout 2016.



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***“Gratnells is pleased to support this research and is keen
to promote the excellent work carried out by the large and
committed community of Science Technicians.”***

We would like to thank the thousands of hard working school science
technicians in the UK for their enthusiasm, passion and commitment
to the profession. We hope this report will be informative and will help
build the first step towards a change in the way the science technician
role is recognised.

Chris Galvin
Director
Preproom.org

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Introduction



At Preproom.org we have worked closely with school science technicians for almost a decade, supporting them in their daily work and helping them share knowledge and information. Through our forums and correspondence we are constantly reminded of the poor pay, lack of support and little recognition that many technicians are faced with.

School science technicians quite simply are the unsung heroes of every school science department. Their skill sets are completely unique - how many other jobs do you know where on the same day you can be isolating DNA, managing a substantial budget and identifying pond life?

But it didn't used to be like this...

If you go back fifty or so years, science technicians were often mums and dads who came into school to help with a bit of washing up a couple of days a week or to move equipment from lab to lab. Their job specifications were minimal, if they had one at all and they were paid accordingly - as little as possible.

Over the years the school science technician role has changed considerably. The average technician is required to resource and set up practical lessons and demonstrations several times per day in several different labs. They make up chemical solutions and mixtures, need to know the workings of hundreds of pieces of equipment and how to maintain them. They organise their own training, can perform demonstrations in front of classes of children and supervise children on school trips.

Senior technicians (who often are on only slightly more pay than standard technicians) can do all of these things as well as often leading a team of several technicians, managing substantial budgets, running staff meetings and asset tracking... This list is by no means comprehensive.

In many schools, science technicians are invisible yet invaluable.

One of the main problems facing many school science technicians is the lack of understanding by school leaders, teaching colleagues and the government of what the job actually entails. School prep rooms are usually only frequented by science staff and due to the sheer volume of work, many technicians rarely venture into the main staffroom or other departments. In many schools, science technicians are invisible yet invaluable.

In 2016, our primary focus at Preproom.org is to help raise awareness of the role of a school science technician among school leaders, teachers and local and national government. We hope in doing so, some of the other problems facing the profession (low pay, lack of training budgets and redundancies) can be addressed properly with the best interests of science education at heart.

Several school science technician related surveys have taken place over the years, carried out by various professional bodies in the UK. Their aims

and recommendations have varied from wanting a better career ladder for technicians, the need for more technicians to enter the profession, the need for technician pay to reflect experience and for there to be a set induction programme for new technicians. While these are all sensible recommendations, very few have been followed up or initiated properly. The introduction of work-based qualifications for school science technicians

We feel that if school leaders have no idea what technicians do on a daily basis, or know how much of a positive impact they have on the scientific literacy of students, there will never be any hope for improved pay and conditions for them.

was meant to improve career prospects and give technicians a better case for improved pay but in reality, although they do give technicians evidence of their knowledge and experience, there is no guarantee that schools will recognise them. We feel that without genuine recognition and respect by school leaders, school science technicians will continue to be treated more like 'hired help' and not the essential, knowledgeable

and enthusiastic people they are. We feel that if school leaders have no idea what technicians do on a daily basis, or know how much of a positive impact they have on the scientific literacy of students, there will never be any hope for improved pay and conditions for them.

With this in mind, we decided to run a large-scale UK wide school science technician survey in order to gauge opinion and gather data about the profession. This report contains the results of the survey which was completed by 1310 technicians, our interpretation of the data and our conclusions. We would like to thank every technician who took part in the survey and those who shared the survey with others. We hope you find the results informative.

If you have any questions or feedback about this report, email us at admin@preproom.org.

Data Accuracy and Copyright

All data in this report has been rounded to one decimal place for clarity. Statistics have been derived from all available data for each question minus a small number of void responses including indecipherable answers, purposely spoilt answers and technical issues which had led to skipped questions. Unless stated otherwise all statistics are based on 1308 valid survey responses. This survey was open from November 2015 to February 2016.

Although care has been taken to ensure the accuracy, completeness and reliability of the information provided, Preproom.org assumes no responsibility for accidental errors.

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Quotations from supporters of our campaign

“Let’s think about it - no science technician - no science. In this Inverted pyramid of a world, where our technological base grows broader and more pervasive from day to day, a science and technology understanding is essential, as is the school science technician that makes it happen. If the science technician goes, so does the science and technology aspect of education. That can never be allowed to happen!”

Johnny Ball - TV Presenter, Scientist and Mathematician

“All hail the school science technician: crucial linchpin of the science department who often holds the whole damn show together with little credit, little money and nowhere enough recognition - despite keeping everything up and running, and, let’s be frank here, making sure the school doesn’t blow up.”



Stefan Gates - TV Food/Science Presenter and Author

“Scientists are vital for the future of the country and the world. This training begins at school. I know from my own experience in television programmes that science is best taught through experiment and demonstration. I performed many hundreds of demonstrations on television, and 20 years later people still come up to me in the street and say ‘I loved that one where you flew with your own wings/ had a hot bath in a field/ dropped tomatoes off the Leaning Tower of Pisa.’ What they remember are the demonstrations. In schools these would not be possible without the help of technicians. Therefore few people are more important to the scientific future than the science technicians in schools.”



Adam Hart-Davis - Scientist, Broadcaster, Author and Photographer

“Science technicians are the unsung heroes of the labs and classrooms all around the country. Last year, I was privileged to present the winner and runner-up of the Gratnells Science Technician of the Year Award. Having met and worked with a number of technicians over the years, I know just how hard they work behind the scenes. As Newton once said: ‘If I have seen further it is by standing on the shoulders of giants’ - most scientific breakthroughs don’t happen through eureka moments, they are a culmination of the hard work of many different scientists - including technicians.”



Jheni Osman - Science Presenter, Journalist and Author

“I know the difference that school science technicians make on many levels and how often they go way beyond the call of duty to nurture a love of science in young people. I’ve witnessed first hand the way they have successfully supported teenagers who have developed some brilliant projects for our TeenTech awards over the past four years. We know the difference extra-curricular project work can make to students who may never have thought that progressing in science or tech could be for them but I’m very aware of the time and effort that goes into them. We know we need more young people working in these areas and science technicians are well placed to provide support for engagement which may not always be available within the curriculum. We need to give science technicians more recognition for this work which can really help to surface talent that contemporary industry badly needs.”



Maggie Philbin - CEO at TeenTech CIC and Broadcaster

“Effective practical work is essential for student engagement, which can lead to higher attainment and retention in science. Technicians are integral to the provision of practical work for students. Technicians create, source, research and trial the equipment used, train teachers, NQTs, PGCEs and non-specialist how to run practicals safely. They provide equipment for students to use in lessons and then tidy it up at the end. Many technicians also support lessons and provide practical expertise in the laboratory. The role is so important and varied that we need to make sure that technicians are supported and valued by all of us working in education.”



Simon Quinnell - National Technicians Lead at the National STEM Learning Centre

“I have been lucky to have worked alongside talented, knowledgeable and helpful technicians throughout my career as a physics teacher. From saving a last minute lesson plan by providing just the right idea, to building bespoke demonstration apparatus, the technicians I’ve worked with have not just made my job easier, they’ve helped me be the best teacher I can be. It would be impossible for me to do my job properly without them.”



Alom Shaha - Science Teacher, Writer and Film-maker

“I have long held the view that support staff are equally as important as the people they support, be them teachers, doctors, senior civil servants or engineers. Without skilled technical support staff, it becomes impossible for the other professionals to be able to do their job effectively. This is especially true of science technicians in schools. Teachers do not have the time nor (and this may be a somewhat controversial argument, but I stand by it) the necessary skills-base to be able to maintain equipment, inventories, prepare



practicals and reagents, along with managing the logistics of equipment between multiple classes. But it goes much more beyond this; my own technician was my rock, a vital component in the broader staff support network within the school. She was also a good sounding board for my latest demonstration ideas and would often work with me to help bring them to reality.

As a teacher, I was reliant on the support of my technicians, without whom, my lessons wouldn’t have been anywhere near as interesting, engaging nor practical for the students. A school science technician is a fundamental part of the team responsible for inspiring the next generation of scientists.”

Matthew Tosh - Presenter, Broadcaster, Voice Artist, Training Consultant and Freelance Pyrotechnician

“An experienced technician can make the difference between a good and an excellent science department. With the right support and training they are able to encourage and inspire teachers and students. They have the knowledge and enthusiasm to try new ideas and invigorate stale practicals which then re-engages students and improves results. They are organised and professional with excellent management skills that are used to ensure the technical side of the department runs smoothly alongside the head of science.”



Phil Wilson - Senior Technician (RSciTech) at Broadgreen International School and Former Gratnells Science Technician of the Year

“Practical science is one of the best ways of getting school pupils excited about and involved in science and mathematics. I find it shocking that there is such a shortage of science technicians in schools as the technical support for such lessons is a critical part of a good science education.”

Professor Lord Winston - Scientist, Presenter and Politician

Gender and Age



Technician Gender Split

Gender

It comes as no surprise that the majority of school science technicians are female. Anyone attending a technician course or conference will be well aware of the discrepancy between the amount of female and male technicians.

From other surveys in the past it seems this has always been the case. The fact many technician jobs are term time only (TTO) means the role seems to attract a lot of parents of school aged children who traditionally are more likely to be female and not the main household wage earner.

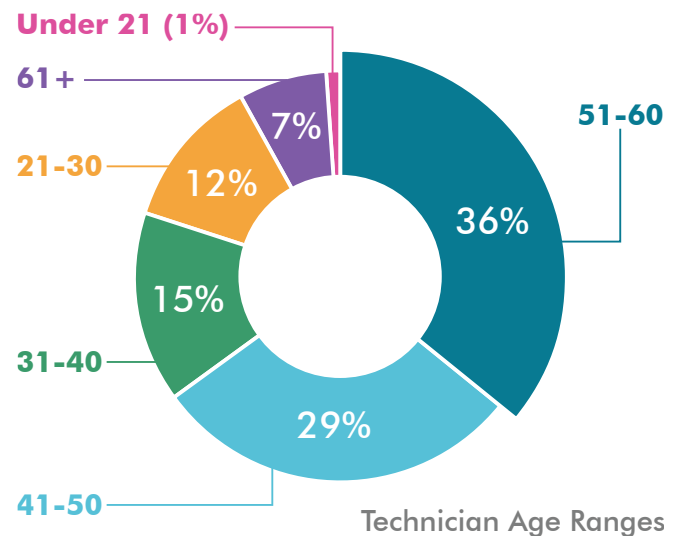
Our data shows that 76% of technicians who completed the survey are female compared to 24% male. This is also reflected in our Community forum population where 74% of our members are female with 26% male.

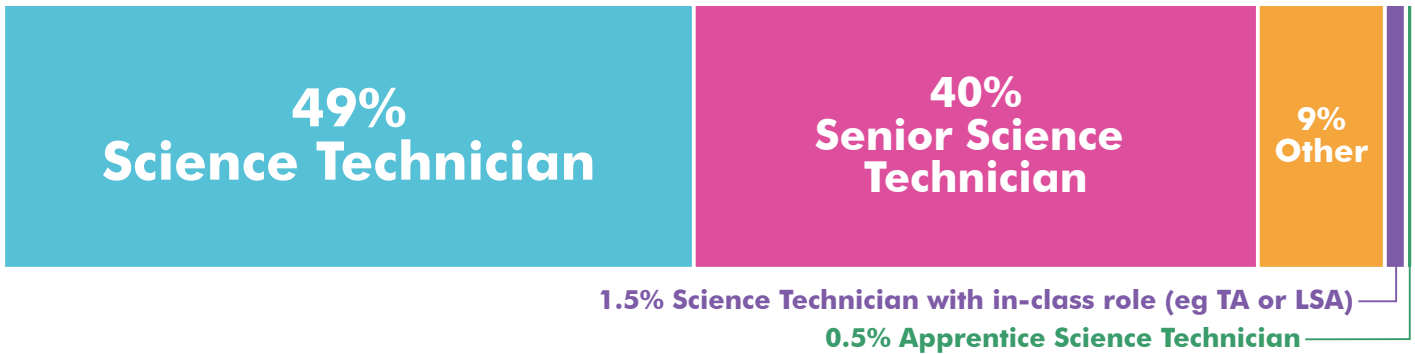
Age

The age of technicians should be of concern to school leaders as it seems the majority of science technicians are rapidly heading for retirement. 36% of technicians are in the 51-60 age bracket meaning they will likely retire and leave the profession within the next decade.

29% are in the 41-50 age bracket. The vast majority - 72% of technicians are over 40 years of age. Just 28% of technicians are under the age of 40 with only 1% under the age of 21.

As the majority of technicians leave the profession over the next 20 years, it will be interesting to see if the role attracts a younger cohort. We feel this will be unlikely if there continues to be little career progression available to technicians.





Job Title
(based on 1304 valid responses)

Job Title

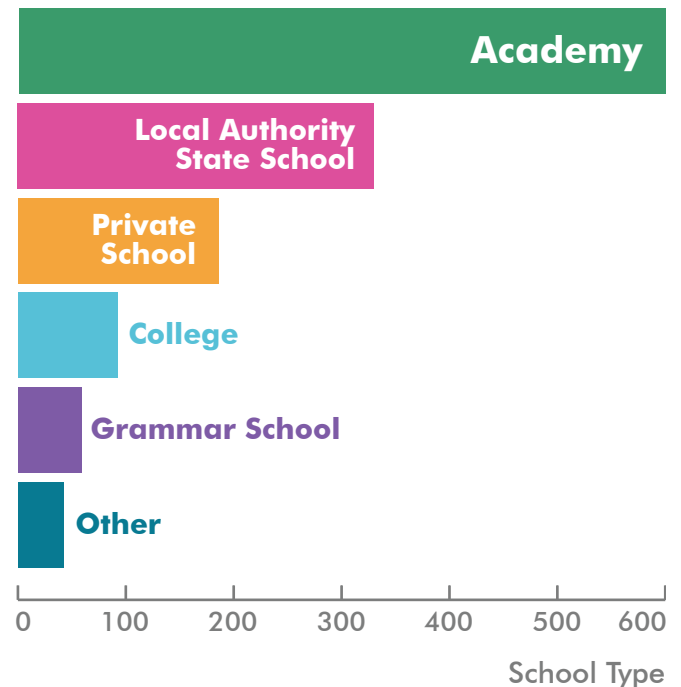
We asked technicians what their official title is and around half at 49%, unsurprisingly are employed as a standard 'science technician'.

We were surprised that a whopping 40% of our respondents are 'senior science technicians'. There may be a few reasons for this.

- **Some smaller schools only employ one technician and by default they are employed as a 'senior'.**
- **In most schools there are only two steps on the career ladder - technician and senior technician so a technician who has been in the job for many years and who shows enough experience may be upgraded to 'senior' and would then work alongside other seniors.**
- **In recent years many technicians have been made redundant so whereas in the past schools had teams of 3-4 technicians, many now are down to 2.**

Other job titles mentioned include: apprentice (4), science technician/TA/LSA (16) and 114 others including 'assistant technician', biology, chemistry or physics specific technicians, curriculum support assistants, deputy technicians and a few who are a technician with responsibilities in other areas of their school.

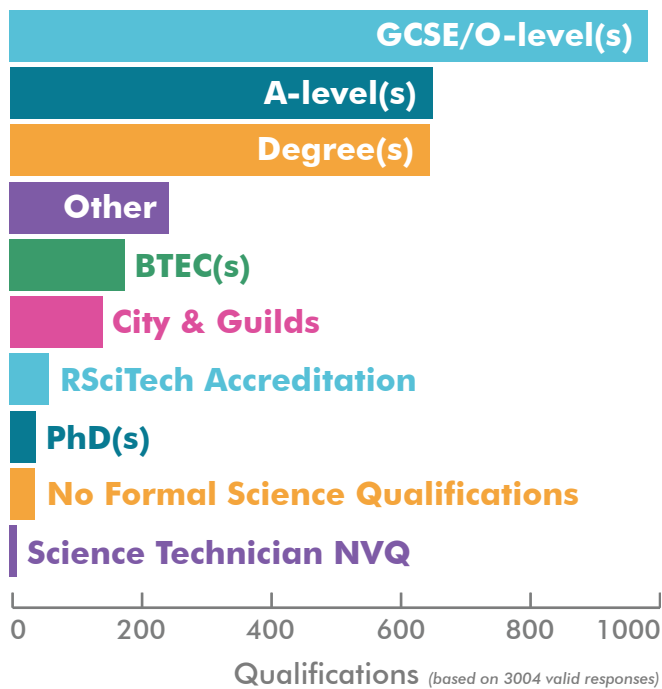
School Type



The rapid decline of the comprehensive school is plain to see with academies now making up 46% of schools surveyed. Local authorities are still in control of 25% of schools and private and grammar schools make up 19%.

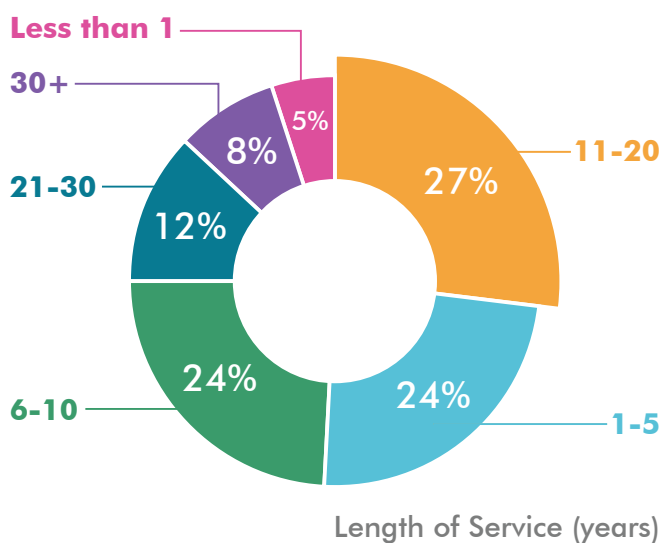
Qualifications

The technicians we surveyed appear to be well qualified with 75% having a GCSE/O-level in at least one science subject, 50% have an A-level in one or more science subjects and 49% have at least one degree. Surprisingly 3% of technicians surveyed have a PhD. Only 3% have no formal qualifications. Other qualifications include BTEC (14%), City & Guilds (11%) and NVQ (1%).



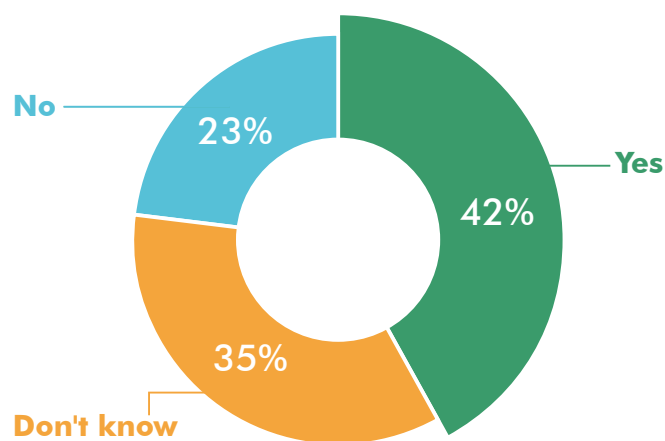
We were surprised at the amount of technicians with Degrees and PhDs considering the technician role is generally low paid compared to similar jobs in the science industry (although a true comparison is fairly impossible to calculate).

Length of Service



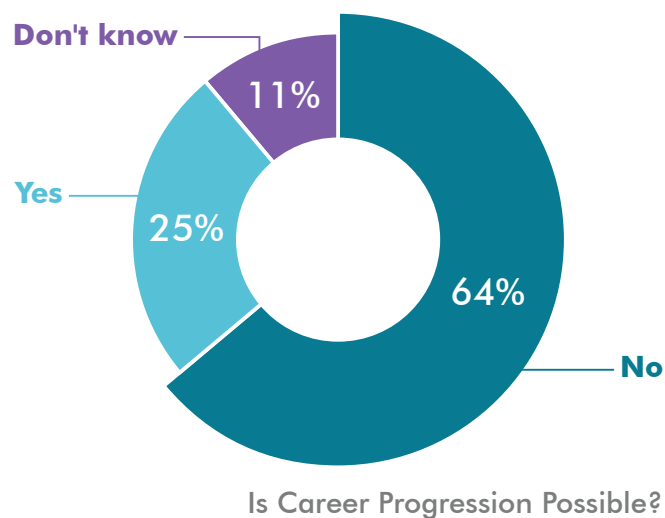
Technician length of service seems to vary greatly. Just under a quarter (24%) of technicians have been in the role 1-5 years, 24% have worked as a technician for 6-10 years and 27% 11-20 years. We asked respondents to include similar roles at other schools in their answers so the figures cover the years of technician service they have worked in total. 20% have worked as a technician for over 20 years.

The Future

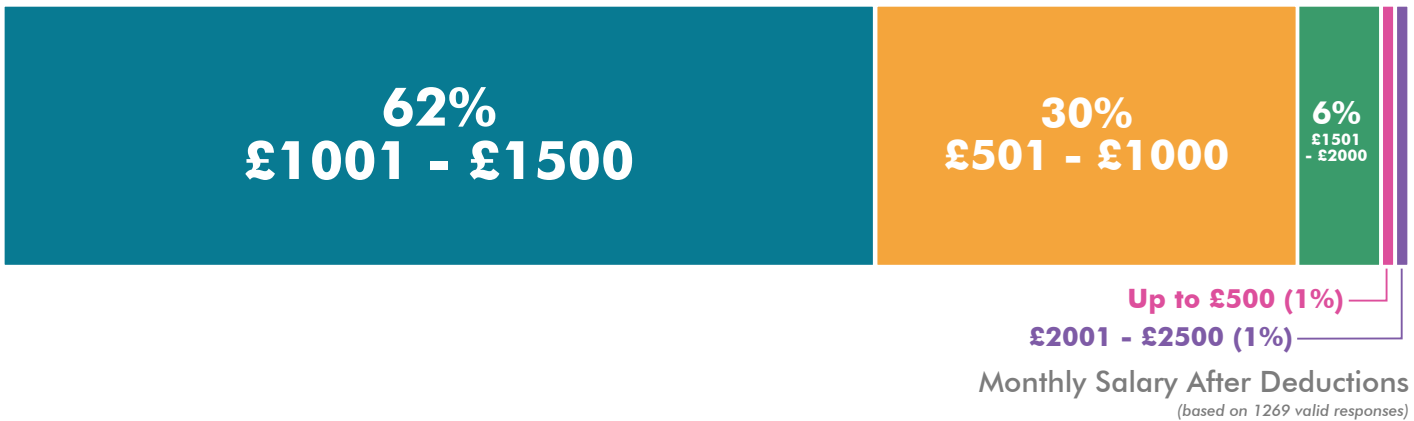


Most science technicians intend to stay in the role for the foreseeable future with 42% answering yes to our question 'do you intend to still be a technician in five years time?'. The 23% who answered no will include those who intend to leave the profession at retirement age. 35% are undecided.

Career Progression



Career progression has always been difficult in schools who only employ two types of technician - standard and senior and this is reflected in our survey data. 64% of technicians said 'no, career progression is not possible at my establishment'. A quarter said progression was possible and 11% weren't aware of any possible career progression.



Monthly Pay

We asked technicians what their average monthly salary was, after tax and deductions. We are well aware of the differences between pay rates across the country, London weightings and the difference between the amount of hours technicians work in an average month. Taking all these factors into account would have created a much longer survey and would still have not fully represented all technicians. We felt that for this question we would keep it simple and calculate the average technician take-home wage.

The average monthly pay after deductions is

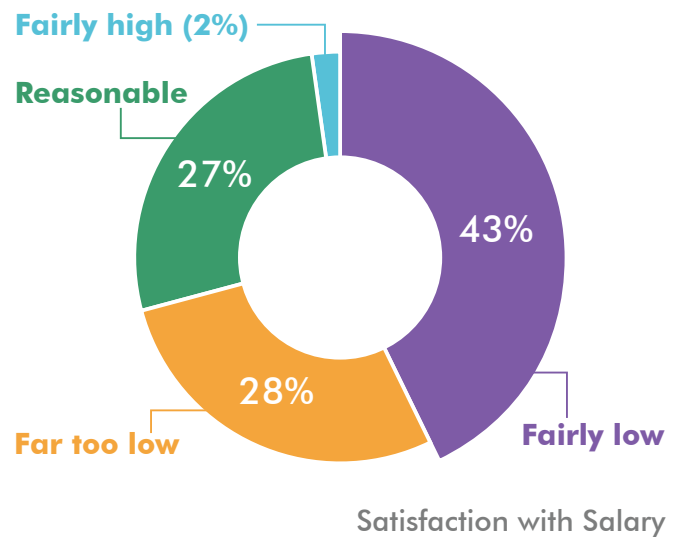
£1143

From those surveyed, 62% of technicians take home between £1001 and £1500 per month after deductions with only 7% exceeding the £1500 mark. 31% take home £1000 or less per month.

Across all of the 1269 valid responses, we have calculated a mean average monthly wage of £1143 after deductions. This includes full time and term time only (TTO) roles.

Satisfaction with Pay

We asked technicians how they feel about their rate of pay. 27% said it was 'reasonable' with 43% saying it was 'fairly low' and 28% 'far too low'. Unsurprisingly none said pay was 'far too high'!



Other Employment

Taking into account the fact so many technicians see their salary as being low, we were surprised to hear that 42% of technicians surveyed are the main wage earner in their household. However only 28% are the **ONLY** wage earner with 72% of households having a technician who is not the only wage earner.

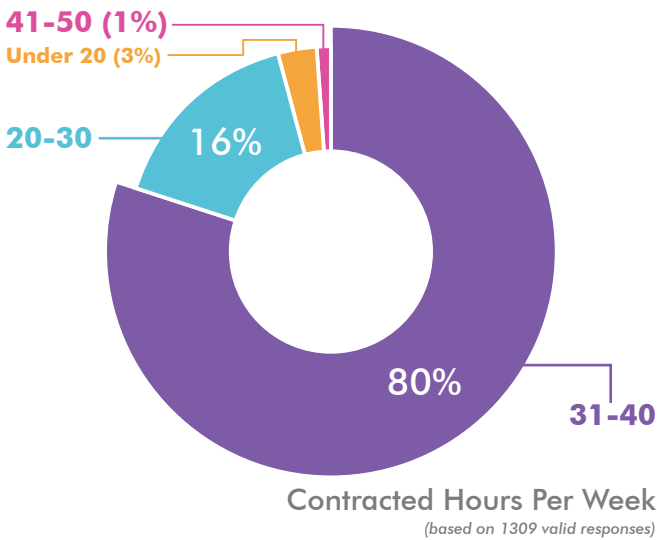
28% of technicians are the **ONLY** wage earner in their household.

Whether the technician is the main wage earner or not, only 8% have other paid employment outside of their main job with 92% being a technician as their only job.

Only 8% of technicians have other employment.



Working Hours



On average the technicians who took part in our survey work between 31 and 40 paid working hours per week (80%) with only 1% of respondents working over 40 paid working hours. The mean average was 34.3 paid working hours per week. According to the Office for National Statistics, full-time workers in the UK on average work around 39.1 paid hours per week.

19% of respondents work part time, working under 30 paid hours per week.

Working Weeks

Term time only (TTO) working still appears to be the norm for the majority of technicians with 77% working the 40 weeks per year that schools are open to pupils. This usually includes a further week of work for technicians when the school is closed. 23% of technicians work full time, presumably around 46 weeks of work per year with 5-6 weeks of paid holiday.

Overtime

58% of technicians surveyed regularly work over their contracted hours but over half of them - 59% do not get paid for this overtime and/or do not

58% of technicians surveyed work overtime.

receive time off in lieu (TOIL). From some of the comments we received at the end of this survey, we know that many technicians do shopping for their department in their own time and do not get paid for it or receive TOIL. We are also aware that some technicians often work overtime as a way to make their daily lives easier - staying late and preparing lessons in their own time makes the next day less stressful.

59% of technicians who work overtime do not get paid for it or receive TOIL.

The Role

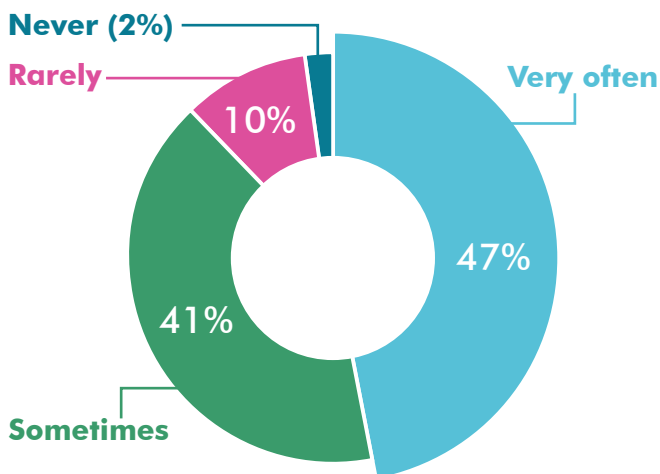


Change in Workload Since Starting Current Role

Workload

The majority of technicians surveyed agree that the workload they are faced with on a daily basis is more than when they started in the profession. 69% have had more work to deal with as they have progressed in the role with 29% of those surveyed saying that the workload has stayed about the same. 2% say they are doing less work now than when they started in the role.

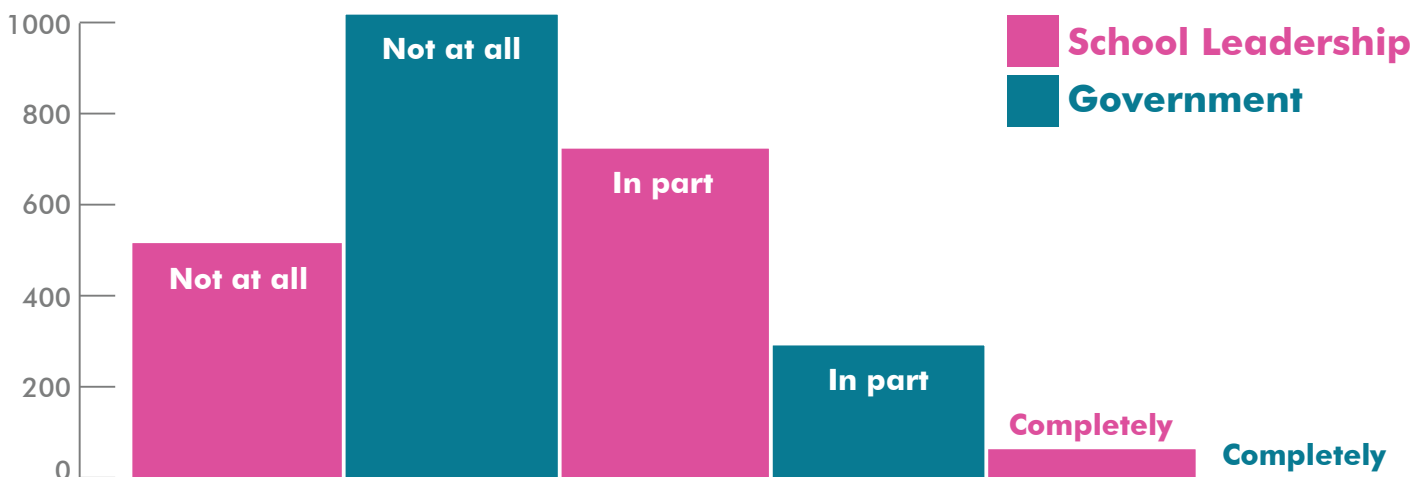
Working Outside of Contract Terms



Requirement to Work Outside of Contract Terms

Science technician contracts rarely touch upon the wide and varied things a technician is required to do on a daily basis, much to the annoyance of trade unions! But again from the comments section, many technicians are concerned that they are too often asked to do things not included in their contracts or job specifications. From those surveyed, 47% of technicians say they are required to do things not included in their contracts 'very often' with 'sometimes' being described by 41%. Only 12% of technicians said they are asked rarely or never to do something not listed on their contract.

Understanding of the Role



Level of Understanding of the Role by School Leadership Teams and Government

One of the biggest concerns amongst science technicians is that they do not feel those in charge of their school know or appreciate what the technician role entails. Only 6% say that their school leadership team understand fully what technicians do. 55% say that their leadership team partly understands what technicians do and a shocking 39% say their school leaders do not understand at all what the job involves.

From the comments section of the survey, we can see this is a major concern for technicians as many

feel underappreciated and undervalued by their school leaders and do not see how this can be changed. Many feel that without the understanding of school leaders, the role will continue to suffer more jobs cuts, pay cuts and cuts to training budgets.

In terms of government understanding of the technician role, opinion is even stronger with 77% saying the school science technician role is 'not at all' understood by the UK government. 22.5% say the government understand the role in part.

Comments

“I feel that this is a ‘lost’ profession...we don’t get the recognition we need...otherwise, the job is really rewarding...”

“I feel that those in non-science related jobs, such as senior leadership and government, have no concept of the role we perform...”

“I feel the profession is seen as just a job by the people in charge and by the government and not given the recognition the job deserves.”

“I have been doing this job for many years...and feel that there is no recognition for knowledge or experience...I went five years without a pay rise and there is no chance of any progression...”

“I think schools/county/government should recognise the high level complexity and hazards of the technician role and pay us accordingly...”

“There needs to be a national recognition of a national career progression scheme and pay commensurate with skills and experience (as per teaching staff!)”

“Unfortunately technicians are perceived by the government as bottle and test tube washers...”

Training

62%
Fairly keen

27%
Not at all keen

11%
Extremely keen

Willingness of Schools to Train Technicians

Training is a great way to give technicians worthwhile experience in new areas while improving the knowledge and ability of the technician team. It seems in general schools are keen to train technicians with 73% of schools 'fairly keen' or 'extremely keen' for their technicians to take part in training/CPD. It is good to see that this is one area in which the majority of schools take the role of science technician seriously, though with 27% of schools apparently 'not keen at all' to send

their technicians on courses there is still a long way to go.

Despite most schools being keen on training, 43% of technicians have not attended a course within the past 12 months with 32% attending a single course. 25% have attended two or more courses in the last year. Some of the comments related to this question (How keen is your school for you to take part in training/CPD courses?) are very interesting:

Comments

"I was even awarded a free place and because there has never been any cover, wasn't allowed to attend. This lack of cover covers the whole of our local authority."

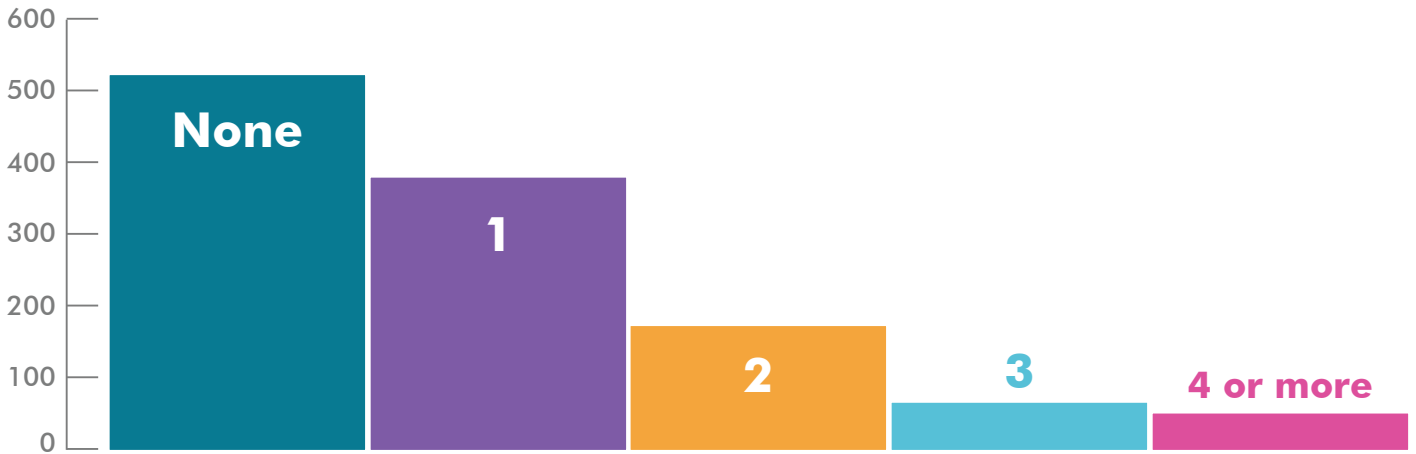
"My school has been supportive of my CPD choices, however I feel that is mainly because the choices I have made have not cost them any money!"

"None due to financial cut backs. Have done things in previous years"

"None. Only free events are considered."

"None as there is a very limited budget for support staff training"

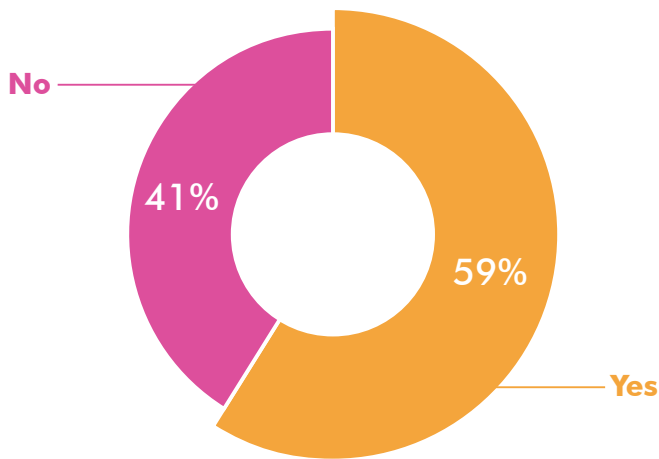
"None. Turned down for a course as it did not impact on teaching and learning enough"



No. of Training Courses Attended in the Past 12 Months
(based on 1218 valid responses)

Satisfaction with Training

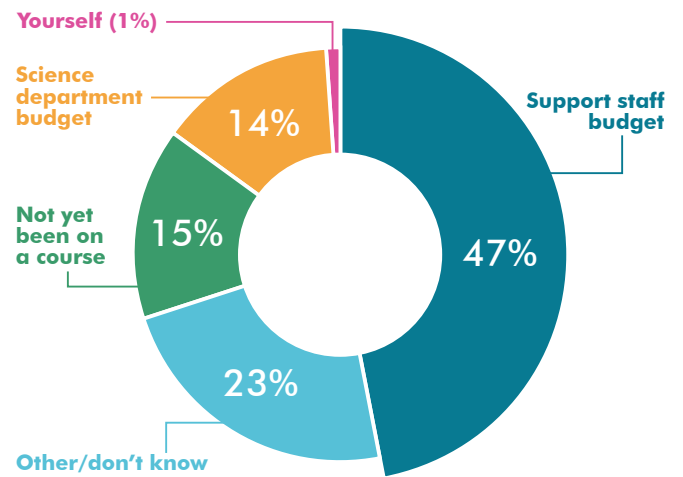
We asked technicians if they feel they receive enough training to do their job well and the results were closely split. 59% of respondents said yes, they feel they receive enough training and 41% disagree saying they do not receive enough.



Satisfied with Amount of Training Provided

Training Budgets

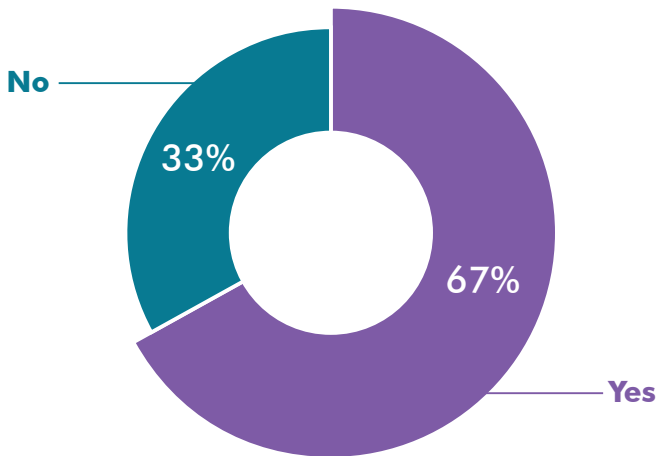
Most schools (47%) pay for technician training from the support staff budget, with 14% of sessions coming out of the science department budget. 13 respondents paid for their own training and 23% were not aware of where the money came from for their training.



Budget Sources for Training

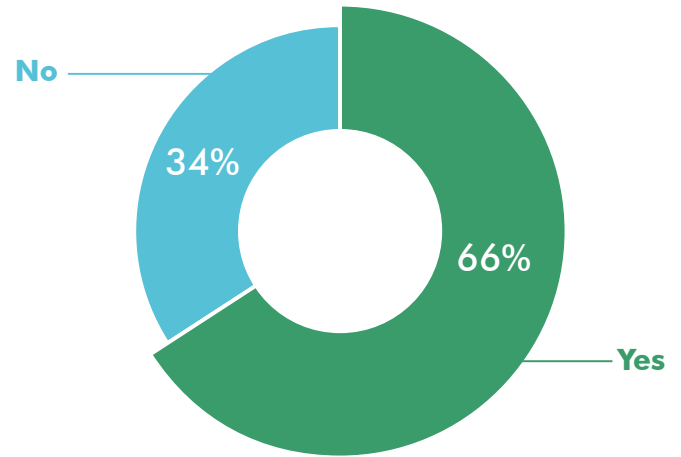
Appraisals

Appraisals or yearly job evaluations are essential to ensure the technician is happy in their role, is doing what is asked of them and to see if there are any issues regarding the role or the individual that may affect the department or school. Appraisals are also a great time for technicians to discuss career progression, pay and training.



Appraisal Received in the Past 12 Months

67% of those surveyed say they receive a yearly or regular job appraisal and of those that do, 66% are happy with the outcome.



Satisfied with Most Recent Appraisal
(based on 1009 responses)

34% were unhappy with the outcome of their most recent appraisal.



Unions and Support

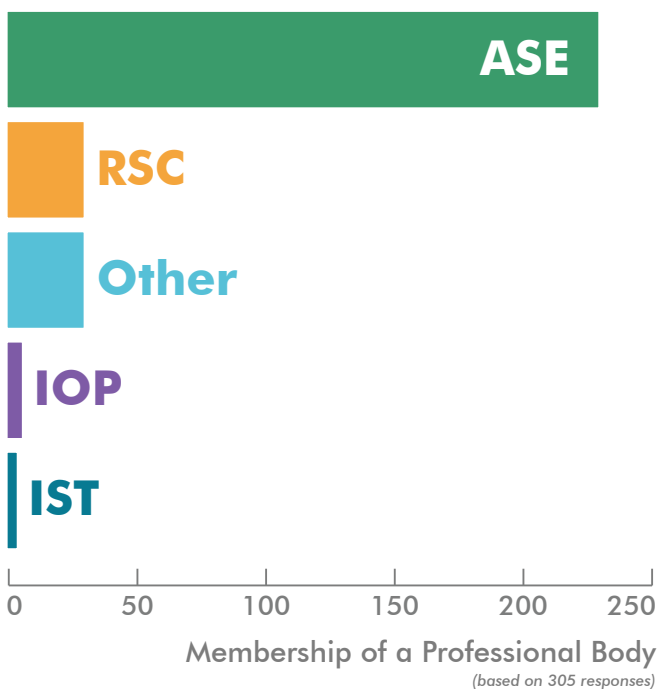
Unions

51% of technicians do not belong to a union.

At Preproom.org we feel that although we are not affiliated with any of them, it is worthwhile for school science technicians to join a union. Unions can assist technicians in many ways. They can help with pay or condition disputes and help technicians understand their employment rights. They can help resolve issues between employer and employee and can offer legal advice should something go wrong. Just over half of the technicians surveyed (51%) do not belong to a union.

Professional Bodies

Professional bodies such as the ASE, RSC, IOP etc can offer resources, training and advice to technicians to help them in their daily work and career progression. Only 35% of technicians surveyed belong to a professional body with the ASE being the most popular with 231 members. The RSC came second with 31 members and other



bodies including the IOP and the IST were also mentioned.

Only 35% of technicians belong to a professional body.

Comments

"I have been a member of the ASE for the whole time I have worked at school which is now 15 years...School pay my subscriptions."

"I was a member of the ASE and RSciTech accredited however due to personal reasons I could no longer fund it myself and the school wouldn't."

"I would love to be registered but cannot afford to consider joining ASE unfortunately."

"If I were to join I would have to pay for it out of my meagre wages."

"No apart from union I cannot afford to join these."

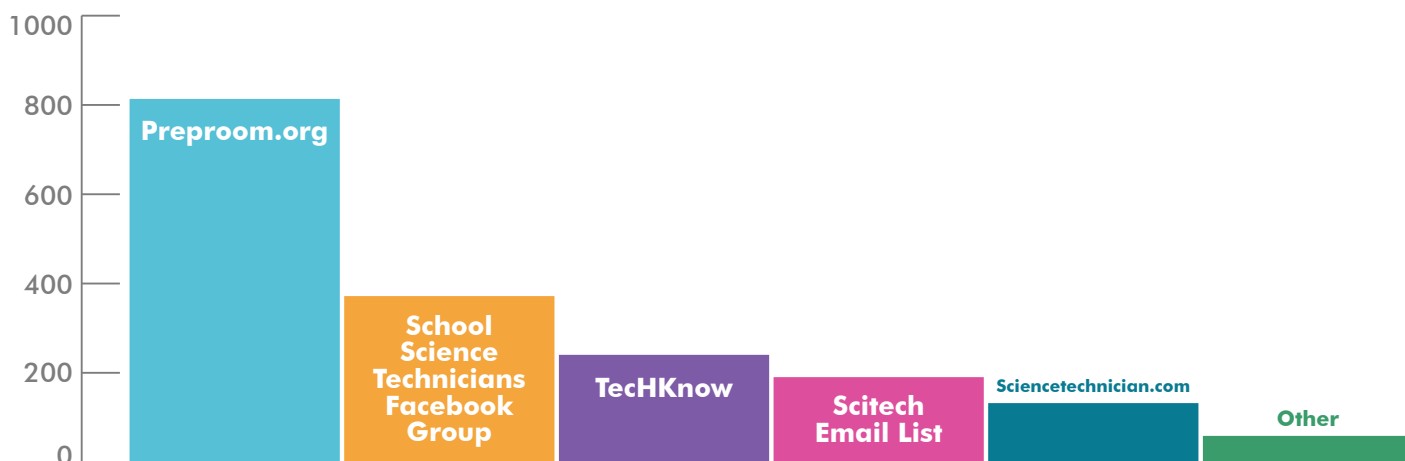
"No because this professional body charges which my school can't afford."

"Nope the school will not support me in this."

"Used to be ASE, but can no longer afford it."

"Used to be RSC member but cannot afford subscriptions anymore."

"Was ASE until I discovered just how few resources there were for technicians."



Membership of Online Support Websites, Groups and Forums
(based on 1834 responses)

Online Support Websites, Groups and Forums

A variety of technician support is available online to school science technicians. These sites and groups offer free resources, data, technical support and community forums where like-minded technicians can ask for and offer help to others.

Technicians on the whole seem to be internet savvy with 62% of all respondents having used Preproom.org (thanks!). 29% are familiar with the popular School Science Technician Facebook group. TechKnow is used by 19% of technicians surveyed, 11% have used the sciencetechnician.com forum and 15% are or have been members of the SciTech email list.

Other sources of support mentioned in the survey included Local Authority (LA) Moodles, local groups, LA technician networks, STEMNet forums and other offline technician groups.

Links to Support Websites and Groups

Preproom.org

<http://www.preproom.org>

School Science Technicians Facebook Group

<https://www.facebook.com/groups/schoolsciencetechnicians>

Sciencetechnician.com

<http://www.sciencetechnician.com>

Scitech Email List

<http://www.sciencetechnician.com/scitech.asp>

TechKnow

<http://www.techknow.org.uk>



85% of technicians are happy in their roles

We asked science technicians if they were generally happy in their role. It seems despite the pay and recognition issues surrounding the profession, the vast majority of technicians are happy in their role with a sizeable 85% saying yes - they are happy.

15% of technicians surveyed say they are unhappy in their current role.

At the end of our survey we asked technicians what they LOVE and HATE about their job. We were expecting some interesting replies and we certainly got them! We received almost 9000 words describing the things technicians love and just over 13,000 words describing what technicians hate about their job. A small sample of the comments are listed below.

What technicians LOVE...

All of it! (we had several of these).

Always busy and interesting. No two days are ever the same!

Being able to be innovative and to find different ways to engage students.

Being able to make a difference to the quality of lessons.

Being able to use my creativity to try out new things or make a demonstration/practical work.

Being appreciated.

Colleagues, the children and variety.

Constantly busy, learning new things all the time and working with a brilliant bunch of people in the science department!

Development of new practicals.

Different every day.

Enabling great teachers to do their job well.

Enthusiasing the kids with great science!

Feedback from pupils when they have enjoyed their science lesson.

Flexibility to get things done in my own way.

Helping teachers make their lessons more interesting.

Helping the children and seeing them succeed.

Knowing that the children at our school are doing a fair amount of practical science.

Learning something new every day.

Making equipment rather than buying.

My fellow technicians and science teachers.

Planning and researching new ideas.

Putting the WOW into science.

Running the science club.

Seeing students engaging in the practical activities that have taken a lot of technician time to organise and prepare.

Seeing the joy on the faces on the year 7 pupils when they are shown science experiments that they haven't seen before and realise that they are actually going to do them themselves.

Team work - including teaching staff - which includes sharing knowledge/expertise.

The feeling of being part of a friendly science team.

The randomness of it, you never know what you are going to be asked for and usually we have it somewhere.

Variety (we had 229 saying the same thing).

What technicians HATE...

A council management who know nothing about technicians' role in school.

Assumption by other staff that I only wash up and photocopy.

Attitude of senior management to us and our role (we had lots of these).

Bad planning from teaching staff and last minute requests.

Being considered the same as cleaning staff.

Being constantly used for other roles within the school.

Being on my feet all day.

Being taken for granted.

Being treated like an idiot instead of someone with a masters degree and professional registration.

Being unrecognised by senior leadership.

Cleaning.

Constant threats to job security.

Exam invigilation. Especially the fact that I don't get paid for it!

Having a very limited budget that impacts on the quality of the practical work we can do.

Inadequate resources.

Invisibility by all staff except science teachers.

Lack of career progression (no chance to earn a higher salary).

Lack of equipment.

Lack of organisation within the whole department.

Low pay.

Manual handling.

More and more work and responsibilities for the same pay.

Not enough time to do all that is required.

Ordered experiments that are never done.

Paperwork.

SLT interference.

Staff not strictly following CLEAPSS guidelines or in house systems.

Staff not taking note of request for details of materials needed for next year for planning and ordering.

Trying to fit in 115hrs work into 50hrs.

Comments

Finally, we asked technicians for comments about the profession, the survey itself and any suggestions as to how we can raise awareness of the role of school science technician. We received almost 27,000 words in total from 1310 individuals which exceeded our expectations. It seems technicians really want their voice heard! With this in mind, we have dedicated the following pages to a small sample of these comments.

“A national strike of all science techs would soon raise awareness of the role!!”

“Abolish term time only contracts, thus giving good support staff a 20% pay rise. Stop employing just anyone in the role as this gives that overall impression that anyone can perform safely technical tasks.”

“A lot of our teaching colleagues rely on us to make sure things work and run efficiently, but aren't prepared to treat us as equals, or pay us anywhere near the wage we are worth and this needs to change.”

“An office manager is paid the same as a senior science technician. Swap jobs, how long would it take either of us to train for the others job? Me a few weeks/a couple of months, them years to get to my standard.”

“As a profession technicians are a forgotten species, teaching assistants/office staff get a lot more recognition for what they do both in schools and out. I think this is because most people have an understanding of those roles but not what a technician actually does and what the job involves. Organisations such as CLEAPPS and the ASE try to publicise the technicians role but more needs to be done as the workload is increasing.”

“At our school we are having our working hours reduced in addition to the admission numbers being raised (another class each year) but I suspect we will be expected to continue to deliver the same level of service. Morale is low.”

“Currently, I'm the Senior Science Tech with a BSc, I have 2 other Techs with A-level qualifications yet the wages are similar to other support staff wages where no or lower qualifications are required. I'd like to see pay commensurate with qualifications. I often have to advise teaching staff, yet they are considered professional and I do not have that status in pay, understanding or title. IT technicians are paid more fairly than science technicians.”

“From my limited experience of working within the profession I feel that support staff as a whole are undervalued within schools. I am lucky to work within a very supportive department with a head of learning area who appreciates my science industry experience and knowledge. From talking to other senior technicians I know that others are not so lucky. However, I also feel that we may have a bit of an image problem, possibly being perceived as grumpy and set in our ways. When I started in this role I was faced with technicians who had been in the job a number of years and were unwilling to take on board any new ideas/change the way they worked; I know this is a situation that is happening in other local schools. Maybe we need to be more pro-active about our skills and what we can do as technicians, rather than bombarding teachers with lists of things that we can't/won't do. We are after all, support staff.”

“Generally salaries are too low and there is no career progression. I don't think the job is regarded as highly skilled and I get frustrated when I see job adverts for science technicians stating 'no experience needed'. The government is regularly increasing minimum wage yet technician salaries are

not increasing. Will we one day be working for minimum wage? It's the schools and colleges that need to change their attitude to the science technician. We are not just washer uppers and we don't just 'put equipment in trays'.

"I am an expert in practical chemistry but my skills are rarely sought. Non-specialist teachers will prefer to pull something off the internet and my job is to fetch it off the shelf and wash it up after. I do usually offer an alternative. No opportunity to feed into meetings, even with courses I have been sent on."

"I am quite happy with my role, I don't feel the need for progression at my age although I am applying for RSciTech accreditation, mainly for my benefit (and because I can!). But I feel there aren't many prospects for youngsters just starting out."

"I am very fortunate to be part of an understanding and supportive team. We have enough technician hours to do our jobs well and we have enough space to prepare and store our equipment. I think the wages are average. Being part of an on-line forum I have come to realise that some technicians are treated appallingly and/or have dreadful working conditions."

"I believe that if there was a national science technician qualification and/or career structure in place that this would help to raise awareness of the role and make it an attractive proposition as a career."

"I don't feel our role is treated as a profession. We are expected to do a full-time job in part-time hours. Our pay is low for the knowledge and responsibility our job demands. Management don't realise the pressures of delivering everything requested on time. We are likened to office staff for pay and conditions. Even if extra training or qualification are gained, the pay remains the same in schools!"

"I enjoy my job, but feel that my job role is not understood by teaching staff and management in particular. Also, I have not received any training for my job role, which I feel is very irresponsible."

"I feel technicians aren't properly appreciated within the school environment. The SLT does not realise the complexity of the job and the general all round knowledge of the sciences needed to do the job properly. I think they believe we just put equipment in the lab and then take it out and then do the washing up."

"I feel that many technicians that I have met and spoken to, have a high level of competency and experience. However, in almost all cases this is not reflected in their pay. These individuals are doing a skilled job, but this is not recognised or understood by many, if not all, members of senior management in schools. It is a shame that technicians have become the unsung heroes of education and in many cases are the first to fall victim to short-sighted budget cuts and are made redundant."

"I think many people do not understand what technicians do and see the job as glorified cleaners and general dogsbody. Few appreciate the level of knowledge required. Many undervalue technicians."

"Our hours have been cut badly. I also think school science has been 'dumbed down' drastically. No future, no progression, it's a depressing situation."

"The pay that college science technicians are offered is insufficient to attract people with the necessary skills and aptitude. The role is undervalued by the colleges and schools who are constantly trying to cut costs. Until the role attracts a salary that the main breadwinner in a family can live and support his family on. We will continue to be undervalued."

"Unfortunately, the low pay and low status means good science technicians do not stay if they can get more lucrative employment."

Conclusions

Firstly, we were really pleased with the number of technicians who got involved in our survey. It is always difficult to get people to spare a few minutes of their time to fill in surveys or give feedback so we set ourselves a small target of 500 respondents. The amount of technicians who took part in the first three days alone exceeded this target and we were very pleased to end the survey with 1310 technicians having taken part.

Three observations stood out amongst the data:

- 1. The profession is not attracting young recruits.**
- 2. The majority of technicians feel that school leaders and the government do not understand the role of school science technician.**
- 3. Technicians are routinely asked to perform tasks that they are not paid for or employed to undertake.**

From many of the comments we received from the survey, through emails and via our community forum, we know that raising awareness of the role of school science technician is something that needs to be addressed and an area in which technicians are very vocal... for good reason.

The data alone shows that the technician population is ageing, is low paid and not understood by school leaders or the government. The thousand or so comments we received more than back that up. But this is nothing new. Anyone working in science education has known of these issues for decades.

Over many years several professional bodies have attempted to help technicians in various ways. Work related qualifications have been created to give technicians the ability to climb the career ladder (of which there are generally only two rungs) and to show proof of experience in the job (that is generally only useful when leaving the profession to pursue work in the private sector). Surveys have been conducted into technician pay and conditions and recommendations made. Meetings with governments have taken place, career structures

proposed and national news stories with headlines such as **“school technicians are underpaid and suffer poor working conditions”** have been published. Yet very little, if anything has changed.

We feel there are two main reasons that explain the poor pay and conditions associated with the school science technician profession.

1. Schools are never short of applicants for technician jobs. With the majority of technician vacancies advertising term-time-only working, they appeal to many parents and people wishing to work to the academic calendar. Also many technician vacancies do not ask for any qualifications above GCSE/O-levels in a science subject, thus widening the net for applicants. All the time there is an abundance of applicants for technician jobs, schools will continue to pay the lowest wages they can get away with.

2. School managers do not fully understand the role of school science technician. Because of this technicians are generally considered to be on the same level as cleaners – essential but expendable and interchangeable. Managers do not understand how good technicians can vastly improve the results of the science department in real terms through allowing teachers to teach and giving students quality resources to work with.

We are under no illusion that one survey can change the technician landscape. We will not follow others by producing a long list of recommendations that governments will ignore and school leaders will choose not to follow. We know that technicians deserve better and that things **MUST** change but we also know it cannot be done overnight. To improve pay and conditions in the profession, we first need to encourage recognition of the role in schools. We need technicians to be proactive and to share the results of this survey far and wide, especially with their school leaders.

Technicians: *Take this report and give a copy to your head of science. Give another copy to your school manager and support staff manager. Take a copy of this with you to your next appraisal and technician meeting. If you feel you are exceeding*

what is listed on your job specification, make a case to your supervisor for an incremental pay rise or change in role.

School leaders: *Read this report. Appreciate your technicians, speak to them regularly. Ask them what they do and if there are any issues that need to be raised. Spend a day in your science prep room and see what your technicians face on a daily basis. Share this report with your school governors and take the data included in this report into consideration when appraising or recruiting technicians.*

Over the last decade we have heard from, spoken to and met many excellent technicians who despite low pay and poor working conditions strive to do their best every single day. We know the majority of science technicians go out of their way to support science teaching and work hard to improve the scientific literacy of students. We know of technicians who have been left overworked when a colleague is made redundant and the workload of two technicians is forced upon them. We have heard of technicians paying for their own training because they would rather the squeezed school budgets were spent on teaching resources and we know of technicians who have delayed retirement and taken a pay cut to help their schools survive severe budget cuts.

We very much appreciate them and they deserve the respect of everyone in education, but we can't help feel that the hardest working technicians are actually part of the problem. Every time technicians

say 'yes' to tasks not in their contract, or happily work from home for free because their paid hours don't cover the work they are expected to do, they are being taken advantage of. They are being taken for granted and they are inadvertently heaping more and more work upon their successors.

It would be foolish for us to tell technicians to say 'no' and we wouldn't want to. We know technicians often say 'yes' to make their own lives easier and many technicians value the education of students more than they do their own careers. We do however want technicians to think about what they are being paid to do and if they are routinely asked to perform tasks not in their contracts, they should mention these during their annual appraisal so that the school management are made aware. If a technician is doing the work of a senior technician but not being paid for it, they need to speak to their head of department and make a case for promotion. Technicians should never be afraid to speak out however difficult it may be.

We also know of many technicians who are very happy in their roles, who are supported by their colleagues and school leaders and feel appreciated for the work they do. Many schools support their technicians by encouraging regular training, including them in school events and making them feel like trusted and respected members of the team. Schools that genuinely appreciate technicians benefit from improved morale, better support for teachers and ultimately produce better results in science subjects.

What Next?

This report is available to download as a PDF file from <http://www.preproom.org/technician-survey-2016>. This file can be copied, shared and printed in schools.

Printed hard copies will be presented to school leaders, local and national government officials, science education organisations, national press and high profile science communicators.

At Preproom.org, we will continue to focus upon raising the profile of the school science technician role throughout the coming year and will start a new **#techognition** social media campaign in the Summer of 2016. We will continue to liaise with those who can facilitate change in the profession and continue to be a platform for technicians to share their experiences and issues with the wider technician community as well as the general public.

We hope that this report conveys a snapshot of the science technician profession and will inform and educate those not fully aware of what the role involves.

If you have any questions about this survey, comments or feedback, feel free to contact us at admin@preproom.org. All media enquiries should be forwarded to the same address.

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“All hail the school science technician: crucial linchpin of the science department who often holds the whole damn show together with little credit, little money and nowhere enough recognition - despite keeping everything up and running, and, let’s be frank here, making sure the school doesn’t blow up.”

Stefan Gates - TV Food/Science Presenter and Author