

2020



Teacher Labour Market in Wales

Annual Report 2020

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Introduction

The recruitment, development and retention of teachers and school leaders is a crucial underpinning for a successful education system. Ensuring there are sufficient numbers of high-quality teachers employed in schools is necessary for the school system to deliver a high-quality education for all children and young people, particularly as the Curriculum for Wales is being introduced.

NFER's annual Teacher Labour Market in Wales report aims to analyse the state of the Welsh teacher labour market by measuring the key indicators and trends of teacher recruitment and retention. This is the first of three annual reports funded by the Nuffield Foundation, which will track changes over time.

In this report we analyse Welsh Government school census data on teacher recruitment and retention to assess the current state of the teacher labour market. In future years we aim to track what progress the school system is making towards resolving teacher supply issues, and draw comparisons with teacher recruitment and retention trends in England as new comparable school workforce data becomes available for the first time.

Our analysis shows that the Welsh school system faces a substantial and growing challenge of ensuring there are sufficient numbers of teachers. The recruitment and retention challenge is most acute in secondary schools, in shortage subjects (such as Welsh, maths, science and modern foreign languages), in Welsh medium schools and in schools in areas with high levels of disadvantage.

“Our findings suggest that the teacher labour market in Wales has been weakening in recent years, with teacher recruitment and retention trends showing under-recruitment of trainee teachers, a dwindling pool of applicants and secondary vacancies increasingly going unfilled. These trends raise concern that a continued decline in teacher numbers could lead to increasing pupil-teacher ratios, and potentially teacher shortages, in the future.”

Jack Worth, NFER
School Workforce Lead



Key findings

Primary and secondary pupil-teacher ratios rose in Wales in 2018/19

The number of teachers in Welsh primary and secondary schools has declined compared to 2009/10 levels. This fall has been in line with falling pupil numbers at secondary level, but primary pupil numbers have increased over this period. The secondary school sector faces a substantial challenge in light of an expected increase in pupil numbers over the next five years. A continued decline in teacher numbers could lead to increasing pupil-teacher ratios, and potentially teacher shortages, in the future. In contrast, the number of primary school pupils is projected to fall over the coming years.

Entries to initial teacher education (ITE) have been below target for three years in a row

The number of trainees recruited to secondary ITE has fallen steadily between 2010/11 and 2018/19, and has increasingly been below target since 2013/14. Recruitment to ITE has worsened across most secondary subjects, including modern foreign languages (MFL), Welsh, science and maths. Recruitment to English and Geography ITE, subjects that usually have high entries to ITE, was just below half of the target in 2018/19. The number of primary ITE entrants has also fallen slightly below target since 2015/16, with a further decline in 2018/19.

Secondary schools appear to be finding recruitment increasingly challenging

The average number of applicants per vacancy in secondary schools has fallen from more than 12 in 2011/12 to less than seven in 2018/19. Over the same period the proportion of vacancies that are unfilled has increased from two to 11 per cent. A lower number of applicants is likely to adversely affect the chances of schools receiving suitable candidates, and of making an appointment.

Welsh and bilingual schools face a greater teacher recruitment challenge than English medium schools

English medium schools had a higher average number of applicants per vacancy than Welsh and bilingual schools between 2009/10 and 2018/19. For primary schools, the rate of teachers leaving the profession has also been slightly higher for bilingual and Welsh medium schools relative to English medium schools. A challenging recruitment environment for bilingual and Welsh medium schools is likely to be hindering the Welsh Government's ambition to expand Welsh medium education (Welsh in education, Action plan 2017-21). However, this may change in the years ahead as a result of the actions set out by the Government's strategy.

Schools in disadvantaged areas find it more challenging to fill vacancies

Between 2009/10 and 2018/19, schools in disadvantaged areas had higher proportions of vacancies that were unfilled compared to those in less disadvantaged areas. Further, secondary schools in more disadvantaged areas experienced a higher teacher leaving rate. This suggests that the teacher shortages faced by schools in disadvantaged areas are more acute, particularly for secondary schools. Persistent disparities in teacher recruitment and retention may exacerbate existing inequalities in educational outcomes between children from different backgrounds. This calls for government action that supports schools in disadvantaged areas to attract and retain high-quality teachers.

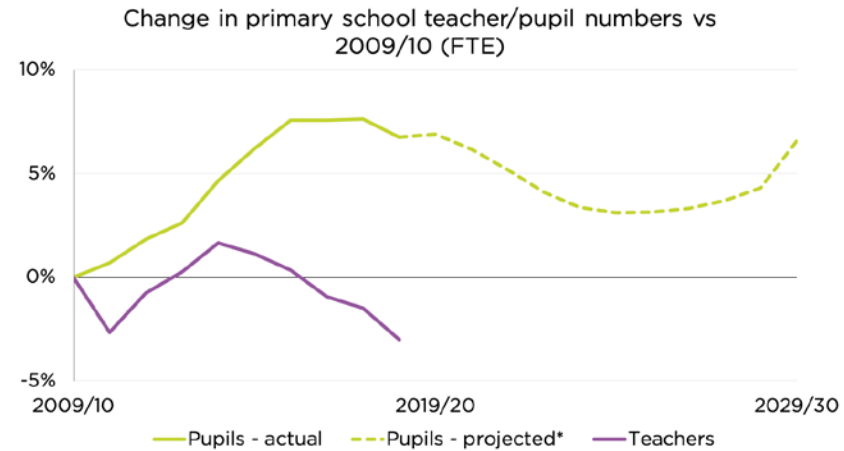
Teacher supply and demand

The supply of teachers has fallen in both the primary and secondary schools in Wales in recent years. Different expected trends in pupil numbers suggest different implications for future teacher demand in the two phases.

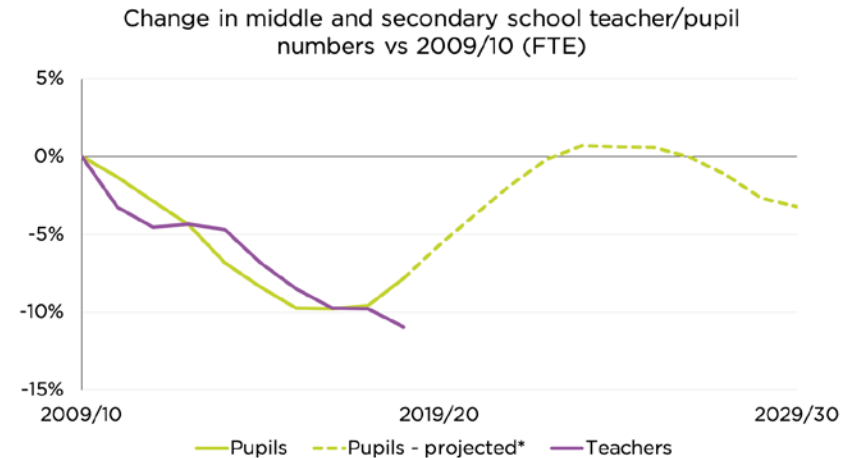
At the national level, the trend in the number of primary school teachers has shown a fair degree of variation between 2009/10 and 2018/19. Between 2010/11 and 2013/14, the number of teachers grew in line with rising pupil numbers, suggesting that pupil-teacher ratios were maintained over this period. Since then, primary teacher numbers have declined. The number of teachers has not kept pace with the number of pupils between 2013/14 to 2018/19. The pupil-teacher ratio (PTR) increased in this period, from around 18.5 to 20, but remained below those in England (around 21 in 2018/19).

Over the next few years, the number of primary school pupils is projected to fall and reach a plateau before rising only after 2025/26. A continued fall in teacher supply at a rate steeper than the fall in pupil numbers could lead to a further increase in pupil-teacher ratios.

The secondary school sector faces a substantial teacher supply challenge over the coming years. While teacher numbers have tracked pupil numbers between 2009/10 and 2017/18, both showing a decline of around ten per cent compared to 2009/10 levels, pupil numbers have increased since 2018/19. However, teacher numbers continued to fall in 2018/19. With pupil numbers projected to increase over the next five years, a continued decline in teacher numbers could lead to increasing pupil-teacher ratios, and potentially teacher shortages, in the future. However, a stable PTR of around 15 between 2009/10 and 2018/19 is below that in England, which has risen from around 15 in 2010/11 to more than 16 in 2018/19.



Sources: Pupil Level Annual School Census in Wales;
 Note: *Pupil projections are from StatsWales, Welsh Government: 2018.



Sources: Pupil Level Annual School Census in Wales;
 Note: *Pupil projections are from StatsWales, Welsh Government: 2018.

Secondary school teacher labour market

The number of trainees recruited to secondary school ITE has fallen steadily between 2010/11 and 2018/19, and have been below target since 2013/14. Numbers of trainees have been increasingly below target in recent years, at a time when more teachers are needed to meet demand from growing pupil numbers.

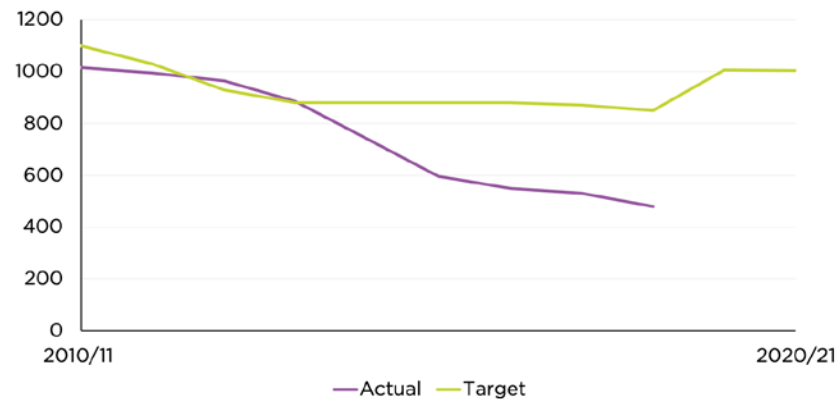
The rate of teachers leaving the secondary school sector has remained fairly stable around an average of 2.9 per cent between 2010/11 and 2018/19. The leaving rate has improved over the last two years, falling from 3.5 per cent to 2.4 per cent.

In absolute terms, the Welsh leaving rate appears to be substantially lower than in England. However differences in how retention is reported between England's School Workforce Census and the Wales Pupil

Level Annual School Census (PLASC) means that they are not directly comparable. For example, the leaving rate in Wales does not include teachers who retired at normal retirement age. We intend to estimate more comparable figures in future years using the Welsh School Workforce Annual Census (SWAC), first collected in November 2019.

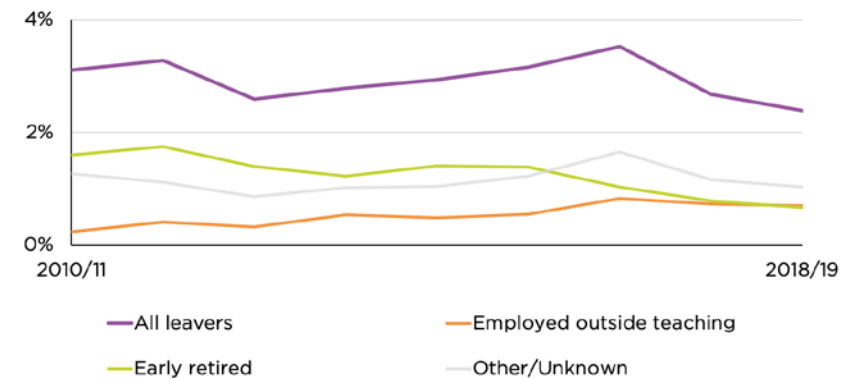
The retention data also shows a shift in the profile of teachers leaving over the last decade. The proportion of leavers that left to be employed outside the profession has increased from 11 per cent in 2009/10 to 30 per cent in 2018/19. At the same time, the proportion of teachers that retired early has declined from half of leavers to less than 30 per cent. This suggests that increasingly, working-age teachers are moving to non-teaching jobs that they find more attractive.

Entrants and intake targets for secondary school ITE courses in Wales



Sources: Higher Education Statistics Agency; Higher Education Funding Council for Wales; Education Workforce Council.

Leaving rate - Middle and secondary schools



Sources: Pupil Level Annual School Census in Wales.

Primary school teacher labour market

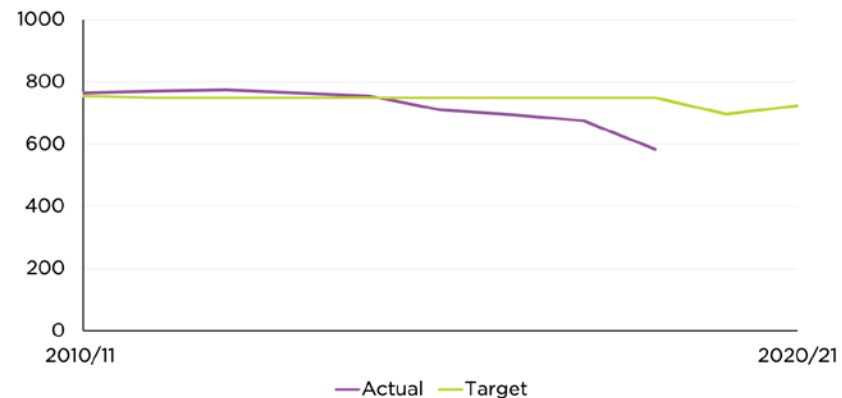
The number of trainees recruited to primary school ITE remained constant and at the required target between 2010/11 and 2015/16. Since 2015/16, the number of ITE entrants has fallen to a level slightly below the target, with a further decline in 2018/19. At the same time, the total number of primary school teachers has been falling (see page 6), a sign that the number of teachers entering the sector is not enough to offset leavers and retirees.

The rate of teachers leaving the primary school sector has been fairly stable and low, at an average of 2.5 per cent between 2010/11 and 2018/19. The primary school leaving rate has on average been around 0.5 per cent lower than the secondary school leaving rate across the entire period. The primary teacher leaving rate is lower than for primary teachers in England, but, as mentioned above, the Welsh and England leaving rates are not directly comparable.

Despite the above measures painting a relatively healthy picture of the primary teacher labour market, the sector may be at risk of teacher shortfalls ahead if teacher supply continues to decrease at a greater rate than demand. Further, teacher shortages could lead to a worsening of pupil-teacher ratios which are already increasing as seen in the diverging trends in pupil and teacher numbers between 2013/14 to 2018/19.

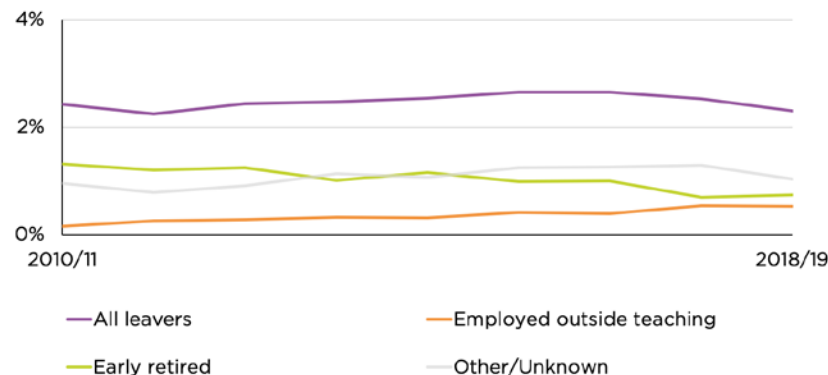
The destinations of teachers that have left the profession shows a similar trend as for secondary school teachers. The proportion of leavers that move on to employment outside teaching has increased over the years, from 12 per cent in 2009/10 to 23 per cent in 2018/19. At the same time, the proportion of early retirees has decreased from over 50 per cent to 30 per cent of leavers. This suggests that a greater focus should be placed on measures that could incentivise working-age teachers to remain in the profession.

Entrants and intake targets for primary school ITE courses in Wales



Sources: Higher Education Statistics Agency, Wales; Higher Education Funding Council for Wales; Education Workforce Council.

Leaving rate - Primary schools



Sources: Pupil Level Annual School Census in Wales.

Teacher shortages

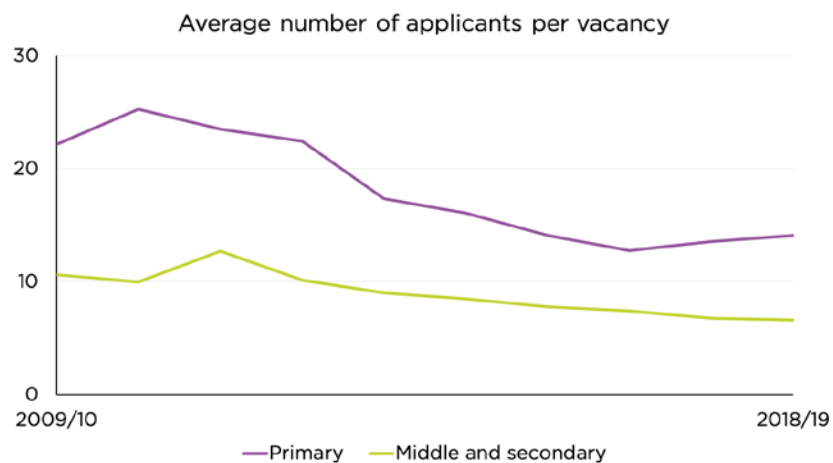
The primary teacher vacancy rate (vacancies during the year as a proportion of all teaching staff) has increased from 4.2 per cent in 2010/11 to 5.6 per cent in 2018/19. The secondary teacher vacancy rate has consistently been higher than the primary sector, rising from 5.2 per cent in 2010/11 to 6.5 per cent in 2018/19. These trends could be due to a higher number of teachers leaving the profession, or a result of greater movement of teachers between schools, or a combination, making it difficult to draw conclusions about its implications for teacher supply and shortages.

The average number of applicants per vacancy has fallen for both primary and secondary schools (although is up slightly for primary schools in 2018/19), while the proportion of unfilled vacancies has increased for secondary schools. A lower number of applicants is likely to adversely affect the chances of senior leaders receiving suitable

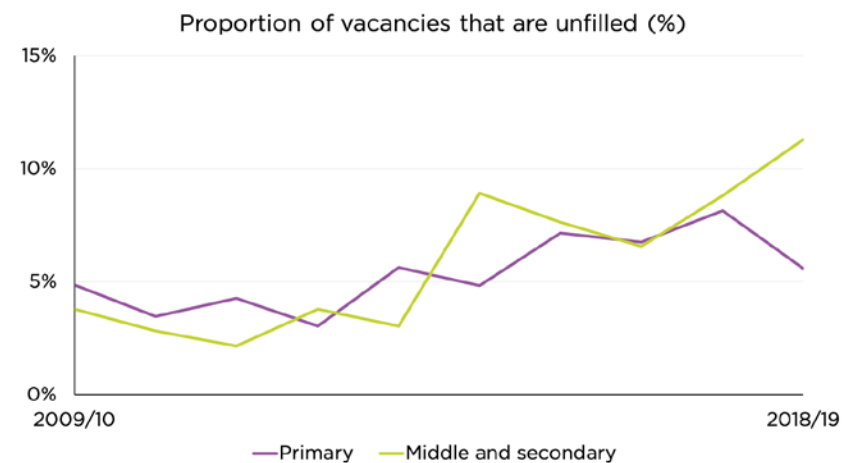
candidates, and of making an appointment. These trends, which are useful for describing the underlying health of the labour market and the impact of shortages, suggest that schools seem to be facing increasing recruitment challenges.

Secondary schools performed relatively worse in both of these indicators in 2018/19. Secondary schools received fewer applicants per vacancy than primary school across all years. In 2018/19, secondary schools had a higher proportion of vacancies that were unfilled compared to primary schools.

Between 2014/15 and 2018/19, on average, 47 per cent of unfilled vacancies were covered by supply teachers. Non-specialists and senior leaders covered 6 and 12 per cent of unfilled vacancies respectively, while the rest were reported as 'other'.



Sources: Pupil Level Annual School Census in Wales.



Sources: Pupil Level Annual School Census in Wales.

Focus on: shortage subjects

Recruitment of trainees to ITE has fallen below target for nearly all subjects, and decreased further for shortage subjects between 2011/12 to 2018/19.

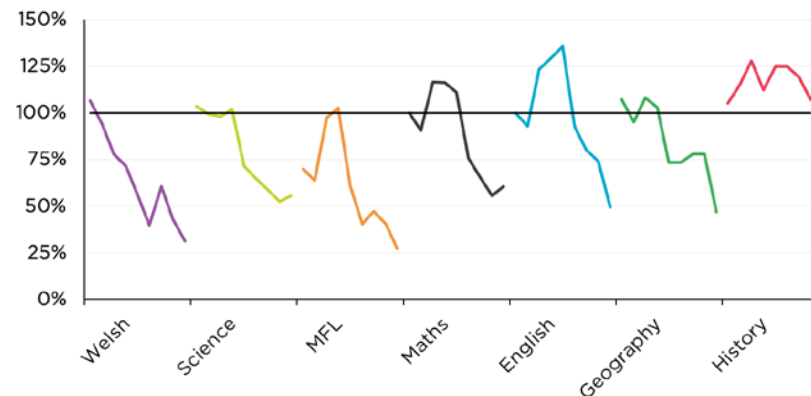
ITE entries for Welsh and MFL were less than 40 per cent of their target numbers in 2018/19. Science and Maths ITE entries have also been substantially below target, but have shown a slight improvement in 2018/19. Unlike in England where both subjects are usually above target, recruitment to English and Geography training in Wales has deteriorated recently.

Under-recruitment to ITE has translated into a fall in the number of applicants per vacancy across subjects.

Welsh, Science, Maths and MFL had the lowest applicants per vacancy in 2018/19. Schools are likely to face a greater challenge in finding suitable teachers to fill vacancies in subjects that receive fewer applicants, which may have adverse implications for the quality of teaching in these subjects. The average proportion of vacancies that were unfilled over the period between 2009/10 and 2018/19 is slightly higher for sciences and maths relative to other subjects, further reflecting the greater supply challenge faced in these subjects.

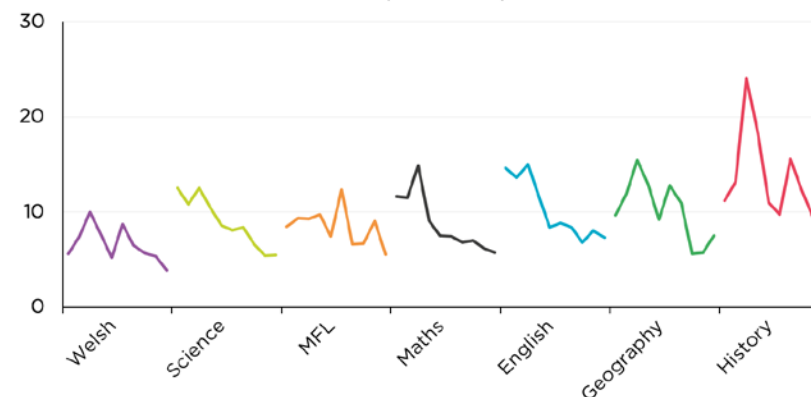
Despite the relatively low number of applicants per vacancy, the proportion of unfilled MFL vacancies is lower than average. Similar to England, there has been a reduction in total MFL GCSE entries recorded in Wales between 2002 and 2019 (Joint Council for Qualifications, 2019) by nearly two-thirds. The low proportion of unfilled vacancies could therefore be a reflection of schools choosing not to expand their MFL curriculum to pupils to mitigate the risk of being unable to recruit a suitable teacher (Worth, 2020).

Secondary school ITE entries vs target, by subject
2011/12 - 2018/19



Sources: Higher Education Statistics Agency, Wales; Higher Education Funding Council for Wales.

Average number of applicants per vacancy
2009/10 - 2018/19



Sources: Pupil Level Annual School Census in Wales.

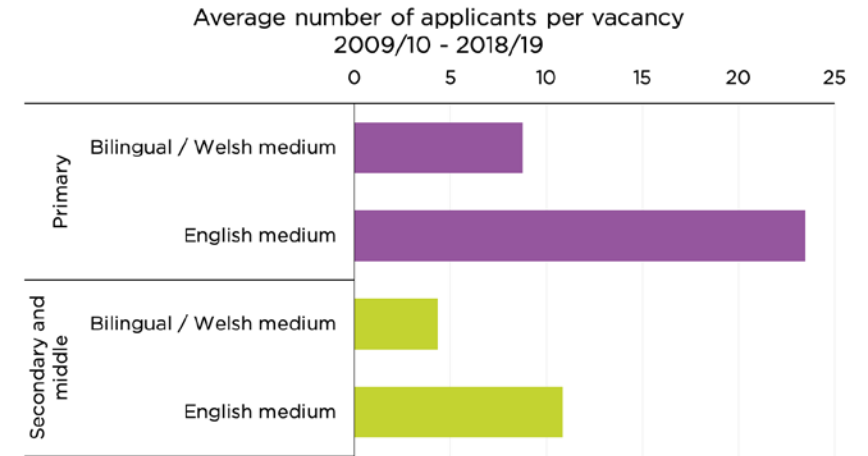
Focus on: Welsh medium schools

Some measures suggest that the teacher supply challenge may be more acute in bilingual and Welsh medium schools, with greater challenges faced in recruiting for vacancies that require teaching in Welsh.

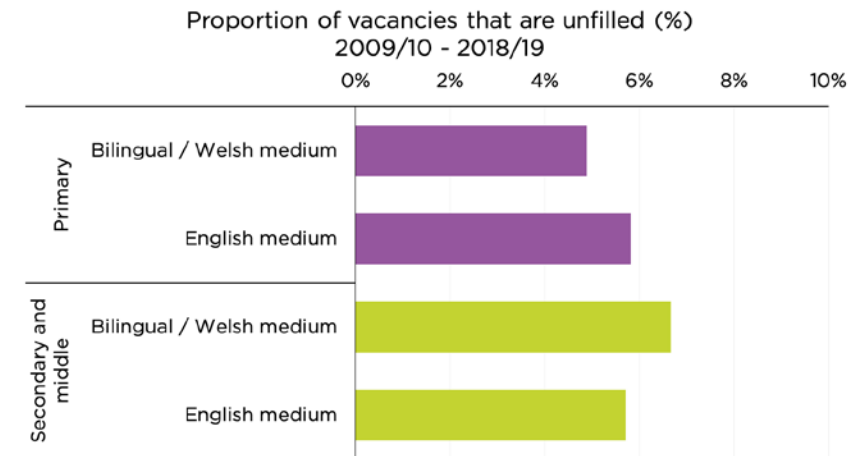
In primary schools, the vacancy rate as well the rate of teachers leaving the profession has been higher for bilingual and Welsh medium schools relative to English medium schools during the period 2009/10 to 2018/19. This could be due to the location of bilingual and Welsh medium schools in more rural areas. The average number of applicants per vacancy has been higher in English medium schools in both the primary and secondary sector. Moreover, vacancies that require teaching in Welsh receive eight applications on average, far fewer than the average of 17 applicants for vacancies that do not require teaching in Welsh.

The number of ITE entrants training to teach in Welsh has fallen by a third between 2011/12 and 2018/19, with a steeper fall observed in the secondary sector (Higher Education Statistics Agency (HESA) Student Record, Welsh Government, 2019). These numbers provide further evidence that the supply challenge appears to be greater for Welsh and bilingual medium teachers and suggests that the Welsh Government is struggling to deliver its ambition to ‘increase the number of teachers trained to teach through the medium of Welsh’ by 2021 (Welsh in education, Action plan 2017-21).

The recruitment challenge experienced by bilingual and Welsh medium schools reflects the hurdles the Welsh government faces in realising its ambition of expanding Welsh medium education. Fostering Welsh language proficiency in ITE forms part of the government’s action plan from September 2019, so the results of these steps may alleviate this issue in the years ahead.



Sources: Pupil Level Annual School Census in Wales.



Sources: Pupil Level Annual School Census in Wales.

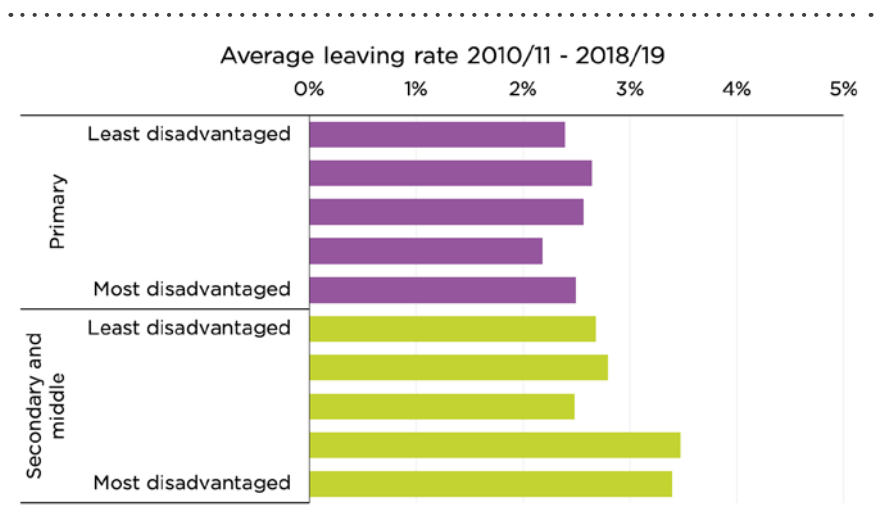
Focus on: schools in disadvantaged areas

Schools serving disadvantaged communities, categorised based on the proportion of pupils who are eligible for free school meals, appear to be facing a greater teacher recruitment and retention challenge than schools in more affluent areas.

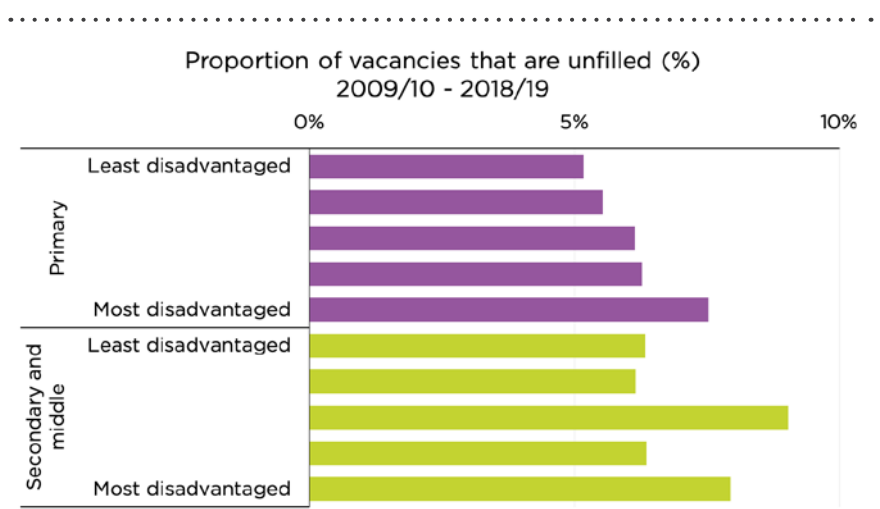
Among secondary schools, schools in more disadvantaged areas have a higher rate of teachers leaving the profession than those in less disadvantaged areas. However, there are no such differences on average for primary schools.

Schools in disadvantaged areas have a higher proportion of vacancies that are unfilled compared to those in less disadvantaged areas, in both the primary and secondary sectors. The average number of applicants per vacancy however does not differ between these schools. This could mean that schools serving more disadvantaged areas struggle more with finding suitable teachers to fill their vacancies.

These findings mirror the situation in England where data has shown that the teacher supply challenge is more pronounced in schools in disadvantaged areas. In general, disadvantaged schools struggle to recruit qualified teachers and to retain teachers, with greater inequalities in the secondary sector (Allen and McInerney, 2019). Unless these disparities are alleviated, existing inequalities in educational outcomes between students from different backgrounds may worsen. This calls for government action that supports schools in disadvantaged areas to attract and retain high-quality teachers.



Sources: Pupil Level Annual School Census in Wales.



Sources: Pupil Level Annual School Census in Wales.

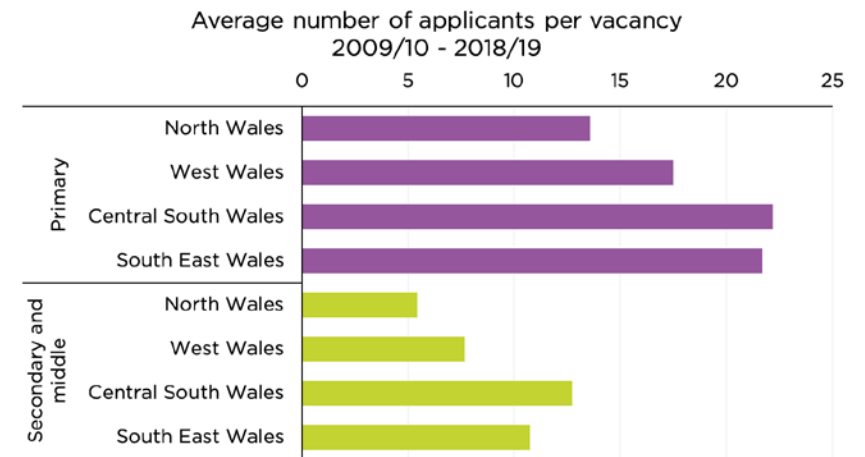
Focus on: regional differences

In the secondary sector, schools in the North Wales and West Wales consortia regions seem to struggle more with teacher recruitment relative to schools in the Central South and South East consortia regions.

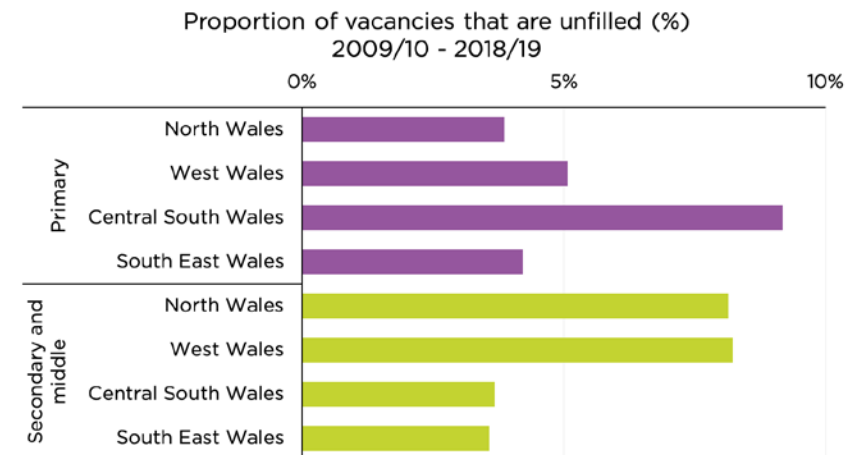
Secondary schools in the North and the West received fewer applicants per vacancy on average, which potentially reduced their chances of appointing qualified teachers to fill vacancies. This is reflected in the higher proportion of unfilled vacancies in these regions. Over eight per cent of vacancies in North and West Wales were unfilled on average between 2009/10 and 2018/19, double that in the other two regions.

Similarly, in the primary sector, North and West Wales record lower numbers of applicants per vacancy relative to other regions. Schools in North and West Wales are more likely to be bilingual and Welsh medium and in more rural areas, which may partly explain these differences. However, the lower number of applicants per vacancy in the North and West has not led to a higher proportion of unfilled vacancies in these regions. This implies that the smaller pool of applicants could have potentially led to vacancies being filled with less suitable teachers. Research from the United States suggests that when teacher supply is higher, the quality of applicants also tends to be higher (Nagler, et al., 2020).

In contrast, Central South Wales has the highest proportion of unfilled vacancies despite receiving the most applicants per vacancy. These numbers could imply that although there were more applicants, fewer of them had the required qualifications to be appointed.



Sources: Pupil Level Annual School Census in Wales.



Sources: Pupil Level Annual School Census in Wales.



References and data sources

References

Allen, B. and McInerney, L. (2019). *The Recruitment Gap: Attracting Teachers to Schools Serving Disadvantaged Communities* [online]. Available: <https://www.suttontrust.com/wp-content/uploads/2019/12/The-Recruitment-Gap.pdf> [23 July, 2020].

Joint Council for Qualifications (2019). *GCSE and A level Main Results Tables, 2002 to 2019* [online]. Available: <https://www.jcq.org.uk/examination-results> [23 July 2020].

Nagler, M., Piopiunik, M. and West, M. (2020) 'Weak markets, strong teachers: recession at career start and teacher effectiveness', *Journal of Labor Economics* **38**, 2, 453-500 [online]. DOI 10.1086/705883.

Statistics for Wales, Welsh Government (2019). *Initial Teacher Education Wales: 2017/18* (Statistical Bulletin) [online]. Available: <https://gov.wales/sites/default/files/statistics-and-research/2019-05/initial-teacher-education-september-2017-to-august-2018-992.pdf> [23 July, 2020].

Worth, J. (2020). *Teacher Labour Market in England: Annual Report 2020* [online]. Available: https://www.nfer.ac.uk/media/4063/tlm_annual_report_2020.pdf [23 July 2020].

Data sources used

StatsWales, Welsh Government - Pupil Level Annual School Census in Wales

StatsWales, Welsh Government - Pupil projections

Higher Education Funding Council for Wales - Initial teacher training (ITT) intake targets

Higher Education Statistics Agency - Enrolment on ITE courses

The Education Workforce Council - ITE intake targets, 2019/10 - 2020/21



Notes on methodology

Teacher labour market measures

Teacher supply and demand. Change in full-time equivalent (FTE) number of pupils and teachers in the Welsh school sector by phase, compared to their respective levels in 2009/10. Source: Pupil Level Annual School Census (PLASC) in Wales; Pupil projections from StatsWales, 2018.

Pupil numbers from 2009/10 to 2018/19 are pupils on roll recorded in PLASC, and includes both full-time and part-time pupils. Pupil projections from 2019/20 to 2029/30 are from the StatsWales estimation. Projections are based on the school population of Wales in January 2018 and the trends indicated by the 2016 based mid-year projections of the home population of Wales produced by the Office for National Statistics. Pupil projections are in FTE terms. To enable comparison between the two series, pupil numbers on roll have been deflated by the per centage difference between PLASC pupils on roll and FTE pupils for the common data point for year 2017/18: primary schools pupil numbers by 4 per cent, secondary school pupil numbers by 2 per cent. This adjustment does not remove all inconsistencies between the two series, but does enable indicative analysis of future trends because the two series will move very similarly. Teacher numbers from 2009/10 to 2018/19 have been estimated on FTE basis from PLASC.

Teacher leaving rate. Source: PLASC Wales

The teacher leaving rate for each year is calculated as the headcount of teachers that left teaching (full-time and part-time) at during the year as a proportion of the total number of teachers (full-time and part-time) at the beginning of the year. The count of leavers in PLASC only includes teachers who have left the profession or have taken early retirement. It does not include teachers who have retired at normal retirement age, are on maternity leave, secondment or sickness absence.

Vacancy rate. Source: PLASC Wales

The vacancy rate for a year is calculated as the number of vacancies as a proportion of all teaching posts. Vacancies in PLASC are advertised teacher vacancies for permanent staff, recorded at the end of the year. The total number of teaching posts is estimated as the total number of teachers and vacancies at the end of the year, excluding appointments made.

Unfilled vacancies. Source: PLASC Wales

Unfilled vacancies are vacancies for which no permanent appointment was made over the year. These include vacancies that are temporarily covered by a supply teacher, senior management, non-specialists, or 'other'.

Applicants per vacancy. Source: PLASC Wales

The average number of applicants per vacancy is calculated as the total number of applications received divided by the total number of vacancies in a school over a year, separately for each phase. For comparison across subjects and school types, this is estimated as the average number of applications received per vacancy disaggregated by subject.

Entrants and intake targets for ITE. Sources: Higher Education Statistics Agency; Higher Education Funding Council for Wales

Entrants to ITE refers to the number of undergraduate and postgraduate teacher training entries (first years on ITE courses) by phase and subject. Intake targets are the number of teacher trainees required to meet estimated teacher demand in Wales, set annually by the Welsh Government. Note that ITE entrants includes students in Welsh Higher Education Institutions (HEIs) and a small number in the Open University, while ITE targets reported are for Welsh HEIs only.

Definition of school characteristics

School sectors. Primary and secondary schools are those coded as such by the school phase indicator of the PLASC. Secondary includes schools recorded as middle schools. We exclude nursery schools and special schools from all analyses as recruitment data is not collected for these school types.

School language of instruction. We combine all schools recorded as bilingual, transitional, dual stream, and Welsh medium schools in the PLASC into the category 'bilingual and Welsh medium schools'. English medium schools refer to schools that recorded as such in the PLASC. English is the language of the day-to-day business of English medium schools, but some Welsh is also used as a language of communication with the pupils.



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