Thematic inspection of secondary science

The evidence base

Science specialist inspectors gathered evidence from 14 secondary ITE partnerships as part of their ITE inspections. The resulting evidence base consisted of 35 lesson observations of trainees, 9 lesson observations delivered by newly qualified teachers (NQTs) and one by a recently qualified teacher. One centre-based training session was observed. Discussions were held with course leaders, mentors, professional tutors, trainees and NQTs. Trainee files and other documentation were analysed, including recruitment and retention information and employment data.

Key strengths

- All ITE partnerships placed a strong training emphasis on teaching science through enquiry-based learning.
- Subject knowledge ehancement was effective where trainees' needs had been accurately identified and mentors supported their improvement.
- All partners reported good partnership arrangements with their ITE partnerships.
- Subject mentors were effective in supporting trainees in day-to-day class management.
- Trainees understood the underpinning reasons behind common misconceptions held by pupils.
- Formative feedback to trainees was usually effective.
- All ITE partnerships set good research assigments on the science curriculum.

Areas for improvement

- In lessons, practical work was common but investigative enquiry was not.
- Some placements did not support a teaching pedagogy that conflicted with the placment's traditional practice.
- Differentiation was underdeveloped.
- Trainees had limited understanding of progression in the science curriculum.
- Some ITE parterships did not follow-through to ensure trainees' subject knowledge shortfalls were resolved.
- Retention on some science routes against benchmarks was lower than in other subjects.
- Trainees did not tackle pupils' misconceptions in practice.

- Trainees made very limited use of science-specific information and communication technology (ICT) in lessons.