

Inquiry into Teacher Training
A submission of evidence from
THE ASSOCIATION FOR SCIENCE EDUCATION
February 2009

The Association for Science Education (ASE)¹ welcomes the opportunity to make this submission to the Children, Schools and Families Committee. ASE has consulted with its members who are drawn from all phases and areas of science education in order to bring together a range of evidence from a variety of perspectives. In particular ASE's Special Interest groups of the National Advisers and Inspectors Group for Science (NAIGS) and the Association of Tutors in Science Education (ATSE) have contributed to this response. Additionally ATSE have provided their own submission to this inquiry².

Summary

- A sound subject knowledge when teaching secondary science subjects is one of the characteristics of good teachers. However there is a large imbalance in the representation of biology, physics and chemistry specialists across schools. Although there are encouraging recent improvements in recruitment through continued financial incentives from TDA to applicants, recruitment premiums to providers and in-service conversion courses for biology teachers, the longer term trends for numbers of specialist teachers in physics and chemistry are not encouraging.
- Although the increased range of different entry and training routes into the teaching profession is welcomed to meet the needs and experience of different student teachers, the most effective training delivery occurs when school provision is complemented by a substantial HEI component to provide subject based pedagogy and time for critical reflection.
- Personal professional development for initial education tutors and of teachers in schools working on pre-service courses remains an area for development. Tutors require more time for scholarly activities of critical reflection and engagement with meaningful research.
- The Association for Tutors in Science Education (ATSE) provides support and professional development for science teacher educators and their colleagues in schools. Membership of ATSE should be encouraged to take up the benefits of the TDA funded SciTutors website www.scitutors.org.uk , the electronic Science Teacher Education journal³, the annual and regional conferences.
- Developing sound subject knowledge and associated pedagogy cannot be easily achieved during the usual ITT period. Successful teachers will develop their confidence and expertise during their early teaching years and throughout their teaching career.
- Greater efforts are required to disseminate the benefits of continuing professional development to science teachers, head teachers, senior managers and governors; so engendering a culture shift within the science teaching profession as a whole to engage with professional development.

¹ Appendix 1 provides a summary of the aims of the Association for Science Education

² Appendix 2 ATSE submission to this inquiry into teacher training

³ Appendix 3 illustrates the cover of Science Teacher Education Nov 2008

- Incentives to undertake, and be recognised for, relevant professional development activities through accreditation of such activities are to be encouraged.
- Professional development is most effective in promoting effective classroom practice when teachers are encouraged to reflect on their practice, to interact with colleagues and to carry out related action research. Incentives to encourage such activities are welcomed.
- A wide range of professional development opportunities are now available to meet the varying needs of the science education community. A mixed delivery combining elements of face to face courses, online courses with mentoring and bespoke events for schools or clusters of schools are particularly effective and are to be encouraged.
- Recent developments through the National CPD Committee to agree national priorities for professional development in science; around improving subject knowledge and supporting curriculum change within secondary science are welcomed. However a focus on primary science professional development is also important, particularly in this current climate of curriculum change.
- Although subject knowledge is not such an issue for primary teachers, some do not have the confidence and experience to develop pupils' conceptual understanding and may have basic science misconceptions themselves. Subject related professional development for primary teachers is important, particularly at this time of curriculum review and the emerging assessing pupil progress (APP) for primary science.

Entry into the teaching profession

1. It is well known that for many young people their subject teacher is the single greatest influence on their positive engagement with a subject at school and in later life. Good science teachers inspire and educate the next generation of young people to take an active, informed role in society where science impacts on every aspect.
2. The characteristics of those most likely to be good teachers are an enthusiasm and solid understanding for one's subject (or the potential to develop that understanding) and the ability to communicate that knowledge and understanding engagingly to young people. These characteristics are further developed in the ATSE response which is included as an appendix.
3. Although these characteristics are sought after in the selection process of pre-service science courses, they are difficult to qualify and the non completion rates of students on secondary science courses may reflect this.
4. The wide range of entry courses and incentives into science teaching (and particularly prioritization for the shortage subjects of chemistry and physics) are helpful in encouraging students from a variety of backgrounds to consider the teaching profession. However the different funding regimes between the GTP and PGCE routes, for instance, have an impact on the choice of course and the training received. Emphasis on scholarly, reflective activity for development of subject based pedagogy is to be encouraged whichever entry and training route is undertaken; and this may be most effectively delivered through a substantial HEI component.
5. A sound subject knowledge when teaching secondary science subjects is one of the characteristics of good teachers. However NFER⁴ found that there is a large imbalance in the

⁴ NFER (2007) Mathematics and science in secondary schools: the deployment of teachers and support staff to deliver the curriculum

representation of school sciences. In total, 44 per cent of all teachers who taught science had a specialism (ie, holding a degree in the subject or specialising in the subject in initial teacher training) in biology compared with 25 per cent who were chemistry specialists and 19 per cent who were physics specialists. The imbalance in the representation of biology, physics and chemistry specialists was unevenly spread across schools. For example, 26 per cent of 11-16 schools did not have any physics specialists. Although there are encouraging recent improvements in recruitment through continued financial incentives from TDA to applicants, recruitment premiums to providers and in-service conversion courses for biology teachers, the longer term trends for numbers of specialist teachers in physics and chemistry remain a concern.

The delivery of ITT

6. There is no substitute for direct classroom experience, supported by experienced teaching staff in schools but HEI tutors have a valuable role in contributing to that experience by providing distinctive and specific subject related pedagogy for the different sciences, grounded in educational research which translates well into effective practice.
7. However many HEI tutors have overly demanding workloads trying to balance the remit of Ofsted inspections with meaningful research that can be an enriching experience for some tutors, benefits their student teachers and may indirectly contribute to their retention. Hence personal professional development for initial education tutors, and for teachers in schools working on pre-service courses, remains an area for development.
8. The Association for Tutors in Science Education (ATSE) provides support and professional development for science teacher educators and their colleagues in schools. Membership of ATSE should be encouraged to take up the benefits of the TDA funded SciTutors website⁵, the electronic Science Teacher Education journal⁶, the annual and regional conferences.

CPD provision

9. Developing sound subject knowledge and associated pedagogy cannot be easily achieved during the usual ITT period. From the early years and throughout a career in science teaching, continued professional development has a vital role to play in inspiring teachers – particularly in a fast moving, multi disciplined subject such as science - with up to date subject knowledge and practical enquiry skills around contemporary science and technology, and innovative pedagogical skills arising from the latest educational research.
10. The impact from quality CPD should not be under estimated. Teachers are empowered to facilitate an enriched learning experience for their pupils and they take ownership of their own professional development. Pupils may be better motivated and engaged, and may show improvements in attainment.
11. Many science teachers recognise these benefits and are committed to their own CPD, particularly around developing their subject knowledge. However others remain to be convinced or are unable to participate due to financial and/or timetabling constraints within schools⁷.

⁵ SciTutors website www.scitutors.org.uk

⁶ Appendix 3 Science Teacher Education cover Nov 2008

⁷ Believers, seekers and sceptics. Wellcome Trust 2006

12. Head teachers, senior managers and governors may have a focus on professional development for whole school improvement and are often key to creating a climate for valuing professional development within schools. Hence greater efforts are required to disseminate the benefits of more subject specific professional development to these target groups; so engendering a culture shift within the science teaching profession as a whole to engage with professional development.
13. Professional development is most effective in promoting effective and lasting classroom practice when teachers are encouraged to reflect on their practice, to plan and share experiences with colleagues, to carry out related action research; and to look at the impact on their practice and their pupils' engagement and attainment.
14. Financial incentives to encourage such activities are welcomed; including the government, Wellcome Trust and industry funded Enthuse and Impact awards through the National Science Learning Centre and regional Science Learning Centres respectively.
15. Other incentives to undertake and be recognised for relevant professional development activities through accreditation are also to be encouraged. Accreditation of CPD gives value and currency to small amounts of CPD undertaken in an academic context: action research at Masters level with a synoptic reflective summary showing impact in the classroom which effectively underpins a teacher's career whilst benefitting the school and raising the status of the profession in general.
16. The embryonic National Science Learning Centre's National Accreditation scheme, managed by ASE, will encourage teachers to structure their CPD for progression in their chosen areas and will unite other accreditation schemes such as the TDA's Masters in Teaching and Learning and the General Teaching Council's Teaching and Learning Academy. Long term commitment to CPD for those in science education can also be recognised through ASE's Chartered Science Teacher (CSciTeach) award⁸.
17. A wide range of professional development opportunities are now available to meet the varying needs of the science education community. A mixed delivery combining elements of face to face courses, online courses with mentoring and bespoke events for schools or clusters of schools are particularly effective and are to be encouraged. Support for wider adoption of bespoke outreach models is recommended as teachers develop ownership for their professional development and such models help overcome reluctance of schools to release staff and fund supply cover.
18. Recent developments through the National CPD Committee to agree national priorities for professional development in science; around improving subject knowledge and supporting curriculum change within secondary science are welcomed. However a focus on primary science professional development is also important, particularly in this current climate of curriculum change.

⁸ Appendix 4 Article describing CSciTeach, Education in Science 2006

19. Although subject knowledge is not such an issue for primary teachers, some do not have the confidence and experience to develop pupils' conceptual understanding and may have basic science misconceptions themselves. Subject related professional development for primary teachers is important, particularly at this time of curriculum review and the emerging assessing pupil progress (APP) for primary science.

Appendices

Appendix 1

The Association for Science Education

The Association for Science Education is the largest subject association in the UK, with approximately 18,000 members including teachers, technicians and others involved in science education. The Association plays a significant role in promoting excellence in teaching and learning science in schools and colleges. Working closely with the science professional bodies, industry and business, ASE provides a UK-wide network bringing together individuals and organisations to share good ideas, tackle challenges in science teaching, develop resources and foster high quality continuing professional development.

The objects and purposes of ASE are stated in its Charter of Incorporation as the promoting of education by the following means.

- *Improving the teaching of science;*
- *Providing an authoritative medium through which opinions of teachers of science may be expressed on educational matters; and*
- *Affording a means of communication among all persons and bodies of persons concerned with the teaching of science in particular and education in general.*

In a more modern context, The Association for Science Education aims to promote excellence in science teaching and learning by:

- (a) Encouraging participation in science education and increasing both new membership and the retention of existing members.
- (b) Enhancing professionalism for teachers, technicians and others through provision of high quality continuing professional development and promotion of chartered status.
- (c) Working in partnership with other organisations, thus maintaining and strengthening its position in influencing policy and its reputation for delivering cutting edge initiatives for its members and, through them, to the wider science education community.

Further details of the ASE and its regional, national and international activities can be found on its web-site www.ase.org.uk

Appendix 2

Association of Tutors in Science Education (ATSE)

A response to the DCSF Inquiry into Teacher Training

February 2009

Executive summary:

- These comments are provided on behalf of the Committee of the Association for Tutors in Science Education (ATSE). This is a special interest group of the Association for Science Education.
- Aspirations for the qualities of ‘good’ science teachers have been defined.
- Measuring quality is highly complex – however the high-stakes, test-oriented mechanisms are judged to be counterproductive and damaging to the real quality of teaching and pupils’ education.
- Any system of central planning will be problematic. There needs to be some flexibility to take into account local conditions.
- Part of the function of a training programme is for trainees to affirm their wish to become teachers. Those who find the life in the classroom unsuitable or impossible should leave – despite the effect on retention statistics their leaving is a positive outcome.
- Teaching must remain an academic profession.
- Tutors and mentors require adequate time and support for scholarly activity, reflection and to engage in some meaningful research.
- Teachers should be required to continue with professional development – and its nature should be largely their own professional responsibility.

Introduction: ATSE is pleased to be given the opportunity to comment on these issues since as an organization it is centrally concerned with supporting tutors in HE whose responsibility is the preparation and development of science teachers. Most of these comments are based upon a ‘science teaching policy paper’ which was developed initially in response in 1993 to the circular 9/92 from which it was feared that many of the aspirational aspects of good science teaching and appropriate professional autonomy might be invisible, buried or even discouraged. This policy document was re-visited, slightly extended and endorsed at the 2006 ATSE Annual Conference. This document agreed on the following main aspects needed to develop future science teachers – many of these are relevant to the questions asked:

The key resource in science education is the science teacher, who should be encouraged and enabled to develop the following characteristics:

- A competent teacher and scientist

- An enthusiastic and sensitive teacher with a continuing interest in the learning of science both for him/herself and the pupils.
- A thinking, reflective and autonomous science teacher who is both self-confident and self-critical and who can work effectively as a team member both in the science department and in the school more generally. S/he will be or become aware of the findings of research in science education, critically adapt these in practice and, hopefully, contribute to the research enterprise.
- A committed and idealistic, yet realistic, science teacher with beliefs, vision, high personal standards and appropriately high expectations of all pupils. (One purpose of the ITT course is to give opportunity for this commitment to be confirmed or otherwise by the trainee teacher.)
- An effective and creative communicator developing a coherent story of science set within the context of appropriate theoretical, practical and investigational activities.

Measuring Quality:

There is no simple answer – except to suggest that the current focus on test and examination marks and grades is clearly counter-productive. Such information from national testing can be useful and interesting and no-one would suggest that pupils should not perform to their maximum potential. However, this has become a very high-stakes game – and pressure from ‘above’ on teachers is to maximize pupils’ grades/scores at any cost. Unfortunately the cost of such a test-oriented curriculum is often boredom and disengagement of both pupils and teachers. Perhaps a more meaningful indicator would be the numbers of pupils choosing to continue with study of the subject beyond the stage at which it is compulsory? However direct comparisons between different contexts would be unlikely to be meaningful.

A key issue is that at some point during the schooling process pupils must take responsibility for their own learning.

Aspects of good teaching are well established as having a teacher who is him/herself an enthusiastic – and generally successful - learner of the subject and who succeeds in engaging the pupils meaningfully in the learning and understanding of the subject. A wide range of personalities seems to be acceptable provided they are sympathetic to the needs of the pupils, encouraging to their successes and have a sense of humour.

Entry into the teaching profession:

There seems to be no reason why the current requirements for selecting candidates for teaching should not deliver appropriate trainee teachers. The requirements for face to face interviews and involvement of serving teachers in the process are valued – and help to ensure that candidates lacking in personal or communication skills are rejected. It should be remembered, however, that one purpose of ITT courses is to provide opportunity for trainees to confirm their commitment to teaching and that in many cases ‘failure’ to complete the course of training is a success in terms of the

teaching profession and may save the individual from a personal disaster. (Some uses of course statistics both internally in institutions and in inspections seem to assume that *any* wastage is a bad thing.)

Any system of allocating numbers of trainee places is bound to become problematic in practice. The draconian inspection regimes of the late 20th century may well have enhanced consistency and conformity but at the expense of innovation, experimentation and staff morale. The increased emphasis on ‘doing it by the book’ and the consequent bureaucracy surrounding constant inspections also had an enormous cost in terms of the time available for staff to engage with their subject and/or with research or other professional activity. In terms of numbers allocated – usually on so called quality terms – it is the short term variations which have caused immense logistical difficulties for some institutions. For some subjects it has proved difficult or impossible to recruit to target due to the lack of candidates (In science there were targets given at secondary level for Biology, Chemistry and Physics – few institutions were able to meet the targets in the physical sciences) and the then TTA conflated these to a single science number. This has enabled more to meet their targets but led to the severe under-representation of chemists and physicists in the recently qualified cohorts of science teachers. A further problem of such external allocations is that they do not take into account the local conditions for training provision in local schools – in some areas finding sufficient suitable partnership training places an even more severe constraint than recruiting sufficient trainees! (It has been a cause for concern since 9/92 that Training Institutions are *required* to be in formal partnership with schools but that there is no reciprocal requirement for schools to be available for partnership in the training enterprise.) This is exacerbated by the ‘assumption’ that the training element in schools is a cost to the school and a relief for the training institution. Whereas in most cases the presence in school of a good trainee can be a substantial benefit to the school – and the additional costs to the training institution of organizing the very complex partnership arrangements seemed hardly to be recognized. In many cases the problems of getting teachers out of school to participate in college have proved extremely difficult.

The more flexible routes into teaching may provide valuable alternatives for a minority of new teachers, but we believe that teaching is an academic profession and must remain closely associated with the Higher Education community. This is even more important as we aspire to move teaching towards a ‘masters’ profession. One particular element of concern is the plethora of dimensions that have been uncovered and documented in the standards and which seem to render relatively unimportant the teacher’s personal attainment and continued engagement with his/her own subject learning. Particularly at secondary level we would maintain that the teacher’s own development in the subject taught and its teaching should be the priority

The delivery of ITT:

As stated above developments since 9/92 led to an almost complete loss of innovation and diversity – the introduction to our 2006 policy paper states

“The general tone of public statements from the government was at that time rather aggressive and antagonistic and seemed designed to impose (so called) standards and consistency at all costs. This was to the detriment of professional autonomy, creativity and responsibility. Accountability to the imposed ‘standards’ was all that mattered and the developing intensive inspection regime seemed punitive.”

More recently there have been moves towards a more cooperative relationship between DfES(now DCSF)/TDA, Teachers and Teacher Educators and we welcome the valuation of more professional, reflective and innovative expectations of the new standards. (We are still concerned however about the lack of overt emphasis on the teachers’ continuing engagement with their subject.)

Teacher educators in HE devote their energies full-time to the business of developing the next generation of teachers. They usually are members of their professional organisation (ATSE/ASE in the case of science teacher education) and they are in touch with research findings and actively involved themselves with research. Where teacher education is based entirely within schools, the tutors are, for the most part, classroom teachers, and they lack access to the professional network of science teacher educators and research. If science teacher education is to continue to be undertaken, in part, in school-based schemes, these need to be funded far more generously, to allow the tutor-teachers to have time available to integrate into the academic network. The TDA have funded an excellent resource in the form of the sci-tutors’ website (www.scitutors.org.uk) but school-based colleagues have little time and enthusiasm to make use of this resource.

CPD Provision:

CPD opportunities are widely available and reasonably accessible – what follows is a short list of attributes which we consider should be found in any significant or substantial CPD undertaken (excluded from this consideration would be inter-Departmental or Whole-staff training events):

1. The prime beneficiary of the CPD must be the teacher. CPD undertaken on behalf of the ‘wider school or subject-community’ can, of course be negotiated, but the individual must be committed to the ‘project’. (CPD is undertaken by teachers not done to them.)
2. CPD should be *educational* and it should be legitimate for teachers to develop their own identified subject and or professional enthusiasms or identified needs.
3. CPD should where possible connect with current and future personal and professional interests and aspirations for the individual.
4. Accreditation may be appropriate but should not be mandatory.
5. This should remain an area for personal responsibility and professional trust.
6. It must be recognized that CPD requires quality time – and that this can easily lost within the over-bureaucratic educational world that we now inhabit.

Appendix 3 The full edition no 53 (November 2008) of Science Teacher Education has been submitted separately.

Science Teacher Education

No 53 • November 2008



An ASE publication for all concerned with the pre-service education, induction and professional development of science teachers

Appendix 4

Article from April 2006 Education in Science

RECOGNISING PROFESSIONAL EXPERTISE: an invitation to apply to become a Chartered Science Teacher

Science teaching is a demanding and complex process. Skilled science teachers, knowledgeable in pedagogy, science education and science deserve professional recognition. The ASE has worked in collaboration with the Science Council to create a mechanism which recognises and celebrates high quality science teachers and science education professionals through the award of Chartered Science Teacher (CSciTeach) status.

The introduction of the CSciTeach designation provides for the first time an opportunity for individuals to gain an award which accredits and values their all round expertise in science education and their commitment to updating the knowledge, skills and understanding they require. CSciTeach, as our current President, Professor Sir Gareth Roberts, noted:

“... will provide science teachers, working in a wide range of settings, with a professional status recognising and rewarding their high quality expertise which is in turn underpinned by a commitment to CPD. Ultimately the main beneficiaries, however, will be our pupils and students.” (Education in Science Feb 2005)

What is CSciTeach?

CSciTeach, or Chartered Science Teacher, is a chartered designation in line with other awards, such as Chartered Scientist, Chartered Engineer, Chartered Accountant or Chartered Surveyor, that recognises the professional standing of an individual working in that field. The awards are made under powers granted by the Privy Council to particular organisations and incorporated in their Royal Charters. As a chartered designation CSciTeach recognises the unique and demanding combination of skills, knowledge, understanding and expertise that are required by individuals involved in practicing and advancing science teaching and learning.

Chartered Science Teachers, therefore, are professionals, teachers and educators, who are practicing and/or advancing science teaching and learning and for whom knowledge and skills in pedagogy, science education and science are essential elements in their role. They will have a critical awareness of current issues which is informed by developments in educational practice, pedagogy and scientific endeavour.

Who awards CSciTeach?

ASE awards CSciTeach. Under the terms of its Royal Charter, ASE, as a licensed body of the Science Council, is empowered to award CSciTeach to individuals who meet the requirements and to maintain a register of holders of the designation. This register in turn is a special section of the register of Chartered Scientists (CSci) which underpins the quality and equivalence of the awards. In other words it means that CSciTeach will be widely accepted alongside other chartered qualifications.

What are the benefits of CSciTeach?

As CSciTeach is in its infancy the benefits relate mainly to raising the overall profile of science teaching and learning and, for individuals, to providing recognition of their expertise and commitment. In time, as with other chartered designations, it is hoped that CSciTeach will provide access to more tangible benefits and rewards. Currently CSciTeach aims to:

- promote high quality science teaching and learning;
- recognise high and improving professional expertise;
- reflect best effective practice in science education;

- provide evidence of a commitment to continuing professional development.

What are the requirements for CSciTeach?

To be awarded CSciTeach individuals must be members of ASE and be active in science education in a capacity that involves them in science teaching and learning in the UK or elsewhere. This includes teachers in schools, colleges and universities, those working in other settings (e.g. science centres or museums) as well as advisers, inspectors and consultants. Other individuals may be eligible and should consider applying if they feel they can meet the requirements. Pre-application advice is available.

By providing evidence through a combination of recognised qualifications, acknowledged achievements and other supporting material, each candidate qualifying for CSciTeach should:

- meet the qualifying educational standard of an M-level qualification or equivalent in pedagogy / education together with an honours level qualification in which there is a minimum of 50% of course content in science;
- have a minimum of four years experience of teaching science of which two should involve an appropriate level of responsibility (for most candidates this will be after achieving qualified teacher status);
- have engaged in, and reflected on, appropriate professional development during the qualifying period;
- work with colleagues and others in developing science education beyond the classroom or laboratory;
- be able to demonstrate their commitment to continually maintaining and updating their professional expertise and competence;
- work within the professional code of conduct for Chartered Science Teachers;
- be able to provide evidence of their professional expertise and competence in relation to, Professional Knowledge and Understanding, Professional Practice, Professional Attributes.

What is meant by Professional Knowledge, Professional Practice and Professional Attributes?

Science teaching is a complex process that involves a wide range of activities and processes which can vary in differing contexts and circumstances as well as stages in a career. For CSciTeach these are defined in terms of three interrelated elements.

1) **Professional Knowledge and Understanding** which provides the underpinning base for practice and includes:

- a) a broad and up to date knowledge and understanding of science and science curricula related to the nature of science teaching;
- b) a broad and up to date knowledge and understanding of teaching, learning and assessment specifically related to science education;
- c) a knowledge of students and understanding of influences on them including developmental, cultural, gender and other contextual factors that might impact on their learning in science;

- a) planning coherent programmes of teaching and learning in science that are intellectually challenging, emotionally supportive and physically safe
 - b) engaging students in generating, constructing and testing scientific knowledge by collecting, analysing and evaluating appropriate evidence while at the same time looking for and implementing ways of extending students' understanding of major ideas of science;
 - c) developing students' confidence and ability to use scientific knowledge and processes to understand the world around them and make informed decisions through using a wide variety of strategies, coherent with learning goals, to monitor and assess students' learning and provide effective feedback.
 - a) analysing, evaluating and refining teaching to improve student learning;
 - b) working collegially with colleagues and the wider professional communities to improve the quality and effectiveness of science education
 - c) contributing to, and taking responsibility for, leadership, management and development of science teaching;
- 2) **Professional Practice** which relates specifically to the development of effective teaching and learning strategies, including those which contribute to enhancing the quality of the educational experience of students and to the wider professional context of science education. This includes:
- 3) **Professional Attributes** which are the overarching principles that characterise professional autonomy and relate to self-evaluation, collegial activity, personal responsibility and leadership. These include:

How might the evidence be presented?

There is no set way of presenting the evidence for CSciTeach. The application form requires candidates to provide a written summary on each of the three elements and be able to substantiate these with appropriate material. It might be anticipated, therefore, that candidates maintain a portfolio of evidence that could contain a CPD diary, examples of articles or papers, leadership and development of others, examples of analysis of particular aspects of practice. It is important that the evidence and summaries demonstrate the ability to reflect on experiences and the ways in which they have influenced subsequent thinking and practice.

How do I apply for CSciTeach?

An application pack with detailed notes for guidance is available from ASE Headquarters. The application form with supporting evidence should be completed and returned to ASE at CSciTeach, College Lane, Hatfield Herts AL10 9AA. The application will then be considered by a panel of assessors and a recommendation made to the CSciTeach Registration Board which will make the final decision. The process will take a little while because it will be necessary to check the information and verify qualifications as part of the quality assurance process. Candidates will then be notified of the outcome.

How much will it cost?

Unfortunately there are administration and registration costs attached to making the awards and fees will be chargeable for the initial application (a single payment) and for maintaining the registration (an annual charge). This is going to be £50 and £20 ref fees in year 2006

Will I have to renew CSciTeach?

Yes. Once CSciTeach registration has been achieved, Chartered Science Teachers have an obligation to maintain their professional competence and are required to revalidate their registration every five years. This provides further assurance that the award is current and that holders are developing and updating their expertise.

So why not apply for CSciTeach now?

CSciTeach is a designation to which teachers of science can aspire and demonstrate their achievements and ongoing commitment to their professional development. It provides an opportunity for acknowledging the quality of their science teaching through peer recognition and raising the profile of the profession as a whole. CSciTeach is available now so why not ask for more details and apply? If you need any further information, have any questions or wish to discuss possibilities contact ASE at CSciTeach, College Lane, Hatfield Herts AL10 9AA, Telephone 01707283000, email CSciTeach@ase.org.uk.