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## The Teaching Profession

### Summary

The Royal Society issues this statement on the teaching profession in response to the Government's Green Paper, *"Teachers: meeting the challenge of change"*. It has been prepared by a working group of the Education Committee and has been endorsed by the Council of the Royal Society. Its main conclusions and recommendations are:

- 1 The Society warmly welcomes the Government's commitment to give good teachers better support and recognition. The teaching profession must be funded properly and accorded the status it deserves if it is to attract high quality teachers from every section of society. We believe that a comparison should be made of teaching with a range of other graduate occupations, taking into account pay, training costs, opportunities and early employment experiences to inform discussion on the reasons why more people do not choose teaching as a career.
- 2 It is vital that all teachers are, and see themselves to be, central players in the process of bringing about change within the profession, including the development of the curriculum and teaching methods. The best candidates will not enter a profession perceived to be one in which they will suffer rigid constraints imposed centrally, where they will find lack of funding for equipment etc., and where they will find inadequate support for continuing professional development.
- 3 Appraisals, if undertaken sensitively, can be beneficial in all professions, and we support their use in the teaching profession. Every appraisal should involve not only an assessment of performance but also a dialogue that leads to positive advice on career progression. Appraisals for teachers and headteachers must not rely solely on the results of external inspection and / or purely quantitative measures. The frequency with which appraisal takes place requires further thought if it is to be manageable.
- 4 The Government proposals for two pay-ranges for classroom teachers have merit but the need to ensure that promotion to the higher range is equitable and based on appropriate and transparent criteria requires careful study and development.
- 5 The Society considers that the new national curriculum for initial teacher training courses is overloaded in terms of content, especially in science. We doubt whether the curriculum can be delivered in practice by any teacher training provider.
- 6 Whilst supporting the Government's desire for Qualified Teacher Status standards to be sharp and consistent across the country, we would firmly oppose a proposal for the Teacher Training Agency to accredit all external examiners of initial teacher training courses. We consider this to be an unnecessary extra level of inspection.
- 7 We fully support the proposal to introduce a statutory induction year for all new teachers, tailored to individuals, and we see a case for extending this induction period to two years. Schools must be given the resources to ensure that they can provide the support needed to ensure that the induction period is a success. Learning however should not be confined to the early years of a teacher's career, and we

thus support the proposed requirement for teachers to keep their skills up-to-date throughout their careers. Such study serves to generate and maintain enthusiasm but requires that teachers be given the necessary time and financial support.

- 8 We urge the Government to look again at the possibility of raising the level of financial support for students on initial teacher training programmes. We recommend that support comparable with that available from the Research Councils for Advanced Course Students should be seen as the minimum level of stipend.
- 9 We firmly believe that more research needs to be conducted into the role, impact and benefits or failings of Information & Communication Technology in teaching and learning.
- 10 We urge the Government to examine the provision of technical support in schools and to provide ring-fenced funding for technician support and specialist equipment in schools where required.

## Introduction

The Royal Society issues this statement on the teaching profession in response to the Government's Green Paper, "*Teachers: meeting the challenge of change*". Comments relating specifically to proposals contained within the Green Paper are followed by the appropriate Paper paragraph number in square brackets. This statement, endorsed by the Council of the Royal Society, has been prepared by a working group chaired by Mr Andrew Collier and comprising Professor Margaret Brown, Professor Simon Conway Morris, Professor Edgar Jenkins, Mr Nigel Thomas (Secretary), Mr Tony Thornley and Professor Joe Vinen.

High quality teachers are crucial to high quality education. The teaching profession must attract these teachers and must therefore be funded properly and accorded the status it deserves. It is equally essential that teaching attracts high quality candidates from every section of society. The severe crisis in secondary teacher recruitment, especially in science, mathematics and design & technology, is not new; it has existed for over thirty years. The recent closures of some teacher training courses in mathematics, science and design & technology are particularly worrying. The only respite in the shortage of science and mathematics graduates entering the teaching profession has been during economic recessions, when applications to initial teacher training courses rise sharply, with graduates choosing to study for PGCEs rather than face unemployment. A clear picture of the reasons why people do not choose teaching as a career is required. An up-to-date comparison should be made of teaching with a range of other graduate occupations, taking into account pay, training costs, opportunities and early employment experiences, especially for graduates in mathematics, science and technology. A review of existing research on teacher supply, retention and motivation would be an appropriate beginning, to be followed by further research where gaps are found to exist.

The Society warmly welcomes the aims and objectives of the Government's Green Paper. The Paper contains much to be commended including several bold initiatives, often backed up by substantial financial investment, which will go some way to addressing the need to raise the status of the teaching profession. We hope also that it will help to reverse the trend of falling numbers applying to enter the profession. The Society welcomes in particular the Government's recognition that teachers have had to cope with a huge amount of change over the past ten years [24]. Whilst it is true that most professions have experienced change over the same period, the teaching profession has been exposed to especially rapid change coupled with a marked diminution in the scope for taking control of its own work and making innovative contributions. It is vital that all teachers are, and see themselves to be, central players in the process of bringing about change within the

profession, including the development of the curriculum and teaching methods. This is well illustrated in many of the school-based examples contained in the Green Paper.

Many proposals contained within the Green Paper will require both financial resources and, crucially, the resource of time. Headteachers, teachers, advisers and other groups working within the profession will require additional time to ensure that the changes are implemented effectively. Attention must be given to the provision of the right working conditions, as outlined later in this submission, and we take the view that this important matter receives inadequate attention in the Green Paper. Without it recruitment of high quality teachers will not keep pace with needs, and standards will not rise.

## **Leadership in schools**

The role of a headteacher is central to the success of a school, just as the role of a senior manager is central to the success of any enterprise. A good headteacher has a complex leadership and management role and, as identified by the recent report of the House of Commons Education and Employment Committee<sup>Error! Bookmark not defined.</sup>, there is no single model of the headteacher that is appropriate for all schools in all circumstances. Among the many generic skills required by a headteacher are a strong sense of direction and the ability to develop a "shared vision" for the educational priorities of the school and its pupils. She / he must be able to motivate and inspire all staff and realise the need to share and build upon best practice drawn both from within and outside the school. The Society thus welcomes the acknowledgement that the remuneration of headteachers should reflect their important role, and that success in this role should attract a high salary [41]. Sensitive and effective appraisal of headteachers by representatives of the Governors, with expert external advice, is vital to the success of this policy. Such appraisal must involve a dialogue with the headteacher involved and with other senior teachers in the school; it must not rely solely on the results of external inspection and / or purely quantitative measures.

We suspect that many of our most successful schools are run on a collegiate model of management, with leadership shared among senior staff, and with all staff knowing and acknowledging that they make a vital contribution to the success of the school. The responsibility for success lies with all staff, not just the headteacher, the more senior having a special role. We welcome the Government's acknowledgement of this fact and the proposal to give governing bodies discretion to appoint senior staff to a new leadership pay spine [48]. We warn, however, that differential pay, if not implemented with care and sensitivity and with the support of teachers, may lead schools towards a more hierarchical structure, with a breakdown in the team spirit on which excellent school performance must depend. We return to this point later.

The suggestion that Advanced Skills Teachers be rewarded by their inclusion in the Leadership Team, [48-52], with added responsibilities outside the classroom, should be treated with caution, since it is the type of development that leads outstanding teachers to spend less and less time in the classroom.

We welcome the principles and objectives of the headship training programme [55], particularly the Government's acknowledgement that training should be fresh and relevant, practical and professional. The value of the new training programme should be monitored to ensure that it delivers substantial benefits. Fast track routes to headships [54] may be appropriate in some cases, and may attract "high-flyer" entrants to teaching, but care must be taken to ensure that the maturity and range of experience required of a headteacher is not sacrificed.

The career path for some headteachers will include moving from school to school or to advisory work, and, as the Green Paper acknowledges, other heads may wish to move to work within Local Education Authorities [62]. Greater opportunity for movement for headteachers is to be encouraged as this will increase the sharing of best practice and will help provide new challenges for senior managers. It should also be noted that there are

other forms of career progression open to teachers and heads, including work in teacher training, the academic education community, subject teachers associations, etc.

## **Better rewards for teaching**

We welcome the recognition that a modern pay system should be in place to attract and retain teachers of the right calibre. It should reward good performance, improve career progression and enable the best teachers to gain high rewards. There is little doubt that salary does play a role in the motivation of teachers. However, it is not the only important factor in the motivation of good staff, and we note that opinion within the business community is by no means unanimous as to the benefits of performance-related pay systems. There is a need to ensure that teachers derive satisfaction and inspiration from their work. Traditionally, the teaching profession has attracted many talented individuals who are willing to accept limited financial rewards in exchange for the satisfaction that can be derived from a career in education. It is crucially important that Government recognises the need to provide for this satisfaction by ensuring that teachers experience the right working conditions. The teaching profession should have a real sense of ownership of its work. But most teachers feel that they have experienced a loss of professional curricular ownership over the past twenty years due to over-centralisation, an over-detailed National Curriculum, and an over-emphasis on summative assessment. This has resulted in a feeling amongst teachers that good professional practice is not valued unless it is quantifiable. These perceptions must be addressed if we are to recruit and retain good teachers. The best candidates will never enter a profession perceived to be one in which they will face a daily grind of upheaval, where they will suffer rigid constraints imposed centrally, where they will find inadequate support for continuing professional development, where they will find inadequate funding for textbooks, technical help, equipment and apparatus, and where problems arising from truancy and discipline are not adequately addressed.

The Government proposals for two pay-ranges for classroom teachers (with a performance threshold giving access to the new higher range for highly competent teachers) have merit [65]. We certainly welcome the opportunity to raise the pay of significant numbers of good teachers, and we note with approval the notion that over time the majority of teachers will pass the threshold. Care must be taken that the point at which the threshold is set does not become arbitrary and subject to the personal prejudices of headteachers; the need to ensure that promotion is equitable and based on appropriate and transparent criteria will require careful study and development. It is important that crudely interpreted contributions to league tables should not be a relevant factor. We are also concerned that a substantial amount of headteachers' and senior managers' time, already under pressure, will be taken up with threshold appraisals, particularly during the first year or two of the new system. With these provisos, we support the intention to extend the flexibility available to schools in making the pay and performance system work at a local level [74].

Appraisals, if undertaken sensitively, can be beneficial in all professions, and we support their use in the teaching profession. Each appraisal must involve not only an assessment of performance but also a dialogue that leads to positive advice on career progression and on opportunities for training and refresher courses. The appraisal process must not become too bureaucratic or time-consuming [82] and the frequency with which it takes place needs further thought if it is to be manageable. In-depth appraisals are perhaps needed only every two or three years for the majority of teachers.

We strongly support the concept of a School Performance Award Scheme [92] whereby a national fund would be distributed to successful schools for the purpose of offering performance bonuses to staff in a way that is determined, with appropriate and transparent criteria, by headteachers and governors [93]. This scheme would encourage team work and the collegiate model of school management, to which we have already referred. We stress, however, the need for the validity and reliability of the national criteria used to select

schools for the Performance Award and of the adequacy of funds to be distributed to schools in this way.

## **Teacher training**

We welcome the Government's commitment to raising standards and providing teachers with the training and support they need to perform their jobs well and to progress in their careers. Whilst supporting the Government's desire for Qualified Teacher Status (QTS) standards to be sharp and consistent across the country [109], we would firmly oppose a proposal for the Teacher Training Agency to accredit all external examiners of initial teacher training (ITT) courses. This would be an unnecessary extra level of inspection and we believe that it is possible for the Government's objectives to be achieved in other ways.

The Society believes that adequate standards of literacy and numeracy among teachers have always been vitally important, and that Information & Communication Technology (ICT) skills are becoming equally important. We hope that the renewed emphasis on numeracy and literacy, and the improved resources for ICT, will result in a raising of standards nationally which will soon make any tests which are pre-requisite to qualification as a teacher unnecessary [107].

It is suggested in the Green Paper that formal study might be required by trainees prior to embarking on a course of initial teacher training, either to improve their subject knowledge or to prepare for the new national skills tests [108]. We are sceptical as to whether it is a practical proposal, particularly with the large debts that are now often accumulated by undergraduate students. Many graduates will need to find paid employment during the vacation period immediately following graduation, particularly if no adequate grant is attached to teacher training. Any requirement for pre-course training is therefore likely to deter entrants to the teaching profession.

Successful initial teacher training is the result of a true partnership between the higher education and school sectors. The Green Paper appears to imply that, at present, higher education institutions fail to recognise the contribution of schools in this partnership. We reject this view; higher education is part of the solution to the low status accorded to the teaching profession, not part of the problem. We firmly oppose the proposal to fund the higher education / school partnership directly, rather than channelling funding for partner schools through higher education institutions [110].

We fully support the notion that training routes into teaching should be diverse and flexible so that training can be matched to the needs and circumstances of those with the potential to succeed as teachers [112]. We see value in modular training courses, and we believe that in appropriate cases, such as the four-year enhanced mathematics and science courses in universities, the inclusion of education modules in the first degree course can be valuable, especially if it were to lead to a shortened PGCE course.

We recognise that employment-based routes can provide high-quality preparation for entry into teaching, when combined with high-quality distance learning. But the idea that students be funded directly to allow them to put together the elements of teacher training in the way that best suits them [115] might lead to incoherent training programmes and a wasteful degree of flexibility in the training programmes.

We consider that the new national curriculum for initial teacher training courses, to be introduced from this year, is overloaded in terms of content, especially in science. We doubt whether the curriculum can be delivered realistically in practice by any teacher training provider. It makes no allowance for personal growth as a teacher and the list of competencies would challenge all but the most experienced and successful teachers. Any national curriculum for initial teacher training must not constrict student teachers' experiences and must be able to be interpreted to reflect students' backgrounds, prior expertise and the range of school experience available to the students. Any need for additional material should be addressed not by overloading initial teacher training courses

but by requiring extra study during induction and continuing professional development in the early years of a teacher's career. We therefore fully support the introduction of a statutory induction year, tailored to individual teachers, and supported by funding to guarantee all new teachers a reduced teaching load and a programme of support [120]. Indeed, we see a case for extending this induction period to two years.

As suggested in our introduction, there would be value in a commissioned study to compare the training experiences of a teacher with those of comparable graduates entering other professions in which there are substantial opportunities for learning on the job in the early years of work. Such learning and up-dating should not be confined to the early years of a teacher's career, and we support most strongly the proposed new training framework with its requirement that teachers should keep their skills up-to-date throughout their careers [123]. Such training requires that teachers be given the necessary time and financial support, as would be the case in other careers. Teachers must be encouraged to continue to be learners throughout their careers and to have greater control of their career development. Training should include the possibility of study leading to higher degrees or other professional qualifications. Such study serves to generate and maintain enthusiasm, and we question whether financial assistance should be available only to the more junior teachers [129].

Given its willingness to offer funding to those on lower earnings, we urge the Government to look again at the possibility of raising the level of financial support for those on initial teacher training programmes, the majority of whom will begin the course with large debts accrued from undergraduate degree courses. Full funding would be ideal, and would compare well with opportunities offered by other employers to the best graduates in mathematics, science and technology. Support comparable with that available from the Research Councils for Advanced Course Students<sup>Error! Bookmark not defined.</sup> seems to us the minimum that will encourage more students to enrol on and complete PGCE courses.

## **Information & Communication Technology**

There is no doubt that Information & Communication Technology (ICT) will have a marked effect on teaching and learning in Britain over the coming years. Precisely focused usage of ICT in schools and colleges can be extremely effective, and innovative schools are already demonstrating how their work can be transformed by the crafted use of new technologies. We are not convinced however that the allocation of large sums of money to ICT in schools has been entirely thought through, and we warn against trying to do too much too soon. We urge caution in treating ICT as a universal panacea. With all ICT projects it is important that the potential gains be evaluated, that projects be piloted thoroughly, and that proper training be given to those who are expected to use the technology. There is a difference between simply using ICT and using ICT to teach, and the effective use of ICT demands skilled teachers to use the resource appropriately.

We are firmly of the opinion that more research needs to be conducted into the role, impact and benefits or failings of ICT in teaching and learning. Similarly, there is a need for study of the extent to which the continuing professional development of teachers can be most effectively handled by distance learning using ICT, especially in cases where the required training is specific to the school or group of teachers involved. But we strongly support the development of ICT-based networks to allow teachers to share teaching materials and to exchange professional information [132].

## **Support for teachers**

The support provided for teachers in the classroom and laboratory is essential to recruiting and retaining the best teachers. The Society warmly welcomes the Government's significant investment to provide an additional 20,000 classroom assistants for schools by 2002 [141], and we look forward to further clarification as to how these assistants will be distributed

and funded, both on a national level and in schools. The full use of assistants will only be realised if they are distributed properly. We thus welcome the Government's proposal to produce guidance on the use of teaching assistants based on existing good and innovative practice [143].

There is no dispute about the vital role played by good technical support in effective science and technology teaching, but the fact remains that most secondary schools feel that such support is inadequate. This is borne out in several surveys conducted over recent years<sup>Error!</sup>

Bookmark not defined. . It is not just the smaller schools who require more technical staff [160]. We urge the Government to examine the provision of technical support in schools and to provide ring-fenced funding for technicians where required. We argue that the provision of technical support in schools should be seen as being as important, if not more important, than some of the proposed ICT initiatives, and funds should be distributed accordingly.

The physical condition of school laboratories is inadequate in a substantial minority of secondary schools. A small survey conducted by the Society in 1997<sup>Error! Bookmark not defined.</sup> found that around a third of school laboratories have one or more major faults and that many more are in need of modernisation. These figures are very worrying, both from a safety point of view and because of the messages about science they give to pupils.

The equipment available to schools to teach practical science is also inadequate in the vast majority of LEA and Grant Maintained schools. A major education project of the Society in 1997 was to identify and cost every piece of science equipment required to teach science in an 11-16 school.<sup>Error! Bookmark not defined.</sup> It concluded that £11.38 per pupil per year was required to provide the essential equipment for practical science (including provision for a rolling programme of replacement and excluding books, software and reprographics costs).

The reality in schools is that an average of around £8.00 per pupil per year is actually available to secondary science departments for this purpose. Further research is required to find out how schools are coping with this inadequate provision of science equipment, but it is likely that both standards and pupils' enjoyment and attitudes to science are suffering.

## Conclusion

The measures outlined in the Government's Green Paper represent an ambitious strategy to raise both the status of the teacher profession and standards within education generally. These aims are to be welcomed. It is our hope that the outcomes arising from the consultation on the Paper's proposals will form a set of coherent measures which can be implemented with widespread support within the teaching profession. As mentioned in our introduction, the teaching profession has endured change being imposed on it for many years; this is one of the reasons why teaching has not been seen as an attractive career by many graduates who would make excellent teachers. If our education system is to be strengthened and improved by the outcomes of this reform of the teaching profession, it is essential that teachers are, and feel to be, in control of the implementation of the changes. This implementation will require adequate time and resources which must be provided if we are to ensure a smooth and effective evolution into a world-class educational system appropriate for the 21st century.

## Notes and references

Numbers in square brackets, found throughout the text of this statement, refer to paragraph numbers of the Government's Green Paper, "*Teachers: meeting the challenge of change*", and are used where our comments relate to specific Government proposals.

1 Copies of the Green Paper are available from the Stationery Office Ltd (tel. 0171 873 0011). The proposals contained in the Green Paper can be found on the web site of the Department for Education & Employment at **Error! Bookmark not defined.**

- 2 The shortage of applicants in 1998 led to the removal of some teacher training courses. Examples include Greenwich University which dropped 167 places in mathematics and the sciences, Nene College which dropped mathematics and science from its programme, and the Douay Martyrs Consortium which suspended recruitment on all teacher training courses. Design and technology teacher training was dropped by several institutions including Greenwich University, Bath University, King Alfred's College, Loughborough University and Liverpool John Moores University due to lack of candidates with suitable qualifications. Oxford University failed to fill its teacher training places for secondary mathematics for the first time in its history.
- 3 Ninth Report of the House of Commons Education and Employment Select Committee: "*The role of headteachers*", October 1998.
- 4 The EPSRC basic maintenance stipend for Advanced Course Students for 1998/99 is £8060 for students in London, £6455 for students elsewhere.
- 5 See, for example, results of an ASE sample survey published in "*Education in Science*" No.157, (April 1994) and "*Report of non-teaching staff*", a report by Her Majesty's Inspectorate (1992).
- 6 In November 1997, the Society sent questionnaires to all UK secondary schools requesting information on expenditure on science equipment, technician support and condition of school laboratories; a response rate of around 5% (257 schools) was achieved. A summary of results obtained was published in the November 1998 issue of the ASE journal "*Education in Science*".
- 7 "*Science teaching resources: 11-16 year olds*", Royal Society, October 1997.

Additional copies are available, free of charge, from Nigel Thomas, Education Manager at the Royal Society. Email: **Error! Bookmark not defined.**