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Jon Shortridge Esq
Private Secretary *to the*
Secretary of State for Wales
Gwydyr House
Whitehall
LONDON SW1A 2ER

30 December 1987

Dear Tom.

NATIONAL CURRICULUM - MATHEMATICS WORKING GROUP

I wrote to you on 16 December about the interim report and chairmanship of the mathematics working group appointed by our Secretaries of State to make recommendations about attainment targets and programmes of study for mathematics as part of the national curriculum.

My Secretary of State has invited the new Chairman, Duncan Graham, to consider how the membership of the group might be strengthened. Mr Graham has recommended and Mr Baker has accepted three new appointments which the Department will be announcing soon after Christmas and before the group's next meeting on 4 January.

The four new appointments are:

- i) Peter Reynolds - mathematics adviser with Suffolk Local Education Authority. Regarded by Mr Graham as someone willing and able to undertake useful work.
- ii) David Tinsley - Director of the Training Standards Advisory Service in the Manpower Services Commission. A mathematician and formerly Assistant Education Officer and Inspector of Computing for Birmingham Local Education Authority.
- iii) Chris Tipple - Chief Education Officer of Northumberland Local Education Authority. Widely regarded as one of the better new CEOs.

All three are willing to serve, to accept the group's terms of reference and to support the new chairman actively. My Secretary of State believes that their addition to the group will greatly increase the chances of the group's producing a useful report by the end of June.

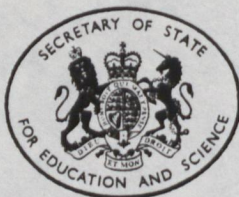
I am copying this letter to David Norgrove and Trevor Woolley and to Private Secretaries to members of E(EP).

Yours,

Tom.

T B JEFFERY
Private Secretary

EDUCATION Policy P.116.



ELIZABETH HOUSE
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Mr J D Shortridge
Private Secretary
Secretary of State for Wales

16 December 1987

Dear John

NATIONAL CURRICULUM - MATHEMATICS WORKING GROUP

As you will know, the mathematics working group, appointed by our Secretaries of State to make recommendations about attainment targets and programmes of study for mathematics as part of the national curriculum, has just produced its interim report. At the same time Professor Blin-Stoyle, chairman of the group, has submitted his resignation - for personal, workload reasons.

My Secretary of State has agreed with the Prime Minister that Mr Duncan Graham, Chief Executive of Humberside County Council and a member of the mathematics working group, should succeed Professor Blin-Stoyle as chairman. We are confident that he has the necessary qualities to push the mathematics working group, strengthened as necessary, to the production of a useful report by the end of June - though this will be no easy task: the group's interim report was disappointing.

My Secretary of State will be announcing publication of the interim report tomorrow (17 December), with an arranged Parliamentary Answer, and he will at the same time announce Professor Blin-Stoyle's resignation and the appointment of Mr Graham.

I am copying this letter to David Norgrove and Trevor Woolley and to private secretaries to members of E(EP).

Yours,
Tom.

T B JEFFERY
Private Secretary



ELIZABETH HOUSE
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Professor R Blin-Stoyle FRS
14 Hill Road
Lewes
East Sussex
BN7 1DB

21 August 1987

Dear Professor Blin-Stoyle,

NATIONAL CURRICULUM: MATHEMATICS WORKING GROUP

The purpose of this letter is to offer more detailed guidance about your task than is contained within your terms of reference.

Attainment Targets

2. By "attainment targets" I have in mind clearly specified objectives for what pupils should know, understand and be able to do at or around the end of the academic year in which they reach the ages of 7 - or thereabouts - 11, 14 and 16. It is essential that attainment targets provide specific enough objectives for pupils, teachers, parents and others to have a clear idea of what is expected and to provide a sound basis for assessment and testing. The working group may recommend that a different age than 7 should be used to check progress in attainment during the early years of primary education, but some checking before the age of 11 is required.

Programmes of Study

3. I am expecting the programme of study to provide a detailed description of the content, skills and processes which all pupils need to be taught so that they can develop the knowledge and understanding they will need to progress through school and eventually to adult life and employment. This detailed description needs to be set within an outline or overall map of the mathematics curriculum which takes account of what may be expected of pupils of different abilities. The degree of definition in the requirements set will vary considerably between foundation subjects, but will be greatest for the three core subjects of which mathematics is one.

4. Within the overall programme of study, the Government's intention is that there must be space to accommodate the enterprise of teachers, offering them sufficient flexibility in the choice of content to adapt what they teach to the needs of the individual pupil.

5. I expect that the development of attainment targets and programmes of study will be an iterative process. Some consideration of content is likely to come into your thinking about attainment targets. And before you are able to define attainment targets with the degree of specificity required, you will probably wish to stand back and consider objectives and the contribution of mathematics to the overall school curriculum in more general terms. The precise way in which you arrive at your conclusions is for you to determine but I would stress again the importance of specificity in the definition of attainment targets.

Differentiation

6. I am looking to you to recommend attainment targets which set out the knowledge, skills and understanding which pupils of different abilities should be able to achieve by the end of the school year in which they reach one of the key ages. They should allow scope for the very able, those of average ability, and the less able to show what they can do. So far as possible I want to avoid having different attainment targets for children of different levels of ability. I shall expect you to justify any essential exceptions from this principle. In general I seek targets for each of the key ages which may be attempted and assessed at a range of levels, and which challenge each child to do the best that he or she can.

7. Attainment targets should reflect current best practice and achievement. They should be sufficiently challenging at all levels to raise expectations, particularly of pupils of middling achievement, as well as stretching and stimulating the most able. I hope that you will give particular thought to the application of attainment targets to lower attaining pupils.

Special needs

8. The Government propose that where a pupil has a statement of special needs under the 1981 Education Act, the statement should specify any national curriculum requirements which should not apply to that individual pupil. In addition, the holder of my office will be empowered to define in regulations circumstances in which the application of the national curriculum provisions to individual pupils might be modified for any foundation subject. For example, the modern languages regulations might indicate that pupils with severe difficulties in English should be introduced to a foreign language later than or on a different basis from most children. I should be grateful if you would consider whether any comparable modifications of the regulations could be justified in the case of mathematics.

Assessment and Examinations

9. Attainment targets will provide objectives against which pupils' progress and performance can be assessed. The main purpose of such assessment will be to show what a pupil has learnt and mastered, so as to enable teachers and parents to ensure that he or she is making adequate progress and to inform decisions about the next steps.

10. I envisage that much of the assessment at ages 7 (or thereabouts), 11 and 14 will be school-based. It will be done by teachers as an integral part of normal classroom work. But in addition there will be nationally prescribed tests done by all pupils to supplement the individual teachers' assessments. Teachers will administer and mark these, but their marking - and their assessments overall - will be externally moderated.

11. I have established a Task Group on Assessment and Testing (TGAT) to advise on the practical considerations which should govern all testing and assessment including the basis for marking and recording of results. The terms of reference of TGAT are attached to this letter. TGAT is to report as early as possible in the New Year. In the light of its recommendations, the Government will commission various organisations to develop and pilot assessment instruments.

12. The main focus of your work will be on attainment targets and the programme of study. However, in your interim report I expect you to offer advice in broad terms about assessment in relation to the attainment targets you have in mind, particularly what might appropriately be measured by nationally prescribed tests. In preparing your interim report, you will need to consult TGAT which will be developing its general advice about assessment in parallel with your thinking about the assessment of mathematics. In your final report, I shall expect you to offer advice, again in broad terms, about the other techniques of assessment for which you see a place. In so advising, you will need to take account of the assessment strategy which I shall be proposing in the light of advice from TGAT. I shall offer further guidance to you on this in the New Year.

GCSE

13. In defining attainment targets and the programme of study for 16 year olds, I suggest that you take as your starting point the GCSE National Criteria. You should not regard yourselves as bound by these, however: in particular, they may not be sufficiently specific for your purposes as regards objectives and/or content. You will want to take note of the SEC's work on making GCSE grades more objective: the reports of the relevant grade criteria working parties may be a source of ideas, and the SEC's further development work with respect to individual GCSE mathematics syllabuses should make a useful contribution to your group's deliberations.

14. The Government expects that all pupils will take GCSE examinations in mathematics or equivalent examinations approved against relevant GCSE criteria. It does not, therefore, anticipate the need for alternative assessment arrangements in mathematics. But the Government expects that, within a common GCSE framework for mathematics, differentiation of papers will be needed to cover the full ability range. We will look, in due course, to the newly formed School Examinations and Assessment Council (SEAC) to advise on whether, and if so how, the GCSE criteria need to be revised to reflect the national curriculum attainment targets and programme of study for ages 14-16, and to approve syllabuses accordingly.

TVEI

15. The TVEI pilot projects are providing valuable experience in identifying the most effective ways in which the education of 14-18 year olds can be made more relevant to the demands of employment and adult life. From September 1987, authorities are progressively involved in extending the TVEI pilots into a national scheme. The objective will be to give young people aged 14-18 in all maintained schools and colleges access to a wider and richer curriculum based on the lessons emerging from the pilot TVEI projects. In drawing up their plans, LEAs are required to reflect the Government's policy for the school curriculum in England and Wales as summarised in the curricular criteria based on "Better Schools", and issued by the DES in July 1986.

16. Authorities will want to use TVEI to build on the framework offered by the national curriculum and to take forward its objectives. The Government intends that the legislation should leave full scope for schools to determine how teaching is organised and the teaching approaches used so that the curriculum is delivered in the best way suited to their pupils. This flexibility should enable schools to accommodate any special

emphasis within their TVEI plans, while still meeting the requirements of the national curriculum. You will wish to consider developments so far under TVEI so that they inform your deliberations.

General Principles

17. Generally in framing your recommendations, I expect you to consider the need for
- continuity and progression throughout the period of compulsory schooling and beyond
 - breadth and balance
 - relevance: the content and teaching of the various elements of the national curriculum should bring out their relevance to and links with pupils' own experience and background and their practical application and continuing value to adult and working life
 - all elements of the curriculum to contribute to the development of general personal qualities and competencies in young people which will be of value to them in adult and working life - for example, self-reliance, self-discipline, a spirit of enterprise, a sense of social responsibility, the ability to work harmoniously with others, an ability to apply knowledge and use it to solve practical real life problems.

It will also be important to bear in mind that the curriculum should provide equal opportunities for boys and girls; and to consider, in this context, the expectations and attitudes of girls to mathematics. You should also take account of the ethnic and cultural diversity of the school population and society at large.

Wales

18. You will need to bear in mind that your recommendations will relate to the whole of England and Wales and should allow enough flexibility for schools to give weight, where appropriate, to local circumstances. There will be arrangements in Wales for separate consideration of, and consultations about, the group's report. These will take account of any particular Welsh needs.

Resources

19. The Government expects the national curriculum and associated assessment to be developed and implemented broadly within the planned level of resources. The Government's expenditure plans provide for a further improvement in the overall pupil teacher ratio to 17:1 by 1990. It will be for authorities and schools to ensure that staffing resources as well as annual spending on support services, books and equipment and accommodation are directed to support the national curriculum.

20. For its part, the Government will give priority to support of the national curriculum in allocating resources for Education Support Grants and LEA Training Grants. This will build on existing support for new developments through these grants, for example the ESG funding for primary and secondary mathematics; and the LEA Training Grants for retraining teachers in the shortage disciplines including mathematics.

21. The Government aim to make the first sets of Orders, relating to attainment targets and programmes of study for mathematics and science, early in the first half

of 1989 following wide consultation through the proposed National Curriculum Council. On this timetable, schools may expect to begin implementing these first Orders at the start of the academic year 1989-90. I shall look to you for advice on whether the Orders relating to mathematics should be brought in on a phased basis rather than for all children in both primary and secondary schools at once.

Ages and Stages; Time Allocations

22. You should assume that all pupils other than those with statements of special need under the Education Act 1981 which specify otherwise will study mathematics throughout their compulsory schooling and take a GCSE examination in mathematics or equivalent examinations approved against relevant GCSE criteria.

23. In framing your recommendations, you should assume that on average some 20% of the total curriculum time is available for mathematics in primary schools. The allocation for secondary pupils years 1-5 should be taken as around 10%.

Links with other subjects

24. In framing your recommendations I hope that you will consider the contribution which mathematics can make to learning other subjects and the contributions which these subjects can make to learning mathematics. Science, technology, art, craft, geography and home economics, for example, can provide opportunities for using mathematical techniques. The links between mathematics and science are particularly important and I hope that you will consider these links jointly with the science working group.

25. There are a number of important subjects, themes and skills which can be taught and developed through the foundation subjects. Time for covering such aspects within mathematics will need to be found within the overall time available for mathematics as indicated in paragraph 23 above. I shall be looking to you to consider the place of these aspects within the mathematics curriculum and to cover them within your consideration of attainment targets and programmes of study. All subjects should promote the development of good written and spoken English; and of numeracy. Mathematics may provide an appropriate context, alongside other foundation subjects, for the development of economic understanding and an introduction to consumer education. You may have further suggestions. The practical use and application of computers and Information Technology in control, simulation, data storage and retrieval naturally finds expression within mathematics, as within other foundation subjects. Generally you will need to consider carefully how new technology can and should influence the mathematics curriculum.

Conclusion

26. As a general starting point you have the 1982 report of the Committee of Inquiry into the teaching of mathematics in primary and secondary schools in England and Wales. You also have HM Inspectorate's discussion paper "Mathematics from 5 to 16" which focusses on the aims and objectives for the teaching of mathematics within this age range. Additionally you may find it useful to take account of good practice in those LEAs that have developed effective and well-founded policies for mathematics. I hope that you will also draw on the collective wisdom and experience of professional bodies such as the Association of Teachers of Mathematics and the Mathematical Association.

27. I look forward to receiving by 30 November 1987 your interim report covering the ground indicated in paragraphs 2.1 and 2.2 of your outline terms of reference,

as elaborated in this letter. Your final report should be with me no later than 30 June 1988, and earlier if possible.

Thomson
Robert H. Thomson

MEMBERS OF THE TASK GROUP ON ASSESSMENT AND TESTING

Chairman: Professor Paul J Black OBE, KSG, BSc., PhD, FIP. He is Professor of Science Education at the University of London and Head of the Centre for Educational Studies at King's College, London (KQC). He has been involved in school education since the early 1970s, was President of the Association for Science Education in 1986 and serves on a range of national educational committees including the School Curriculum Development Committee and the Education Committee of the Royal Society.

Members: Professor Jack Allanson - Emeritus Professor of Electronic and Electrical Engineering and member of the Secondary Examinations Council
John Barnes - Director General of the City and Guilds of London Institute
Claire Burstall - Director of the National Foundation for Education Research
Owen Hughes - Head teacher of a secondary school in Clwyd
John Morris - County Education Officer, Essex County Council
Darcy Payne - Director of Personnel at Rolls Royce, Derby
Hilary Steedman - Researcher, National Institute for Economic and Social Research, London
Norman Thomas - Visiting Professor of Education, Warwick University, honorary Professor of Education at the North East London Polytechnic and former Chief Inspector for Primary Education in H.M. Inspectorate of Schools
A primary headteacher - to be announced later.

TASK GROUP ON ASSESSMENT AND TESTING - TERMS OF REFERENCE

1. To advise the Secretary of State on the practical considerations which should govern all assessment including testing of attainment at age (approximately) seven, 11, 14 and 16, within a national curriculum;

including the marking scale or scales and kinds of assessment including testing to be used, the need to differentiate so that the assessment can promote learning across a range of abilities, the relative roles of informative and of diagnostic assessment, the uses to which the results of assessment should be put, the moderation requirements needed to secure credibility for assessments, and publication and other services needed to support the system - with a view to securing assessment and testing arrangements which are simple to administer, understandable by all in and outside the education service, cost-effective, and supportive of learning in schools.

2. In making recommendations, to take into account the need not to increase calls on teachers' and pupils' time for activities which do not directly promote learning and to limit costs.
3. To advise on the possible staging of the introduction of assessment including testing to reflect the need for the process to be manageable and for teachers to be adequately trained.
4. To report to the Secretary of State by Christmas 1987.

NOTES

1. The consultation document, "The National Curriculum 5-16" was published on July 24 1987 (DES press notice 233/87). Its proposals for assessment and testing, including the role of the task group, are set out in paragraphs 28-31, 44 and 68-76.
2. The first two working groups for the core and other foundation subjects of the national curriculum, science and mathematics were announced on July 10 1987 (DES press notice 200/87).