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A report on the consultation exercise on the Blakemore and Frith report, 'The implications of recent developments in neuroscience for research on teaching and learning'

1 The Steering Committee of TLRP commissioned the report on recent developments in neuroscience and their implication for research on teaching and learning with a view to developing the Programme's impact on the research agenda in the field.

2 The Blakemore and Frith report was presented in October, 2000. The Programme Director, following a previously agreed procedure, sent the report out to consultation prior to its consideration by the Steering Committee.

3 The report was sent to 439 parties identified as being potentially interested. These included 193 Teacher Education Institutions and bodies associated with the promotion of education; 233 psychology departments and brain research departments in HE and a range of other experts in the field as nominated by Professor Frith or Bruno della Chiessa (who is coordinating a similar exercise for the OECD).

4 Recipients were invited to comment on any aspects of the report but **in particular to identify key research questions, their priority and their tractability in terms of likely return on research effort**.

5 A total of 37 responses were received including 14 from the education sector, 16 from psychology and brain research departments and 7 from other parties.

6 In addition to this exercise, the Programme Director attended a seminar organised by the Lifelong Learning Foundation on **Learning and the brain: the longer term research agenda**. The Foundation has had an enduring interest in this matter and had considered the Blakemore and Frith report.

7 The following analysis incorporates points raised in the seminar and in the responses to the consultation exercise.

8.1 All responses were positive about the timeliness of the exercise. Almost all were highly appreciative of the quality of the Blakemore and Frith report in terms of its scope, quality of argument and relevance to the aims of the endeavour. A few respondents commented on issues felt to be omitted in the report or on issues felt to be contested. These matters are considered in the following sections.

8.2 A number of strategic or managerial issues relevant to the pursuit of the agenda were raised as follows:

i The report argues for multi-disciplinary research but several respondents felt that this was not necessarily relevant. The research

questions, it was argued, should determine the methods and disciplines involved.

ii The report argues for a mediating role between neuroscience and education to be played by cognitive science. Several respondents were not persuaded that cognitive science should be privileged in this way and that this was not a necessary strategic choice.

iii The report identifies research questions from a review of neuroscience. Some respondents argued that the research questions should be found in the educational sector from a review of 'need to know' issues. Only then should researchers turn to neuroscience in the search, where appropriate, for a neurological substrate. It seems more sensible to contemplate an interactionist approach between the several fields of enquiry.

iv No other comments were made about the structure and function of the kind of body that would be necessary to carrying this thinking forward although one respondent did identify the territorial sensitivities bound to be provoked in a period of limited research funds.

8.3 Several respondents had reservations regarding methodological matters raised in the report. These issues are located in a large range of literatures each of which is highly specialised. At this stage of the consultation process they are difficult to resolve. At the same time they could be of considerable strategic importance in work to determine a research agenda for the field.

9.1 In making suggestions **towards a research agenda**, most respondents commended the Blakemore and Frith list of research questions indicating, usually without further rationale, that there was likely to be more return on effort on research focussing on (a) younger children and (b) work on the neurological substrate of learning difficulties.

9.2 Other suggestions for a research agenda in neuroscience and education were (in no particular order of priority):

i What is the neurological basis of cognitive developmental stages?

ii What is the effect of experience on neurological development?

iii What brain processes underlie what is usually described as plasticity in relation to transfer of function?

iv How and why do systems abnormalities (eg brain injury) lead to specific deficits?

v What specific neural structures and interconnections are implicated in specific skills or strategies or aptitudes?

vi What are the neurological substrates of creativity, multiple intelligence, emotional intelligence?

More generally,

vii What environments are 'good for brains'?

viii What is the impact of teachers' knowledge and understanding of brains on pupils' learning?

Comments and Conclusions

10.1 The Blakemore and Frith report has been highly commended nationally and internationally. This is particularly impressive given its scope.

10.2 It is possible and wise to take an eclective view of most of the methodological, conceptual and theoretical comments made by respondents. This involves ruling in methods (eg HD-ERP) not highlighted in the report and treating the conceptual issues raised as growth points for debate.

10.3 That being said, it seems that no priority research agenda emerged from the consultation exercise and no persuasive way of making strategic or management progress was offered.

10.4 The Lifelong Learning Foundation is proceeding to form an interest group and support an initial research agenda using private/charitable trust funds.

10.5 The ESRC Programme Steering Committee has decided not to duplicate the work of the Lifelong Learning Foundation initiative but to maintain for the future a supportive liaison.

10.6 The Programme Director will be the nominated contact person, and will feed into the LLLF research agenda the Programme's views and any research evidence which arises from its work.