

A RESEARCH STRATEGY FOR DCMS

2003 - 2005 /06

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Executive Summary

Vision

"A comprehensive policy research service for the whole DCMS *Family* which draws on the resources of the wider research community"

Objective

"To increase relevant socio-economic policy research and embed evidence in DCMS's work and thinking at all levels and stages in the policy process so as to ensure that the policies developed have maximum impact on key priorities and delivery targets."

- This initial policy research strategy covers the three financial years to 2005-06, with preparation for SR2004 as an important milestone.
- Considerable progress has been made in developing DCMS policy research across all key areas: projections of future trends; understanding our sponsored sectors; evidence-based policy (EBP); developing a prototype data framework, and monitoring/evaluation
- Important policy research partners exist, whose activities range across DCMS interests and who possess considerably greater research resources than DCMS itself: the Research Councils; the DCMS's NDPBs and Broadcasting Public Corporations; other government departments / devolved administrations (OGDs/DAs)/ regional/local authority organisations; and a wide variety of smaller research funders and practitioners including many in the higher education (HE) system
- Seven steps are proposed to build on our progress to date:
 - mobilising external funding sources;
 - accessing the best available external research results and techniques;
 - fully mobilising and integrating research across the DCMS *Family*;
 - improving DCMS's own internal research and analytical capacity;
 - Improve DCMS's commissioning of research work;
 - putting research and policy together within DCMS; and
 - explore the feasibility of establishing a DCMS Research Centre.

These steps are attainable once the new full-time specialist research post in ASD is filled. When fully implemented, proposals would require the pre-allocation of about £120,000 per annum. This is about a quarter of DCMS's own research budget, which totalled £465,000 in 2001-02 and represents an absolute minimum credible figure for a Cabinet-level Department. However, the total research resources which would be co-ordinated and

refocused onto DCMS's interests would be many times this amount (in 2001-02 the policy research budgets of DCMS's main NDPBs totalled about £4 million).

In 2003/2004

- the new specialist research officer took up post;
- this strategy amended as necessary and agreed within DCMS and our NDPB *Family*;
- a programme of systematic visits to relevant research organisations undertaken to inform ourselves of relevant existing and planned research not funded by the DCMS *Family*; and
- research budget plans for 2003-04 co-ordinated across the research network.

In developing our EBP capacity in the run up to the next Spending Review due in the summer of 2004, DCMS needs to:

- establish high level and close working level relations with significant external research funders including ESRC, AHRB and key OGDs with overlapping policy interests;
- improve DCMS's access to the best available research results and techniques both in the UK and internationally;
- fully develop the NDPB *Family* research network to co-ordinate and focus external research funding and make DCMS an attractive customer for external researchers;
- significantly boost DCMS's own internal policy research capacity including the development of data sources, such as via the Regional Cultural Data Framework initiative, and the subsequent development of Satellite Accounts for sponsored sectors such as Tourism; and
- bring research and policy together within the Department and recognise that policy staff themselves need to fully embrace the EBP approach
- acknowledge the fact that EBP is an issue for the Department as a whole and give a Minister responsibility for research; and
- from 2003 produce an annual research report and run a series of regular "research meets policy" seminars.

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Overview

DCMS Research Vision

"A comprehensive policy research service for the whole DCMS *Family* which draws on the resources of the wider research community".

DCMS Research Objective

"To increase relevant socio-economic policy research and embed evidence in DCMS's work and thinking at all levels and stages in the policy process so as to ensure that the policies developed have maximum impact on key priorities and delivery targets."

To be achieved by:

- developing a comprehensive policy research service drawing on all available resources;
- supporting policy makers in acquiring focussed, timely and accessible research of the highest possible technical quality;
- and improving the effective and efficient use of limited resources by agreeing a focussed policy research programme to avoid duplication and maximise collaboration.

DCMS is committed to building Evidence Based Policy (EBP) and policy research will underpin this. Such research will be focussed on the DCMS's "big 4 priorities:"

- children and young people;
- building communities;
- maximising our contribution to the economy;
- and modernising delivery.

Monitoring and evaluation of policies and programmes form a key element in EBP development and form one means of identifying significant gaps in our knowledge.

This initial DCMS research strategy covers the three full financial years from 2003-04 to 2005-06. This period is chosen for two main reasons - because it matches the period covered by Spending Review 2002 (SR2002), and in practice at least three full years are needed to bring the longer-term elements of the research strategy to fruition.¹

The next section discusses progress made to date across the main aspects of DCMS's research work. Section three provides an overview of the activities of our potential research

¹ The aim is to provide the type of research (and analytical) support given to National Lottery policy (and since June 2001, to gambling policy generally) right across DCMS's policy activities. The work on the National Lottery is in support of DCMS'S objective under PSA 2001-04 (see DCMS 2002, annex A, page 12). Even this is far short of the standard for policy related sponsorship research as set by, say, the Australian Productivity Commission in its recent reports on the broadcasting, telecommunications and gambling industries.

partners. The fourth section outlines a seven step plan designed to achieve the proposed research vision and objectives set out above.

Progress to Date on Developing DCMS Research

DCMS's research work can conveniently be sub-divided into a number of key areas. For present purposes the four major policy research activities are as follows.

(i) Forecasts and Projections of Future Trends

One key element in research and analysis is to help clarify our inevitably clouded view of the future, and reduce uncertainty. Given the wide range of DCMS's activities and sponsored sectors and (in many cases) limited knowledge of their current situation and development in the recent past, such futurology poses particular challenges.

Nevertheless, there have been some useful developments upon which DCMS can build. During 2001-02, DCMS commissioned the well-respected Business Strategies Limited economic consultancy to produce the projections of output and employment in the Creative Industries (CIs) to 2010 (BSL, 2002).

Likewise, on a less rigorous and more informal level, ASD networks with the National Tourist Boards and British Tourist Authority in the Tourism Research Liaison Group to agree consensus forecasts of in-bound tourism to the UK for the coming year.

(ii) Baseline Understanding of DCMS's Sponsored Sectors

Experience in other government departments (OGDs) illustrates the importance of a basic understanding of the scale, structure and operations of sectors being sponsored and championed. Furthermore, such understanding also underpins the development, monitoring and assessment of appropriate PSA targets. MAFF/DEFRA's experiences during the BSE and FMD episodes are the most high profile example in recent years. In both cases, effective and timely policy responses to unforeseen problems were handicapped by a lack of understanding of operational procedures within the slaughterhouse and informal animal trading sectors respectively.

DCMS, together with the Regional Cultural Consortiums, commissioned consultants to produce a useable and manageable Regional Cultural Data Framework (RCDF) across our sectors to map current availability of data, provide a tool for practitioners to access that data, and make recommendations for taking work forward as a tool for the medium to long-term.

The framework will provide a central focus on harmonised concepts and definitions for use across the DCMS sectors and will be a significant contribution towards a clear understanding of the size of DCMS sponsored sectors and their contribution to social and economic life.

Further work to explore the potential for developing a cultural facilities register to assess the value of local "cultural offer" is also being scoped within the ONS's wider neighbourhood statistics network.

In spite of difficulties, there is significant progress on which to build. Across the CIs, the first and second Mapping Documents (DCMS 1998 and 2001) gave an overview of available

statistics for CIs as a group and the 13 specific sectors concerned, but such “snapshots” need to be developed to analyse trends over time and provide more robust input to forecasts of the future (see (i) above).

Likewise, across both the subsidised and commercial cultural sectors, the Policy Studies Institute (PSI) recently published an overview of issues such as employment, economic impact, public spending and private sector funding in the years to 1999 - see Selwood (2001), and an earlier less complete overview by Casey et al (1996).

(iii) Evidence Based Policy (EBP)

Almost all types of research can contribute to policy - at least in the rather weaker sense of ‘evidence informed’ rather than ‘based’ policy making. However, most academic commentators have focussed on the use of a particular approach, namely Systematic Reviews (SRs) of existing studies within a given policy context.

A comprehensive discussion of the issues and problems involved in EBP is provided in a recent ASD paper of August 2002, which forms **Attachment A**.

Another recent ASD paper prepared for HM Treasury officials in the context of SR2002, employs an SR type approach to identify robust evidence on the economic and social impacts of culture/creativity/sporting activities - this forms **Attachment B** to the current paper.

One important aspect of SR approach is that, as well as identifying relevant existing research and providing a means of quantifying possible policy impact in (broadly) comparable situations, “gaps” in existing knowledge can be highlighted. Such “gap analysis” can be used to focus research activity on the policy issues where pre-existing knowledge is most deficient. Selwood (2001) provides one example, while Attachment B also illustrates this process by highlighting the results of two small original research exercises - on arts/sports mark schools and the health benefits of sporting participation.

SRs and improving our baseline understanding of DCMS’s sponsored sectors (see (ii) above) can be used together to build an integrated picture of relevant trends in an accessible form. Longitudinal research and analyses are often neglected due to ongoing funding over several years usually being required. Focussed SRs may provide useful insight into relevant longitudinal trends, but new longitudinal analyses will need to be developed in the (many) cases where “gaps” are likely to be found. Such expensive long-term commitments underline the need for increased resources to underpin policy research.

(iv) Policy/Programme/Project Monitoring and Evaluation

Careful monitoring of programmes and systematic evaluation of their outcomes compared to objectives, and actual costs and benefits compared to plans, is a key element in the standard ROAMEF policy framework². It also lies at the heart of PSA monitoring work.

Research and evaluation planning needs to be explicitly incorporated in the very early stages of policy/programme/policy development. Such early consideration of evaluation information requirements will allow baselines to be established and minimize research costs

² Rationale, Objectives, Appraisal, Monitoring, Evaluation and Feedback.

by including the gathering of monitoring and basic evaluation data within the standard management information systems. Moreover, adequate resources should be provided at the outset. For indicative purposes the US Bureau of Labour Statistics has long recommended that 1% of programme costs be allocated to fund evaluation work.

While DCMS has an excellent record in micro-economic appraisal of projects, historically relatively little detailed evaluation of policies and programmes has been undertaken. However, in recent years our evaluation effort has improved – one example being the review of VAT and heritage issues produced by the University of Durham (Johnson and Thomas, 2001).

The UK Evaluation Society's eighth annual conference held at South Bank Centre in December 2002 was entitled "The art of evaluation; artistry, discipline and delivery". It featured themes like evaluation of the arts, and illustrated the growing recognition of evaluation's role across DCMS sectors among the wider policy evaluation community.

Potential Research Partners

Outside the DCMS itself, there are a wide range of bodies, institutions and individuals involved in planning, commissioning, undertaking and reporting relevant research. These external research bodies are all potential partners with which DCMS can collaborate. As our research programme is developed other opportunities for sharing relevant policy research will be identified, for example, local authority organisations have already indicated their wish to cooperate on a research agenda and there may be scope for research collaboration with the creative industries. The key research bodies identified to date are discussed below.

(i) The Research Councils

Two major DTI funded Research Councils cover most of DCMS's sectors. Both work by providing substantial funding for academic researchers across the UK.

The Economic and Social Research Council (ESRC) had a research budget of £46 million in 2000-01. Of this, about £22 million was spent on identified 'research priorities' split between designated:

- ESRC Research Programmes - typically lasting between four and five years, and including 20 to 25 related projects (£14million); and
- ESRC Research Centres - typically funded for 5 years (accounting for £8 million).

ESRC launches between two and four new programmes a year, typically after lengthy consultation with interested parties. About £15 million per annum is assigned to other "non-priority" research grants, largely in response to unsolicited bids by researchers.

For several years, DCMS has provided research support for relevant ESRC initiatives. Examples include sitting on the Steering Group of the ESRC's Media Economics and Media Culture Research Programme (which cost circa £3 million in total over the years 1996 to 2000), and providing refereeing support to ESRC's assessment activities.

The Arts and Humanities Research Board's (AHRB's) annual budget for advanced research in 2000-01 was approximately £16 million, of which half went on research grants. Organised around seven mainly disciplinary themes, the AHRB has as yet only played a relatively minor role in policy (as opposed to purely academic and disciplinary) research funding.

(ii) The DCMS Research Network & Regional agencies

A network of researchers covering DCMS and its main research-active NDPBs was first mooted in 2000. It now holds regular meetings around issues of mutual interest such as business planning for the year ahead and shared research and analysis 'issues' such as how we go about assessing the impact of our sectors.

The indicative socio-economic policy research budgets and staff of the main NDPBs are summarised in **Table 1**³.

Table 1: Policy Research by the DCMS NDPBs (staff numbers correct as at 31 May 2003)

NDPBs	Indicative research budget	Research Staff	
		Number	Notes
Arts Council of England	£445,000	6	4 full-time, 2 part-time
Visit Britain	£680,000	6	
English Heritage	Some funding of survey work	N.A.	
UK Film Council	£325,000	3	
Heritage Lottery Fund	£300,000	2.5	Full-time equivalent
Millennium Commission	£45,000	N.A.	
Resource	£200,000	2	
Sport England	£613,000	5	4 full-time, 1 part-time
UK Sport Council	£80,000	2	
Total	Circa £2,700,000		

Source: NDPBs responses to Information Centre inquiries

Taken with DCMS's own policy research budget of around £400,000 in 2003-04, this means that the total socio-economic policy research spend in support of DCMS objectives is in the region of £3.1 million a year. Moreover, the NDPB research network provides a potentially useful vehicle for improving coherence, providing common approaches to research and monitoring/evaluation work, and providing "best practice" in research design and implementation.

³ DCMS's NDPBs including the National Museums and Galleries and the British Library undertake a great deal of specialist scientific and technical research (circa of £20 million per annum), but this work falls outside the scope of this strategy and is not included in Table 1.

Regional Cultural Consortia (RCCs) are also increasingly active in developing research in their areas. To date, DCMS has worked closely with RCCs in joint-funding the development of the Regional Cultural Data Framework. It is important that these links to regional research are built upon and that DCMS continues to work in partnership with regional bodies to ensure a harmonised approach to developing an evidence base of mutual value.

(iii) Other Government Departments and Devolved Administrations

The larger and longer established Whitehall Departments have research staff and budgets many times that available to DCMS itself or the wider DCMS *Family*. Cross-Departmental working is increasing and DCMS must ensure that opportunities for joint policy research are fully explored and exploited.

The Home Office Research, Development and Statistics Directorate's budget for 2001-02 was over £41 million, of which some £11 million was internal labour costs. Of the external research spending, 75% was ring fenced to support specific programme elements such as crime reduction. The DfES research budget totalled just over £9 million in 2002-03.

Joint working with researchers in OGDs and DAs already occurs on a regular if somewhat ad hoc basis. For example, the Office for National Statistics (ONS) is the main source of UK official statistics. DCMS statisticians work closely with ONS based professional colleagues and the Department contributes towards the cost of several relevant surveys, eg. the Time Use Survey published in April last year, and the General Household Survey, together with Arts Council England and Sport England.

DCMS already co-operates closely with DTI on several projects related to assessing the willingness to pay for media spectrum use and the costs and benefits of digital switch over. Overall, DCMS has committed less than 10% (under £100,000 over several financial years) with the majority of funding coming directly from DTI and the Radio Communications Agency (RCA).

DCMS economists have worked closely with professional colleagues in a variety of internal research and analytical papers. During 2001-02, these included the assessment of the economic impact of FMD produced in collaboration with DEFRA and Treasury.

(iv) Independent Research Institutes

Several major independent research bodies regularly fund policy-related research which is sometimes relevant to DCMS interests.

The most recent major example is the Sainsbury Monument Trust's funding of the PSI's cultural sector review (Selwood, 2001). However, academics regularly receive smaller scale research funding via the Leverhulme and Rowntree Trusts.

Small-scale projects are also often funded by university academic departments/faculties, etc. However, there are few central records of such research (and no complete ones) and it often only comes to public attention once conference presentation or publication takes place, when an obligatory thanks to the funding bodies is included in the preface.

Seven Steps Forward

Given DCMS's current research base and potential partners, the proposed strategy to 2005-06 develops seven distinct strands. These steps are set out below, beginning with those requiring external partnerships and development, and proceeding progressively to the more internally focussed approaches.

Step 1: Mobilising External Funding Sources

There are clearly opportunities for leveraging additional resources from a number of different sources into a programme of policy research relevant to DCMS's interests.

In terms of funding:

- develop closer links with ESRC, a key objective being to ensure that at least one new ESRC research programme relevant to the DCMS policy areas is launched by 2005-06;
- Contacts with AHRB should be fostered at both strategic and working levels - detailed plans must await the AHRB's reorganisation, planned change in status to a full Research Council, and clarification of the new body's attitude towards policy related research;
- DCMS Heads of Profession should intensify existing efforts to keep in touch with the research plans of OGDs/DAs, e.g. ONS, on standards, techniques and data. Where possible, joint funding of proposals should be further developed, eg. DCMS's minority funding of the third tranche EBP Research Fund project on outcomes of family policies on children, or seeking to engage interested organisations in the development of the Regional Cultural Data Framework.

Step 2: Accessing the Best Available External Research Results and Techniques

DCMS professional staff should redouble their efforts to network across the wider research community in order to access "free" research, data and techniques developed and funded elsewhere. This should include:

- active membership of professional/research bodies such as the: Royal Statistical Society, Campbell Collaboration on EBP, Association for Cultural Economics International, Sports Economics Association, UK Evaluation Society, and Society for the Study of Gambling;
- attending and presenting papers at strategic conferences to access unpublished policy relevant research material and work in progress, especially work done by overseas based specialists who are not readily accessible;
- a programme of systematic visits to the dozen or so major research departments and faculties undertaking policy research relevant to DCMS;

- publication of articles and professional papers in journals and conference proceedings, in order to illustrate DCMS's interests and policies and establish peer group credibility;
- and develop and promote harmonized concepts and definitions across our sectors, primarily through the Regional Cultural Data Framework.

This type of work builds on our current approach and costs can be mostly accommodated within existing budgets once the new Principal Research Officer is in post.

Step 3: Fully Mobilising and Integrating Research Across the DCMS Family

The progress made to date in establishing the NDPB research network needs to be consolidated and spread to the highest levels within the NDPBs by:

- developing an annual programme of three or four half-day working meetings, each focussed on a particular theme - either of a cross-cutting network technical nature (eg. survey design) or research topic (eg. DCMS sectors and health). Outside speakers should be invited as required and all NDPBs should have the right to propose topics for discussion. Each meeting should allow ample time for networking and informal communication;
- and starting in April 2003, an annual overnight seminar should be held year in order to discuss and co-ordinate research plans and budgets for the coming year (and beyond in the case of longer-term projects).

Moreover, from 2003-04:

- build on the partnership work with regional agencies and NDPBs around the development and promotion of the Regional Cultural Data Framework for DCMS sectors.
- the existing specialist Tourism Research Liaison Group's agenda and coverage should be expanded to cover non-statistical work;
- the development of intranet links for sharing research information across the DCMS *Family*; and
- use the Regional Cultural Data Framework as a key means of integrating analytical work across the DCMS family.

Around £10,000 per annum should be allocated from DCMS's annual budget to support these activities, eg commissioning seminar presentations, over each of the next 3 years.

Step 4: Improving DCMS's own Internal Research Capacity

There are two key strands of work in improving the Department's internal research capacity:

- i) To improve the range and quality of the data that the Department has access to, including work towards:
 - the establishment (jointly with NDPBs) of a survey exploring participation across all key DCMS sectors;
 - ensuring the World Travel and Tourism Council (WTTC) satellite account model is fully operational by 31 March 2003, with staff trained to operate it, and the model is properly maintained and updated with new data at least every 6 months;
 - moving on from the WTTC simulated data sources to the high quality of inputs required by international guidelines to bring an authoritative and definitive quantitative picture of tourism;
 - within the context of developing the Regional Cultural Data Framework, explore with ONS and other stakeholders the feasibility of developing a system of satellite accounts for other sponsored sectors, eg for the cultural sector as a whole and the Creative Industries, by March 2005; and
 - pending the development of such accounts, DCMS should also explore with established macro-economic forecasting Centres the feasibility and likely cost of commissioning customised annual projections for key DCMS sectors using existing data sets in collaboration with a multi-sectoral macro-economic model.
- ii) develop the analytical capacity within the Department to exploit more fully the information available from existing surveys and analyses eg the Time Use Survey, the Family Expenditure Survey and the General Household Survey.

Step 5: Improve DCMS's commissioning of research work.

As noted earlier, compared to OGDs, DCMS itself has a very modest research budget. Although many of our subject areas are of interest to the UK research community, DCMS should take a proactive role in broadening the range of research organisations engaging with our sectors.

This can be done through:

- broadening the pool of researchers to whom we tender research work and encourage those a greater range of organisations to engage with research and analysis work across our sectors;
- ensuring that good practice is followed in the commissioning and management of social research work within DCMS, e.g. promoting the principles contained in the Social Research Association's Good Practice Guide;

- ensure timely publication of DCMS commissioned external research work, available on the DCMS website;
- hosting at DCMS appropriate research groups/seminars, eg. the ESRC funded Sport, Art and Leisure network and the British Isles Group of the Association for Cultural Economics;
- participating in the annual "Whitehall Summer Placements" programme for senior academics from 2003. This involves providing a Whitehall base for a senior researcher for two to three months, to work on a project of mutual interest.

Step 6: Putting Research and Policy Together within DCMS

Steps one to six will enhance the research and knowledge base of DCMS and other measures already in hand (eg increased project-based working) will help bring ASD and Policy Division staff into closer and more regular contact and discussions.

However, it is important to remember that the EBP process cannot rely solely (or even mainly) on specialist analytical and research staff. Particularly in a small Department like DCMS, when professional analytical resources are very limited and policy areas very diverse, all staff need to fully embrace the EBP approach in their day-to-day policy work. In order to make policy staff more aware of the importance of research, specific research developments and the contribution research can make to their work, it is proposed that:

- a Minister be given specific responsibility for oversight of DCMS research;
- an annual report of research in the preceding financial year be produced each April, from 2004 onwards;
- from 2003-04 onwards, a research digest be developed and distributed, drawing together relevant research commissioned by DCMS and NDPBs, material published independently by outside researchers, and major proceedings of research conferences; and
- beginning in 2003, a series of regular "research meets policy" seminars should be held on key strategic priority issues, featuring invited speakers and attended by both ASD and Policy Division staff.

Step 7: Explore the feasibility of establishing a DCMS Research Centre

Several OGDs have decided to follow-up the Adding It Up report agenda (Cabinet Office, 2000) by setting aside part of their annual research budgets to fund dedicated Centres for policy research based at academic institutions with an established record in the relevant field.

Thus, DfES has allocated 30% of its annual budget to a series of strategic initiatives to boost "research infrastructure" including the creation of three Research Centres, eg. The Evidence for Policy and Practice Centre at the Institute of Education.

DCMS should explore the feasibility of establishing such a centre, its remit, and start-up and ongoing funding requirements.

Resource Implications

These steps are attainable once the new full-time specialist research post has been filled. This post will be directly involved in delivery of these initiatives or will free up the time of the other professional staff in order to undertake the necessary work. The proposals are in line with the approaches documented in the original Adding It Up proposals (Cabinet Office, 2000) and the draft Adding It Up implementation report (Treasury, AIU Secretariat, 2002).

When fully implemented, the costed elements of these proposals would require the pre-allocation of about £80,000 per annum for DCMS's own research budget is about one quarter of our total research budget (of around £400,000 in 2003-04)

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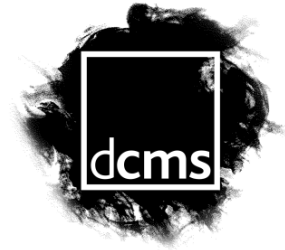
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Attachment A

Modernising Government



EVIDENCE BASED POLICY MAKING: IDENTIFYING "WHAT WORKS"

Economics Branch,
Analytical Services Division

August 2002
(final revised version January 2003)

Executive Summary

- Since 1999 various Cabinet Office initiatives have sought to promote evidence based policy as part of a continuous learning process.
- In fact both policy formation and evidence assembly are long and potentially fraught processes, and there is a fundamental problem in providing relevant evidence early in the policy making process. In any case in practice evaluation is often patchy and feedback weak and too late.
- Academic researchers in healthcare have sought to "short circuit" the conventional research feedback processes by using "systematic reviews"(SRs) of *existing* research evidence, especially from high quality "randomised controlled trails" (RCTs).
- The SR approach allows relevant research to be focussed on the policy problem at the crucial early policy design stage to show the policy makers "what works", or at least "what worked" in particular contexts in the past.
- While RCTs are relatively rare outside the medical sphere, the SR approach is now being applied in the social sciences through the Campbell Collaboration and more specialised networks including one on education policy and practice supported by DfES.
- Across various fields of applied research activity SRs do have considerable potential to aid policy design and development.
- The application of SR techniques in the cultural and creative area is not without serious challenges in terms of both the quantity and quality of available research studies. However, these problems are very common across the non-healthcare sectors.
- Recent DCMS research initiatives have shown that the basic SR method can be used to highlight significant policy related findings.
- Perhaps equally significant is the potential of the SR approach to identify specific gaps in our policy related knowledge upon which the scarce resources available for new original research can be focussed.

Introduction

The Modernising Government White paper (Cabinet Office, 1999) emphasized that Government should regard policy-making activity as a continuous, learning process, not as a series of one-off initiatives. This improved use of evidence and research should include:

- utilizing evidence to inform the development and reform of policies and services;
- research aimed at the understanding of broad policy contexts and complex policy areas;
- and the contribution of forecasting to policy implementation¹

This commitment was given more focus in the Performance and Innovation Unit's "Adding It Up" (AIU) report (COPIU, 2000) on improving analysis and modelling in Central Government. AIU particularly emphasised the need for improved micro-economic modelling as well as more and better data (among 41 wide-ranging conclusions)².

In the last two years, Evidence Based Policy (EBP) has been at the forefront of thinking. This paper provides an account of issues involved in EBP, discusses progress to date across a range of Departments, and attempts to assess how DCMS (and its sponsored bodies) compares with OGDs.

Evidence and the Policy Cycle

At the outset it is important to remember that evidence is itself the end result of a complex analytical process beginning with the collection of raw data (see **Table 1**). Moreover, the policy development and implementation process itself involves a series of stages and levels as well as the need to monitor progress, evaluate outcomes and feedback conclusions into future development (see **Table 2**).

Table 1. Getting to the Evidence

Raw Data	whether counted or measured once codified, checked and systematically set out/tabulated become
Information	which in turn when focussed on a particular set of hypotheses/policies yields
Analysis	which when weighed, reviewed, assessed and subject to professional judgement and scrutiny becomes
Evidence	on the impact of a particular hypothesis, policy/programme/or projects

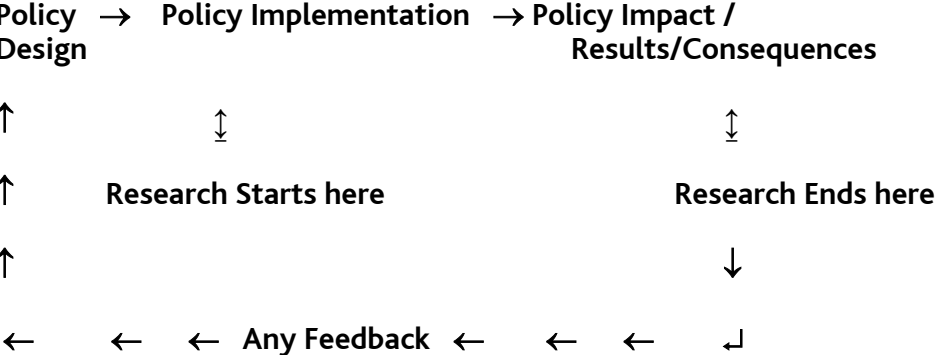
Table 2. The Policy Context

Policies	are the intervention equivalent of theories predicting behaviour implemented through more detailed
Programmes	of activities or particular one-off
Projects	Both programmes and projects need to be subjected to ex-ante expected cost/benefits analyses <u>before</u> implementation. Such appraisal needs to be followed up by
Monitoring	using mostly administrative data during the implementation stages and full scale
Evaluation	of ex-post impact, effectiveness and actual achieved cost/benefit assessment so as to provide lessons and allow

Feedback	into improved design of future policies/programmes and projects
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However, applied economists, econometricians and EBP practitioners from a wider range of disciplines are inevitably faced by serious time constraints, since the policy cycle revolves *more quickly* than the research cycle. "Real time" assessment and evaluation work can have little influence on policy formulation, especially as when the policy process starts, the line of action to be implemented may be undecided (see **Figure 1**, and Hanberger, 2001, for a more detailed discussion). The feedback loop is of course a core (if often in practice neglected) element in Treasury's standard approach on economic appraisal and evaluation for central Government, as developed in DCMS's own "White Book" guidance (Creigh-Tyte et al, 2000) and that of OGDs (eg DOH, 1995).

Figure 1: Typical Research Model



Source: Adapted from Pawson (2002) and Hanberger (2001)

Professor Cochrane's Remedy

Archibald Cochrane (1909 to 1988) was a distinguished epidemiologist who believed that scarce resources should be used to provide healthcare which had been shown to be effective in properly designed evaluations. In particular, he emphasised the importance of Randomised Controlled Trials (RCTs) in providing reliably evidence for medical policy decisions (see Cochrane, 1972).

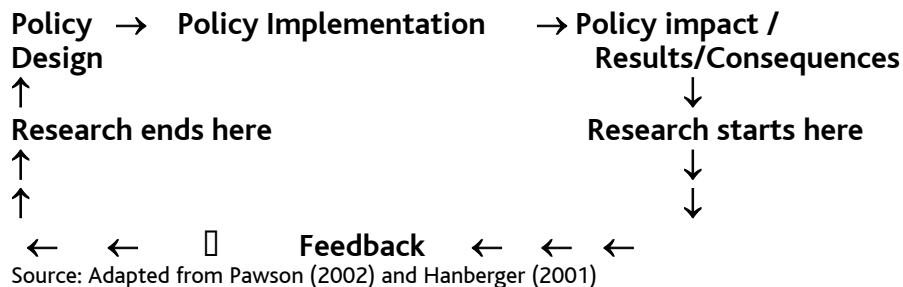
RCTs represent the "gold standard" of research method. Experiment recipients are allocated to receive "treatment" or to a (non-active) placebo control group *at random*. In this way, other factors are equal except for the causal "treatment", whose impact can then be monitored, evaluated and measured for average efficiency "size effects". In the most robust method, neither the experiment recipient nor the person giving the "treatment" (eg the prescribing physician) know whether an active experiment or a placebo is being used. This "double blind" approach prevents minor (or even sub-conscious) differences in behaviour by the person providing the treatment or placebo, which may, in turn, be perceived by the recipients and so affect their responses. Such RCTs often form the basis for the official licencing and approval of new drugs and treatments.

Cochrane believed that Systematic Reviews (SRs) of available RCT results could provide a relatively swift and reliable basis for medical decisions and policy making. SRs of previous results can thus be fed directly into policy decision making *at the initial design stage*. This "short cut" approach is illustrated in **Figure 2**.

Following the establishment of the first Cochrane Centre named in his honour at Oxford in 1992, the Cochrane Collaboration was set up in 1993. Its objectives are: "preparing, maintaining

and promoting the accessibility of systematic reviews of the effects of healthcare interventions" working on an international not-for-profit basis.

Figure 2: EBP Review Approach



This year has seen the tenth annual Cochrane Colloquium, and the Cochrane collaboration has amassed over 1,000 reviews across some 50 major fields which have become a trusted and authoritative source of information³.

and the Campbell "Soft Sciences" response.....

Traditionally social scientists (even economists!) have ranked lower in the scientific pecking order than natural ("hard") scientists who experiment in order to prove/disprove their theories. In spite of examples of randomised trials in social work dating from the 1930s and indeed one political science study from 1927, social scientists are often characterised as failing to subject their hypotheses to rigorous testing.

It is also important to remember that medical literature is less fragmented, more comprehensively covered by bibliographical data bases, is better indexed and subject to a far greater degree of "professional consensus" and "received wisdom" than the social sciences. Moreover, the social sciences encompass a wide range of professional literature including "grey literature" reports commissioned or produced by public, private and voluntary bodies. Agreed criteria for evaluating evidential quality remain elusive in the social sciences.

The Campbell Collaboration (C2) was inaugurated in 2000 and the Cochrane Collaboration generously transferred a registry of over 10,000 trials in education, social work/welfare and criminal justice to C2.

The (relatively) limited numbers of RCTs in the social sciences has not prevented the systematic review approach to EBP taking root as a way of assessing the available evidence, whether based on RCTs or not. Thus in 1999 the ESRC established a national co-ordinating centre and seven specialist network 'nodes' (eg. on economic evaluation) based within various UK universities, with overall funding at around £1 million per annum for 3 years⁴.

Many of the staff at the ESRC's national coordinating centre take a broad view of the EBP process - as illustrated in Table 3 - and indeed have expressed a preference for the "enlightenment model" approach which, in the extreme, appears to differ little from traditional academic curiosity based research activity. This approach is sometimes termed "evidence informed" rather than EBP by both advocates and critics. However, *government funded or inspired EBP work* in the social sciences seems much more likely to fall within models (ii) to (iv) in Table 3, hopefully mainly within the "problem solving" and "interactive" approaches (ie ii & iii)⁵.

At the sectoral level, DfES has commissioned the Evidence for Policy and Practice Information Co-ordinating Centre (EPPI) based at the Institute of Education, University of London to provide centralized support for researchers undertaking reviews of education policy and practice. The initial reviews have now been completed - see EPPI (2002).

Table 3. Models of EPB Process

Model	Applicability	Role of Researcher	
i.	Knowledge Driven	high technology projects	researcher "on top"
ii	Problem Solving	research is shaped by policy priorities	researcher "on tap"
iii	Interactive	mutually influential research and policy "communities"	some researchers influential eg. think tanks
iv	"Realist" political/tactical model	research commissioned and/or used to support policy position adopted	researcher establishes a point
v	Enlightenment model	serves policy agenda indirectly by illuminating the landscape for decision makers	researchers inspired by urge to understand/explain stands at a distance from immediate policy concerns - provide "evidence informed" basis for policy.

Source: Adapted from Young et al (2002)

What is so special about Systematic Reviews?

Almost every research study (and every PhD thesis) begins with a review of previous literature, designed at least in part to highlight the (hopefully original) contribution of the new research. However, the SR method as developed by the Cochrane Collaboration differs significantly from the traditional "literature review" - as shown in **Table 4**.

Table 4. Differences Between Systematic and Other Reviews

Systematic Reviews	Other Reviews
Pose a key question to be answered/hypothesis to be tested.	Constitute a trawl of uncharted waters.
Evidence assessed	Evidence described
Evidence evaluated	Evidence chronicled
Research methods used are assessed	No differentiation between sound and unsound method.
Transparent account for how studies identified and of gaps/potential biases	No biases discussed or allowed for
Quality of research systematically assess and conclusions based on studies using sound method	Absence of explicit quality assessment

Source: Adapted from Young et al (2002)

Two major SRs types may be distinguished: (numerical) meta-analyses which attempt to follow the Cochrane medical model in identifying and quantifying net effects (known as "size effects" in the prevailing jargon); and narrative reviews which attempt holistic comparisons detailing qualitative aspects of the policy context eg the characteristics of the subjects and their localities⁶.

Numerical meta-analyses which are focussed on a particular "family of programmes" targeted on a policy problem may allow the calculation of mean "size effects" for particular sub-programmes,

which can be used in cost benefit assessments and as a measure of programme "best buy". However, critics point out that such an approach may involve:

- melding of programme mechanisms in order to establish sets of programme sub-groups for comparison.
- over simplification of outcomes in order to compress results into a "mean of means" sometimes described as a "typical effect" for a comparative purpose;
- and concealment of the detailed contexts in which programmes operate in the interests of aggregation.

In contrast to the obvious outcomes focus of numerical studies, the narrative review strategy seeks to preserve the qualitative "ground level" view of what happened in each programme. This approach can potentially degenerate into little more than an extended annotated bibliography on the chosen policy area, but, despite the obvious problems in making valid comparisons, can also pick out "exemplar cases" and highlight ranges of good practice⁷.

Table 5 presents a series of examples of systematic reviews over various social science fields undertaken in recent years. The focus is on the questions posed, method used and conclusions reached by the authors concerned.

Progress so far and the potential for development

Table 6 provides a recently published summary of the status of EBP across 8 policy fields with an additional section on culture and creativity based on Economics Branch's experience to date.

It is clear that, compared to healthcare, evidence is seriously underdeveloped across *all* the other policy areas. It is not obvious at this stage that SR based EBP in the cultural and creativity areas faces unique barriers to further work and useful development. Thus there does appear to be potential for work on our sectors to "catch up" with that already done in several non-healthcare areas.

Two recent initiatives have shown what can be achieved. Earlier this year the Economics Branch commissioned a literature review on substitution between different forms of gambling expenditure in support of the DCMS's response to the Budd Review. This was followed by new original econometric analyses to help fill the gaps in knowledge highlighted by the literature review. (Paton et al 2002a and b).

In a wider context, the review of evidence on the wider social and economic impacts of DCMS sectors produced by Economics Branch for HM Treasury officials within the SR2002 process provides another example of an SR type approach. As in the gambling exercise, it was followed up by two short-term original research exercises designed to fill gaps identified in the review of existing knowledge (see DCMS Economics Branch, 2002).

Table 5. Examples of Systematic Reviews in the 'Real World'

Review Question	Methods	Authors' Conclusions
Does spending more money on schools improve educational outcomes?	Meta-analysis of effect sizes from 38 publications.	Systematic positive relation between resources and student outcomes.
Do women or men make better leaders?	Review of organisational and laboratory experimental studies of relative effectiveness of women and men in leadership and managerial roles.	Aggregated over organisational and laboratory experimental studies in sample, male and female leaders were equally effective.
Do women or men make better leaders?	Review of organisational and laboratory experimental studies of relative effectiveness of women and men in leadership and managerial roles.	Aggregated over organisational and laboratory experimental studies in sample, male and female leaders were equally effective.
Does sexual orientation of the parent matter?	Review investigating impact having homosexual as opposed to heterosexual parents has on emotional well-being and sexual orientation of child	Results show no differences between heterosexual and homosexual parents in terms of parenting styles, emotional adjustment and sexual orientation of child(ren).
Are fathers more likely than mothers to treat their sons and daughters differently?	Review of 39 published studies.	Fathers' treatment of boys and girls differed most in areas of discipline and physical involvement and least in affection or everyday speech. Few differences for mothers.
Is job absenteeism an indicator of job dissatisfaction	Review of 23 research studies	Yes; stronger association was observed between job satisfaction and frequency of absence than between satisfaction and duration of absence.
Are jurors influenced by defendants' race?	Meta-analytic review of experimental studies	Results are consistent in finding that race influences sentencing decisions.
Is there a relation between poverty, income inequality, and violence?	Review of 34 studies reporting on violent crime, poverty, and income inequality.	Results suggest that homicide and assault may be more closely associated with poverty or income inequality than rape or robbery.

Source: Petticrew (2001)

Table 6. Evidence in different policy areas

Policy areas	Method and debates	Nature of the evidence base
Healthcare (especially NHS clinical services)	Gold standard of RCT with additional methodological safeguards. Growing interest in qualitative methods to give complementary view.	Expensive and accessible via national initiative such as the Cochrane Collaboration and local clinical effectiveness strategies.
School education	Much research is considered less than robust. Paradigm wars. Eclectic methods competing rather than complementing. Large data sets are analysed but there is relatively little true experimentation.	Fragmented research community. No accessible database of research evidence (but fresh initiatives like EPPI underway). Few systematic reviews.
Criminal Justice	General acceptance of experimental methods in determining what works. Preference for theory driven rather than method driven approach to evaluation.	Large, but still limited research base. No on-line, up-to-date database of research in the UK, but Home Office research reports are available online.
Social care	Preference for qualitative methodologies. Quantification and experimentation often viewed with suspicion and even hostility	The Care data database of research findings is available via the Social Care Institute for Excellence website. Concept of evidence is still hotly contested.
Welfare policy (focus on social security benefits)	Eclectic use of methods to provide complementary insights. Some longitudinal study but almost no experimentation (because of legal impediments due to the statutory duty to provide equitable benefits).	Evidence created in response to a perceived policy problem. Little apparent collation into a stable evidence resource.
Housing	Predominant use of qualitative and quantitative survey methods. Use of econometrics for forecasting housing needs. The emergence of more multi-method and multi-disciplinary approaches.	Extensive databases on the state of housing stock used for monitoring purposes. Weaker evidence base in other areas of housing policy. Housing research increasingly related to wider policy considerations (such as social exclusion).
Transport (focus on roads policy)	Multi-disciplinary area. Policy-related research is often rooted in economic modelling and statistical forecasting methods.	Tends to focus on technical and operational issues relating to the design of the transport infrastructure. Up until the late 1990s largely reliant on government sources only, chiefly the Transport Research Laboratory.
Urban Policy	Major problems of attribution of effect to interventions and identifying externalities. Diverse methods employed mostly pluralistic case studies. Little or no true experimentation.	Strong emphasis on evidence collected in appraisal and evaluation of government funded schemes.
Culture and Creativity	Multi disciplinary area spanning impacts of creativity on non-cultural policy areas covering research using a range of methods. Few experimentation exercises including control groups.	Strong project appraisal elements but relatively under-developed evaluation work. Numerous superficially relevant studies but few with robust and transparent method. Heavy reliance on case studies but even these are often poorly documented.

Source: Boaz et al (2002) with Culture and Creativity section added

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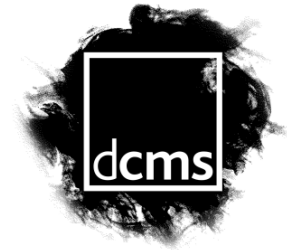
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Endnotes to Attachment A

1. EBP was further discussed in Cabinet Office Strategic Policy Making Team (1999), while Cabinet Office/CMPS (2001) provides a range of examples of subsequent developments in applied analysis across various Government Departments.
2. While welcome this approach is hardly new. The need to measure and quantify the predications of economic theories in both the micro-economic and macro-economic fields has been recognised since at least the 1930's. Moreover, improved economic data and low cost computing power have revolutionised the volume and quality of econometric analyses (especially in the micro-economic field) since the 1970's. The Royal Economic Society was founded in 1890 and *Econometrica*, the leading international journal "for the advancement of economic theory in its relation to statistics and mathematics" was first published in 1933.
3. For example, the HIV/AIDS group Cochrane Review and the Aerobic intervention for adults living with HIV/AIDS Cochrane Protocol. In all there are perhaps 250,000 experimental studies in the medical literature.
4. In all, around 11, 000 intervention trials in the social sciences are believed to exist. Such studies clearly have the potential for "resolution of knowledge disputes" (Campbell, 1974). The first major C2 Systematic review on US "scared straight" programmes for delinquent teenagers is now complete.
5. This is not to suggest that an improved basic knowledge base, on say particular sectors of the economy, may not be extremely valuable in policy terms, especially in the face of sudden crises and external shocks. The BSE and FMD outbreaks and their impact upon the wider health and rural affairs agendas have led successive enquiries to point to the need for an improved research knowledge base *even within the relatively highly regulated, controlled and subsidised livestock and food sector*. Thus, absence of basic knowledge about slaughterhouse practice in the case of BSE (see Lord Phillips, 2000) and unofficial "grey" market livestock movements (see Anderson (2002), Curry David (2002), Curry Don (2002), and Follet (2002)), prevented immediate effective policy responses and exacerbated the human and economic costs incurred.
6. Pawson and Tilley (1997) and Pawson (2001, 2002a and b) propose a further "realist synthesis" approach while they claim spams both SR strategies aimed at identifying "what works for whom in what circumstances" by focussing on the underlying *mechanism* of an initiative, recognising that whether the mechanism is triggered depends on the *context* factors and will in turn have a diverse range of effects known as an "outcome pattern".
7. The two major SR strategies reflect the debate between the "positivist" approach to social science research and its critics. Popper (1992) developed the theory of "falsification" and emphasised that it is impossible to verify empirically the theory that "A is always followed by B" since there may be an undiscovered case around the corner. Thus one cannot prove that "all swans are white" by observing numerous white swans, but one can disprove the hypothesis by observing a single black swan. This has led some critics (usually those lacking numerical skills) to conclude that "counting white swans" is essentially pointless, especially in very complex social interventions - sometimes characterised on the "know nothing view" of post-modern sociology! While narrative review is clearly far from this approach, its emphasis on detailed conceptualisation certainly represents a distinct divergence from the more quantitative medical based meta-analytical approach.



EVIDENCE ON CULTURAL / CREATIVE / SPORTING EFFECTS

Economics Branch

Analytical Services Division, DCMS

May 2002

(final revised version January 2003)

Executive Summary (Attachment B)

- Some 70 apparently relevant published studies (including several meta-analyses eg., Harland et al (2000), covering a range of other works numbering around 250 in total) were reviewed in search of robust evidence of the impact of cultural / creative / sporting activities on wider social and economic policy issues such as education, employment and health.
- Standard research guidelines on the robustness of the research evidence reviewed are summarised in **Annexe 1** to this paper. When these principles were applied to the studies reviewed very few could be considered as providing robust evidence. However, evidence of impacts on education attainment is relatively clear - although not necessarily in formal school contexts - and some of the better quality studies were focussed on elite sport attainment and general sports participation.
- The OECD's PISA Study (2001) showed that participation in cultural activities explained 5.7% of the variation in reading performance across the OECD, with a rise of 18 literacy points for each unit increase in the participation index. For the UK there was a 70 point difference between average literacy performance of students in the bottom national quarter of cultural participation and those in the top quarter. Significant positive effects were also identified from cultural possessions and more frequent cultural communication.
- In line with earlier findings (OFSTED, 2001), both Arts and Sports Colleges achieved a sharper improvement in examination results between 2000 and 2001 (rises of 1.7 and 1.8 percentage points respectively) than all other maintained schools (where there was a 1 percentage point rise in the proportion of pupils attaining five GCSE/GNVQs). Jesson and Taylor (2001 and 2002) found that specialist schools perform relatively well, with both sports and arts colleges recording increases in education "value added" between KS2 and GCSE. The CEMO study (2002, see **Annexe 2**) showed that, while both Artsmark and Sportsmark schools in the extended Yellis dataset tended to be large schools working under stress, these schools were working effectively on curriculum teaching so that their sophisticated "value added" indicators were in line with other schools.
- At the primary level, Merrell and Tymms (2002) show that pupils in the "Transformation" schools had significantly higher mathematics, reading and creative writing scores than pupils in the control group schools.
- An evaluation of the study support programme of out-of-school activities by MacBeth et al (2001) showed that while subject-focussed activities had the biggest impact on attainment, non-examined leisure activities including sport, music and drama were found to have some additional effect on academic attainment. Moreover, there were effects influencing attitudes, motivation and attendance. For students with low baseline self-esteem, sport appeared to have a unique positive effect.
- Several credible analyses emphasise the effects of education attainment on both employment and health outcomes.
- The Farrell and Shields (2002a) analysis of sport participation in England is consistent with the "contagion" model of adult participation within households, and the presence of dependent children also raises adult sports participation. Thus DCMS policies aimed at improved school and more general sports participation may

have important “knock-on” effects, for raising involvement generally and hence for health improvements.

- Important new work by Farrell and Shields (2002b, see **Annexe 3**) on adults in England shows that participation in sporting activities is positively related to reported health status. A person participating in 15 minutes of sport per day has a 6% higher probability of reporting “very good” health compared to a non-participant with the same characteristics.
- The small but careful evaluation by Nichols and Taylor (1996) of a West Yorkshire Sports Counselling programme found reductions in re-offending by young people who completed 8 weeks of the programme (over the subsequent two years).
- Youth Justice Board (2001) monitoring the Summer Splash 2000 programme record greater reductions in burglary and “Youth Crime” in the areas concerned, than in other high crime areas.

Introduction

This paper reviews the available published evidence on the impact of cultural/creative/sporting activities (broadly defined) on wider social and economic issues such as education, employment, crime and health - some 70 studies were considered directly.

Annexe 1 provides a guide to assessing the robustness of published research evidence and points out the difficulties involved in proving causation and the potential for drawing erroneous conclusions from flawed research.

The evidence collected from literature reviews, surveys, and quantitative studies very seldom indicates clear causal relationships between arts and/or sports participation on the one hand, and either academic attainment, employability, learning skills, personal and social skills, or inspirational/spiritual realization, on the other. However, proving causality is difficult and is rarely achieved in the social sciences.

In studies on the impact of sports, Coalter (2001), argues that systematic monitoring and evaluation of the presumed outcomes of sport (which are strongly supported theoretically) is lacking, and that longer term planning and investment are needed for such studies. Moreover, Lindner (1999), observes that "interpretation problems plague studies". Similarly, Winner and Cooper (2000), point out that it is unclear from which direction the relationships found arise: eg., is greater arts participation leading to higher academic achievement, or are higher achievers more interested in art activities?

The lack of reliable research available within the UK is a major problem, since overseas studies cover different interests and cultural contexts from our own. Furthermore, the few relatively reliable studies which do exist are often highly variable in both design and assessment. So, the evidence they provide is often inconsistent and even contradictory.

The main findings of the major relevant recent studies are set out below. Evidence of impact on education achievement is relatively clear, although the cultural/creative/sporting activities involved are not necessarily in formal school/education contexts. Direct evidence on employment effects is very thin, but educational achievement and employment outcomes are of course closely related. Moreover, as Benzavel et al (2000) point out, health outcomes are also closely associated with educational attainment. On other issues, there are few (if any) reliable and robust research studies, with the better analytical work being focussed on elite sport achievement and participation in sport.

Education

(i) The PISA/OECD Assessment

The (OECD, 2001) Programme for International Student Assessment (PISA) project focussed on 15 year olds in education in the leading industrialised countries ie. towards the end of compulsory schooling¹. Family/home background (notably wealth) factors are associated with student performance levels. However, the PISA analyses distinguish 3 "cultural" factors based on student self-response, and although intertwined with family income, wealth and other background factors, such cultural possessions etc.... are (in principle at least) readily available.

Classical cultural possessions² in the family home are closely related to literacy. Thus on average across OECD countries, the possession index explains 8.2% of the variation in combined reading literacy (family wealth explains only 2.6% of the variation). Across the OECD, reading performance increases by 27 points for each one unit increase in the cultural possession index - *for the UK alone* the increase is 29 points.

Participation in cultural activities³ explained 5.7% of the variation in reading performance across the OECD, with a rise of 18 literacy points for each unit increase in the participation index. For the UK there was a 70 point difference between average literacy performance of students in the bottom national quarter of cultural participation and those in the top quarter. A one unit rise in the cultural participation index is associated with an increased the literacy score of over 29 points.

The more frequently cultural communication⁴ is reported, the higher are cultural literacy scores. Across the OECD, literacy scores rise from 471 points for the bottom quarter on the communications index to 530 in the top quarter. Differences in cultural communication explain statistically 5.8% of variation in student literacy performance on average across the OECD, with a unit increase in the cultural communication index associated with 21 more points on the reading score. For the UK alone, a unit increase in the communication index has a more marked association - of 28 additional literacy points.

(ii) Secondary Education

The OFSTED (2001) report on the performance of all specialist schools (since 1995), showed that the linear trend increase in GCSE/GNVQ points scores was fastest in Arts schools (average points score rose from 37.4 in 1998 to 40.2 in 2000) and Sports schools (34.8 and 36.9 respectively). Results for 2001 show pupils at the 91 Arts Colleges had very similar average attainment to those of all maintained schools at 16, while pupils at the 101 Sports Colleges had slightly lower attainment. However, *both* Arts and Sports Colleges achieved a sharper improvement in results between 2000 and 2001 (rises of 1.7 and 1.8 percentage points respectively) than all other maintained schools (where there was a 1 percentage point rise in the proportion of pupils attain five GSC/GNVQ).

Jesson and Taylor (2001 and 2002), found that UK's specialist schools (ie. arts, sports, language and technology) perform relatively better than non-specialist schools, both over time and at a given point in time. For example, in 2001 the 510 specialist schools achieved an average 54% 5+ A*-C GCSE grades, compared with 45% for non-specialist schools. Also, comparing average KS2 points achieved in 1996 with GCSE results obtained in 2001, specialist schools achieved a net value added of 5 (percentage) points, compared with their non-specialist counterparts. All four types of specialist schools perform well. Arts colleges achieved 49% 5+ A*-C grades in 2001 and sports colleges 46%. On a value added basis from KS2 to GCSE, sports colleges add 2 points and arts colleges one point.

A new exploratory analysis of Artsmark and Sportsmark schools undertaken by the Curriculum, Evaluation and Management Centre (CEMO) has analysed the information held on CEMO's extended years 11 information system (see Annexe 2 for a summary).

Both the Artsmark and Sportsmark schools were large schools working under considerable stress. Their students were drawn from lower socio-economic status homes and reported more stressful events and relationships. Nevertheless, in spite of this unpromising background, and despite weaker numerical skills among the intake of Artsmark schools, these schools were working effectively on curriculum teaching. Their sophisticated "value added" indicators (measuring the progress students made in each separate subject) were on average in line with those for pupils in other schools. Moreover, students in Artsmark and Sportsmark schools were significantly more likely to say they would recommend their school to others than were other students. Artsmark schools were also making stronger efforts in providing careers information and their students were more likely to have a career action plan.

(iii) The Transformation Project in Primary Schools

The "Transformation" project involved staff from the National Theatre working with pupils in a small number of primary schools in Tower Hamlets. Building on the review of how theatre companies worked in partnership with schools by Downing, Ashton and Stott (2002), Merrell and Tymms (2001 and 2002) report a high quality small scale in-depth evaluation exercise which matched three of the schools taking part with three control schools and assessed progress between the start of year 3 (Sept 1999) and the end of year 5 (June 2002). Around 100 pupils were covered in total. While such small scale exercises must be treated with caution, the method used was very robust.

The final evaluation over the full 3 year period reported significantly higher scores in mathematics, reading and creative writing in the "Transformation" schools compared to the control group. Attitudes and self-concept were not significantly different between the groups, but were generally positive in both cases.

(iv) Other Education Studies

Winner & Hetland (2000), in a meta-analysis of studies carried out between 1950 and 1999, found evidence for 3 statistically viable *causal* relationships (mainly emphasising the role of music): listening to music and spatial-temporal reasoning (as displayed through tasks involving mental rotation in the absence of a physical model); learning to play music and spatial reasoning; and classroom drama and verbal skills⁵.

MacBeth et al (2001) report longitudinal evaluation results on the impact of the Study Support programme of out-of-school learning for secondary school students, which has been operating since 1998. Overall this programme proved to be very powerful in educational terms - an added value of an average one A-C grade pass at GCSE. While subject-focussed activities had the biggest impact on attainment, non-examined leisure activities including sport, music and drama were found to have an effect on academic attainment as well as on attitudes and attendance. Moreover, over and above the direct effects, all types of Study Support had indirect effects influencing motivation and self-esteem. Participation in sport is the second highest of any activity for boys in year 11 (55% participating on average), and for students with low baseline self-esteem sport appeared to have a uniquely positive effect.

Employment

The International Adult Literacy Survey (OECD 2000) showed that reading literacy is an important influence on the likelihood of being employed and enjoying higher salary levels. Most importantly, reading literacy levels can help predict how well people do in the labour market over and above what can be predicted from their education qualifications alone. Thus, for example, according to OECD and Statistics Canada, for people aged between 26-35 years working in the business sector, the probability of having a white-collar high-skilled job for someone with only medium qualifications rose from two-in-five with a reading literacy score of 200 (at the low end of the scale) to four-in-five with a (high) score of 400.

In a small but well specified study, Harland et al (2000) interviewed 20 employers and their employees, and teachers and pupils. Most employers and employees confirmed the views of both teachers and pupils, that the arts develop skills in pupils which are transferable to future employment. However, whereas pupils projected the transfer of specific arts skills to employment, teachers, employers and employees focussed more on the work-related transfer of other skills, such as self-confidence, teamwork skills, commitment and the benefits associated with a balanced and rounded personality.

Health and Sports Participation

Numerous studies have argued that a positive relationship between sports participation and health exists (Coalter, 2001). While the path of causality is not always clear, the consensus is that sports participation is more strongly associated with improved health (rather than the other way around).

This path of causality is important because the health benefits attributable to increased sports participation are both private and public. In other words, they accrue to both the individuals concerned, and also the wider public - for example, healthier individuals are likely to impose a lower burden on the NHS. This provides a rationale for government intervention, because the market (if left to itself) will tend to under-invest in facilities and/or programmes that encourage sports participation.

Swales (2001) found a strong relationship between physical inactivity and death in Northern Ireland in 1998⁶. The study concludes that if the sedentary proportion of the population could be reduced from 20% to 15%, then it could save the Northern Irish health service around £0.62 million annually, and result in a net economic benefit of around £131 million.

Farrell and Shields (2002a) using the large Health Survey of England 1997 database of adults aged 16 years or over, found family influences to be a major factor determining participation in sport, eg having dependent children in the household raises the probability of an adult participating in swimming or cycling by 4%, other things being equal. When someone in a given household participates in a sport, the respondent is 37% more likely to also participate - in other words, a given individual is more likely to participate in sporting activity if there are others within the same household who also participate - consistent with a "contagion" model of (adult) sports participation.

An important and credible new study by Farrell and Shields (2002b) summarized at **Annexe 3**, concludes that individuals who participate in sporting activities report significantly higher levels of health than non-participants, other things being equal. While the largest effect comes from participation (which increases the probability of feeling healthier by about 4%) increased intensity of sporting participation is also significant. Reassuringly the models also confirm the expected impacts of variables such as income, smoking, drinking, work and family problems on reported health status.

While results differ depend on the modelling technique used, a person participating in 15 minutes of sport per day has a 6% higher probability of reporting "very good" health than a non-sporting participant with the same characteristics. For a person participating for 60 minutes there is an increase of almost 11% in the probability of reporting "very good" health (see figure 1, **Annexe 3**). However, for individuals who took up sporting participation only in 1997 (having been a non-participant at the time of the 1996 survey) it is participation which is positively related to reported health. No relationship emerged between changes in intensity of participation between 1996 and 1997 and reported health state.

Crime

Nichols and Taylor (1996) provide a rigorous and detailed small scale evaluation of a West Yorkshire Sports Counselling programme mounted in the early 1990s. The key conclusion reached was that participation reduced the likelihood that participants would take part in crime over the subsequent two years. Furthermore, the evaluators found a duration of treatment effect, so that young people on the programme for 8 weeks or more were less likely to be reconvicted. The programme improved participants' self esteem, sense of purpose and direction. The single most important influence on participants was found to be the positive role model provided by the sports leader. The Youth Justice Board (2001) monitoring of the 102 Summer Splash Schemes providing sports and arts activities for 20,000 13 to 17 year olds during the summer of 2000, reported a 36% reduction in domestic burglary and an 18% reduction in "youth crime" in the areas concerned, compared to reductions of 6% and 8% respectively in similar high crime areas.

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Annexe1 (to Attachment B) : Evaluating the Evaluators - Assessing the robustness of research evidence

Background

Today even relatively brief scrutiny of almost any area of social or economic inquiry will produce numbers of published analyses/research reports/evaluations. However, these studies typically vary enormously in their independence, objectivity, transparency and method.

Meta-analyses attempt to pull together existing studies in a certain field, typically as a basis for assessing the overall "state of play" and developing further work targeted on gaps in existing knowledge. However, simply counting studies is clearly inadequate - one could hardly argue that ten studies show policy x has had its desired impact, but twelve say it has not. Inevitably, meta-analyses seek to assess the reliability of particular studies and hence which studies are the most likely to provide valid policy conclusions.

Policy analysts often adopt the language of medical researchers in which policy recipients - "the subjects" - receive a policy intervention - "the treatment" - and subsequently exhibit (or fail to exhibit) "treatment effects".

Assessing Evidence

Good quality, reliable policy evidence needs to:

- cover large representative samples without inherent biases, so that the research results can be generalised to the whole population;
- randomly assign participants to receive the "treatment" or not (ideally in a "double blind" situation - where neither the investigator/assigner nor the subjects know whether the treatment or even a non-active placebo is actually going to be delivered);
- control fully for all influences other than the "treatment", so that the treatment effects can be isolated (ie. other things are held constant);
- and allow adequate time within the study for the treatment to be fully administered and for any post-treatment impacts to fully develop and be measured.

Moreover, for obvious reasons, studies focussed on the UK are more likely to provide robust policy conclusions than those undertaken in a very different institutional, economic and social environment, say the USA.

In sum, robust conclusions need large, representative and unbiased samples (of the relevant populations), well matched (if not randomly allocated) control and treatment groups, and adequate time spans for both the treatment and its monitoring/evaluation.

On this basis, case studies (which can provide valuable illustrations and insights, but cannot be generalised from), small sample studies (ditto), and studies without any or an inadequate control group (where not everything else is held constant) *cannot* be regarded as providing reliable evidence of policy impact.

Association and Causality

When two variables move together to a degree not likely to be due to pure chance (typically, where the probability of such movement being due to chance is less than 19 in 20), they can be

said to be *associated* (to a statistically significant degree). Such association does not prove causation, since both variables may simply be responding to a third (perhaps unknown) causative influence or variable.

For example, strong statistical association is observed between parental incomes and child outcomes of various sorts. There are various explanations - poor parents could be poor at parenting as well as having low income, poor parents could live in neighbourhoods with lower quality schools etc.

One way of identifying the effects of parental income alone would be to drop money on doorsteps of randomly selected parents and see how child outcomes compare to those in identical households which did not receive the extra money. More practical approaches rely on "natural experiments" (such as policy changes that have actually occurred), or multi-variate analyses which "control" statistically for a range of other variables which may affect child outcomes.

Thus proving causation is complex and seldom definitively achieved in the social sciences. Establishing causal relationships and measuring their size typically requires some or all of the following:

- a plausible theory giving reasons for the direction of causation;
- a time dimension, since an event can cause subsequent effects, but not vice versa;
- random assignment of the subjects (eg. individuals, schools, pupils) between the groups to receive the policy treatment and those which do not - "the control group".

Moreover, even where policies do seem to have their desired impact, studies should aim to quantify the exact magnitude of the "treatment" effect in order to help with cost/benefit assessment of the project/policy/programme. Unfortunately, even when we know "what works", we seldom know "how well it works".

The Potential for Error

Given the cost involved and specialist skills required to undertake high quality research and evaluation (the US Bureau of Labour Statistics has a guideline figure that one percent of programme budget should be spent on evaluation, but this target is seldom met in the UK) many of the available studies on any given topic must be treated with great caution.

In applied research, as in many other spheres of life⁷, the "80:20 rule" applies - 80% of the useful information is provided by 20% of the studies. Unfortunately, the compilers of meta analyses need to winnow through all the studies to locate the (key) 20%.

Studies using weak and/or flawed methods may detect a policy impact where there is none in reality (a type I error - especially common if the study is being paid for or undertaken by the body sponsoring the policy in which case an understandable "optimism bias" is likely). Conversely an intervention may be assessed as ineffective when, in reality, it did deliver a policy outcome which the flawed evaluation study failed to identify (a type II error). As Davies, Nutley and Smith (2000) point out in the policy context this means wrongly implementing what does not work (Type I) or failing to implement what would work (Type II error).

Annexe 2 (to Attachment B): New Research by the Curriculum, Evaluation and Management Centre, University of Durham on Artsmark and Sportsmark Schools, May 2002.

The Curriculum Evaluation and Management Centre (CEMO) has developed a range of databases (to which one in three secondary schools/colleges subscribe) in order to measure educational "value added" and a range of other factors.

CEMO's Yellis (year 11 information system) includes baseline test and GCSE results for about 180,000 students in over 1,200 schools, and in the extended Yellis programme includes extensive additional questionnaires given in the last year before GCSE to some 46,000 students in nearly 300 schools. The extended Yellis database include over 300 variables. These data are of high quality since their collection is standardized and student responses are confidential. Information is included on:

- Student characteristics
- Cognitive indicators (eg., GCSE and a baseline test)
- Attitude indicators (eg., towards lessons, teachers, careers)
- Behaviours (eg., extra-mural activities, alienation, racism)
- Institutional characteristics

Analysis can determine whether statistically significant differences exist between pupils in particular school types after controlling for appropriate factors like home background etc... Given the large sample sizes provided by extended Yellis, *many* factors may be statistically significant (ie unlikely to be due merely to chance). Thus it is important to calculate impact size effects to assess the magnitude of any statistically significant observed differences.

Some 9% of the extended Yellis Schools had Artsmark status and 27% Sportsmark (with some overlap between the categories). Across the extended Yellis database, the new CEMO research compares Artsmark with all other schools and then Sportmark with all other schools.

Both Arts (especially) and Sportsmark School trended to be rather larger in year 11 student enrolments than other schools, and to have fewer ethnic minority students. In general the Arts and Sportsmark students were from lower socio-economic status homes and reported more stressful events. Students in Artsmark School pupils reported significantly lower (mainly home based) cultural capital compared to other schools. The general picture which emerges is of larger schools working under considerable stress.

Nevertheless, on an individual subject basis, students attending Artsmark schools achieved better academic progress in the following (compared with non-Artsmark schools): chemistry, physics, single science, home economics and drama. They performed relatively poorly in: double science, English, French, maths and sport. These results must be treated with caution however, because some of the sample sizes are small and therefore the results could be unduly influenced by the relative ability of individual teachers.

Similarly, the Sportsmark schools performed relatively well in chemistry, classical civilisation and statistics, and relatively poorly in maths, media studies and sociology.

Annexe 3 (to Attachment B): New Research on Sporting Participation and Health by L Farrell and M. Shields, May 2002.

This study uses data from the Health Education Monitoring Survey (HEMS) undertaken by ONS. Data cover adults aged 16-74 living in England. The 1996 and 1997 sweeps covered the same 2,318 respondents in both years allowing changes in health status, behaviour and other factors to be tracked over time (for 4,636 pooled observations).

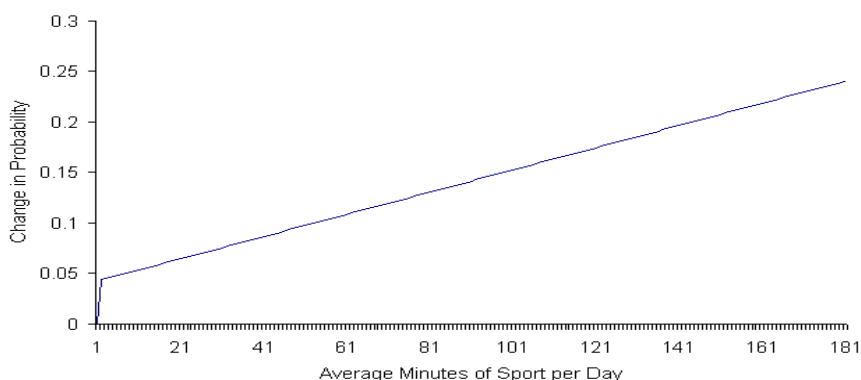
Respondents were asked "how is your general health?" Across both years combined: 37% self reported very good; 44% good health; 15% fair; 3% bad and under 1% very bad health.

HEMS asked about sporting participation in the four weeks prior to the survey. Pooled results show almost 66% of respondents participate in at least one sport, and respondents could indicate participation one or more of 15 sporting categories (including a catch all "any other" group). Swimming was the most popular sport followed by aerobics/keepfit/gym. For each sport respondents were also asked the usual length of time spent per activity episode, so that sporting intensity as well as participation can be measured. For respondents who participated in at least one type of sport the average duration per day was almost 28 minutes.

Simple comparison of sport participation and self-reported health show that a significantly greater number of sporting participants report "very good" health (42%) than non-participants (29%). Interestingly, not all sporting participants report good health levels (13% report only fair health).

The rich HEMS data set allows the effects of a wide range of economic and social factors to be allowed for, and also for the effects of changes in behaviour and life events between 1996 and 1997 to be assessed using a series of econometric models. The estimated impact of sporting participation and intensity is summarised in **Figure 1** below. The HEMS general results confirm the conclusions of previous studies. Thus, for example, in terms of individual characteristics reported health levels are lower among males and England's Asian community. While children aged over 2 years have a positive effect on (adult) health, no such relationship is found for infants. Reported health rises with the education of the individual and working individuals report better health than the unemployed and those not working. Income is strongly and providing related to health status, and a variety of life style factors have clear impacts. Thus current smokers and those drinking more than the government's recommended safe limits report lower health levels, other things being equal.

Figure 1: The Effect of Sporting Participation and Intensity on the Probability of Reporting Very Good Health



Endnotes to Attachment B

1. The PISA 2000 initial results concentrated on reading literacy broadly defined to include some 140 items and a 7 hour test assessment. In all PISA covered 250,000 students in 32 countries (28 in the OECD).
2. Availability of classical literature, books of poetry and works of art in their home.
3. How often a museum or art gallery was visited, an opera ballet or classical symphony concert attended or live theatre watched in the preceding year.
4. Reflecting parental interest and the frequency with which parents engaged in discussing political or social issues, discussing books, films or television programmes, and listening to classical music music.
5. Furthermore, the following positive correlations were identified:
 - learning to play music and reading;
 - visual arts and reading;
 - dance and reading; and
 - dance and non-verbal reasoning

Sylva, et al (1999), in an ongoing longitudinal study, identified higher cognitive attainment of children aged between 3 and 7 years to be positively associated with the following frequencies:

- parents reading to their child;
 - parents taking their child to the library;
 - children playing with letters or numbers;
 - parents teaching their child the alphabet;
 - parents teaching their child songs/nursery rhymes; and
 - a child's attendance at a pre-school centre.
6. Swales (2001) estimated the following numbers of deaths per annum were attributable to inactivity:
 - 1,271 coronary heart disease deaths (29.3% of the total such deaths);
 - 709 stroke deaths (44% of total such deaths); and
 - 82 colon cancer deaths (25% of such deaths).
 7. e.g. 80% of the world's population have never made a telephone call.