

Research and Innovation Strategy, 2002-2007/8: Critical Review of Research: 1996-2002

Preamble: In 1999 the Institute produced a Strategic Plan to guide our work over the period 1999-2005. The Plan included our Mission, Vision, Strategic Goals, Values and Learning Principles.

Several supporting strategies were included to indicate in broad terms how we intended to achieve our strategic goals. Each year we have reviewed two of the supporting strategies to strengthen focus and the detailed implementation plan.

In this academic year (2001/02) we intend to review the Marketing and New Knowledge & Research Plans.

This paper presents a critical review of research performance since RAE 1996. Important background papers are:

1. Non-Formula Funding (CoR) :Research Collaboration and Development, April 1997
2. Research Policy, Strategy and Implementation 1998-2003
3. Bolton Institute Strategic Plan, 1999-2005 (and Supporting Strategy for New Knowledge and Research)
4. The Future of Research at Bolton Institute: *The next five years after RAE 2001*, Executive Team Discussion Paper, *June/July 2001*

The outcomes of this review will inform the character and direction of the Research and Innovation Strategy for the next 6 years, 2002-2008.

Planning and Research Focus since RAE 1996

Since incorporation in 1989 and during the integration of the HE sector in 1992, the Institute has had in place a robust Research Strategy and Plan which has been reviewed throughout the intervening period to take account of and anticipate changes in the overall HE landscape.

Table 1: Units of Assessment (UoA) Entered and Ratings for RAE 1992, 1996 and 2001

UoA	Discipline	Ratings		
		1992	1996	2001
13	Psychology	1	2	3b
26	General Engineering	-	-	3b
29	Civil Engineering	1	1	-
30	Electrical Engineering	1	2	-
31	Mechanical Engineering	2	2	-
32	Metallurgy and Materials	3	3a	4
40	Social Policy etc.	-	-	2
43	Business and Management	1	2	1
50	English Literature	1	2	3a
59	History	1	2	3b
62	Philosophy	1	2	3a
64	Art and Design	-	1	2

Research Degree Performance and Research Student Populations

Since the award of Research Degree awarding powers in 1995, the number of MPhil and PhD completions has totalled 19 and 65 respectively while the number of degree awards has remained almost constant at about 14 awards per annum with some degree of fluctuation. These totals, together with the 23 MPhil and 32 PhD awards made before and up to 1995, **bring the grand total of research degrees awarded to 42 MPhils and 97 PhDs**. Research student enrolments and the overall research student population has also stabilized about the 100 mark although there is evidence of a fall in full-time registrations, accompanied by an increase in part-time enrolments. These trends are shown in Figure 1.

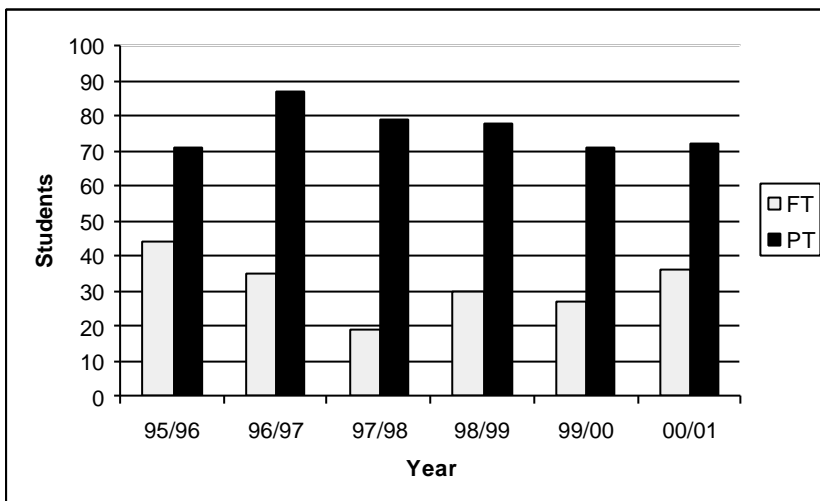


Figure 1: Full-time and part-time research student population trends.

One measure of efficiency is the ratio of completions to enrolled students; if it assumed that an average higher research degree student takes 4 years to complete then a factor may be defined equalling the total completions divided by a quarter of full-time-equivalent MPhil/PhD enrolments for each year. A value of 1 indicates that every enrolled student completes a final degree. Figure 2 shows annual factor values and the overall trend.

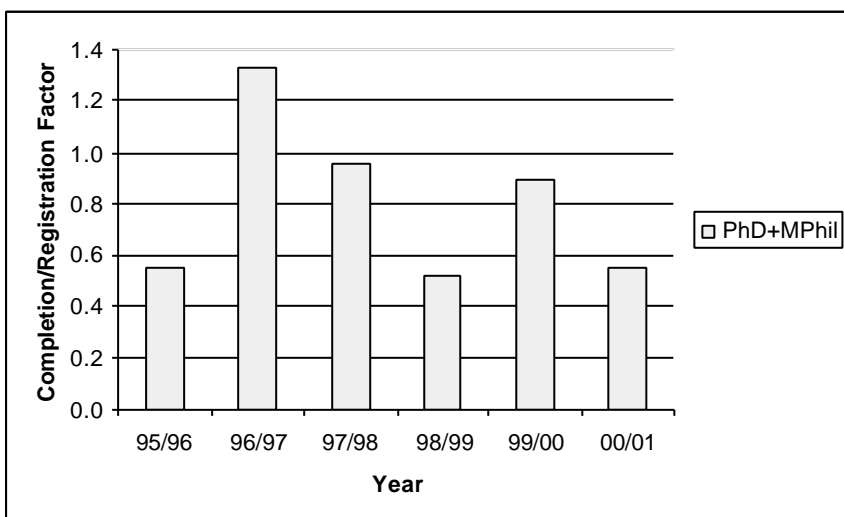


Figure 2: Completion/enrolment factor versus year

Over the last four year period, the completion factor average value is 0.75 with an indication of a decreasing trend.

RAE 2001 Outcomes and the Institute's Position in the UK HEI sector

RAE 2001 was expected to show an overall improvement in quality across the HE sector and it did with the national trend being 1.2 average grade enhancement for the new university sector and 0.8 for the traditional sector. As Table 1 shows, the average grade movement over 9 submitted Units of Assessment at the Institute is 1.1. However, the national trend showed a reduction in the number of submitting departments (90% of those submitting in 1996) and numbers of staff (3% reduction in the total of A and C staff) submitted. This trend appears to have been greater in the new university sector whereas Bolton Institute **increased** its percentage of staff submitted from 21% in 1996 to 25% in 2001 (see Table 1).

Of the number of published League Tables announced in December 2001, it is pertinent only to consider those that consider both grade and fraction of submitted staff (eg Guardian and Times tables). Based on these and by comparing specific research area ratings, the following relative positions are seen:

- Overall, the Institute has improved its position from RAE 1996 and is now placed above 10 universities including Anglia Polytechnic and Wolverhampton, is on a par with two including University of Central England and is just below London Guildhall, Leeds Metropolitan and Central Lancashire.
- In textile materials (rated 4), it holds a parallel position with the two "old" universities of Leeds and UMIST and so belongs to the highest rated textile department group in the UK.
- In materials generally, the Institute sits with eleven universities including Salford, MMU, Loughborough and Ulster.
- In general engineering, the Institute is well placed within the new university population in having a superior rating to six such institutions, including Anglia Polytechnic and Heriot Watt and being on a par with nine including Sunderland and Ulster.
- In philosophy we compare with nine universities including Lancaster and MMU.

SWOT Analysis of the Institute's Research

Based on the above discussion and a more detailed analysis presented to the Executive Team in June 2001 (The Future of Research at Bolton Institute: *The next five years after RAE 200*, Executive Team Discussion Paper, *June/July 2001*), a SWOT analysis of all the Institute's present research activity is presented below in Table 4.

Of especial significance to the Institute, besides the overall improvement in research quality and quantity, is the example created by the materials research group which, as a consequence of its external incoming generation, is now a cost centre within the Faculty of Technology. In addition, it provides a model for combining basic and applied research with consultancy, innovation and enterprise that could be emulated elsewhere within the Institute. Furthermore, the present capital development of £250k from HEFCE and £120k from SRIF to create an Advanced Materials Centre will enable the materials research team to continue expanding its activities. There will, of course, be additional value added by the establishment of the NW Textile Incubator at Bolton and adjacent to the reorganized Advanced Materials Centre at Eagle.

Table 4: SWOT analysis of all research activities

<p>Strengths:</p> <ul style="list-style-type: none"> • Enhanced overall position in the RAE league tables • A national position for materials/technical textiles • An improved RAE outcome for FASE and Technology • Increased number of professorial staff • Increased external research funding and hence HEFCE/non-HEFCE funding ratio • Faculty restructuring has created a materials research cost centre • Materials provides a model for integrating basic and applied research with consultancy and enterprise. • HEFCE Restructuring funding for Academic Leaders is assisting the development of materials, computing, e-learning and logistics and supply chain management 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Low percentage of quality researchers (25%) • Overall improvement is about the sector average • Curriculum/research mismatches in some strategic areas, eg computing, education, SME/supply chain management, health & social policy, e-learning, textile/materials • Poor showing of Business School in RAE • Excellence is based on too narrow a front, eg materials • Difficulty in maintaining research student population • Static research student registration/final award conversion ratio • Age profile of reputable researchers (notably within the Professoriat) • Perceived lack of a supportive environment • Poor conversion of scholarly active outcomes into research outcomes
<p>Opportunities:</p> <ul style="list-style-type: none"> • More secure research base from which to advance • Start of a new Institute planning cycle enabling more focused strategy • New staffing strategy already underway with effect of PDPs to be realised • Anticipated synergy of materials (and SME) research plus Incubator • Effect of Enterprise Group and Associate Deans • Challenging yet realistic external income growth of nearly 20% per annum • New Academic Leader posts • Potential for social policy and creative industries research in the region 	<p>Threats:</p> <ul style="list-style-type: none"> • HEFCE, OST and governmental agency funding policy changes • Possible diversification policy for sector • Attraction away of younger talented researchers • Limited resources generally to invest in research, especially in high risk areas

Key Issues Arising

Clearly, there are a number of issues common to many of the research teams submitted to RAE 2001 as well as other non-submitted research staff which deserve identification and further analysis. These are in particular:

- Sustaining research momentum both in depth (ie as improved target RAE ratings) and in breadth.
- The need to broaden the base of research excellence
- The ability of the new subject group cost centres to manage research
- Development of an external fund-raising culture across the majority of staff and effectiveness of the Enterprise Group
- Conversion of scholarly activities into research energy and outcomes
- Research student population vitality
- Improving research degree completion rates
- Age profile of key research staff

- UoA team/research group critical mass
- Support for strategic professorial and senior research appointments (“dowries”)
- Institute funding and pump-priming of research initiatives

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