

ACHIEVING IMPACT IN RESEARCH

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WHAT IS THE MEANING OF IMPACT IN RELATION TO RESEARCH AND WHY DOES IT MATTER? A VIEW FROM INSIDE ACADEMIA

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Key points



- Definitions of impact
- The changing academic viewpoint on impact
- Some challenges confronted
- The emerging picture of impact

Impact is a commonly used term but in the research context it is gaining more importance. It is most often assumed that the meaning of impact is clearly understood and interpreted in the same way by researchers, funding bodies, policy-makers and the public, but we might consider whether this is the case.

REFLECTION POINT



Before you read any further you might want to jot down what you understand by impact in the context of research so that you can compare it to the definitions provided here.

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Impact in its simplest definition is about making a difference, so there is action or activity which leads to change, but that change needs to be seen within a context which may be global, local or even individual. Also the nature of the change needs to be considered, whether it is related to people, systems, environment, knowledge, understanding or policy.

So this simple definition of impact, *making a difference*, needs to be developed to be useful to researchers and research funders. Researchers are now being asked to look back at their research and identify the impact it has had as well as to look forward and predict what impact their ongoing and future research will have. These issues have historically been implicit, assumed within the research ethos of the academic community, but are now being required as explicit statements to justify and secure ongoing and future funding from public, private or charitable funds.

This chapter will:

- explore these definitions of impact further;
- look at the change in approach to impact over the last decade and the debates around this change from an academic viewpoint;
- draw together the emerging picture of impact as an element driving research direction in the twenty-first century to set the scene for the later chapters of this book.

Exploring definitions

There are many definitions of impact circulating at present; I am taking three which broadly cover the range. The Arts and Humanities Research Council (AHRC) has shown considerable interest in establishing impact within their remit and say, 'By impact we mean the "influence" of research or its "effect on" an individual, a community, the development of policy, or the creation of a new product or service. It relates to the effects of research on our economic, social and cultural lives' (AHRC, 2010: 1); the Research Councils UK (RCUK) emphasise the link with excellence in their definition: 'Impact is the demonstrable contribution that excellent research makes to society and the economy' (RCUK, 2011: 2); and the Research Excellence Framework 'REF2014' defines impact as '... an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia' (REF, 2011: 48). These definitions combined show that impact is far wider than just knowledge creation within academia.

These definitions enable us to look at the nature of impact, the relevance of context and the outcomes or indicators of impact. The nature of impact

is identified as the influence, effect, demonstrable contribution, change or benefits that result from the research. The context within which that impact takes place is broad beyond academia in the realms of society, economy, public policy or services, health, the environment or quality of life. The outcomes or indicators of impact encompass the individual, community or global levels and are the application of new knowledge or understanding in the development of policy, creation of products or services. Impact is largely considered from an anthropocentric viewpoint but effects on non-human subjects and environment need to be considered as well. Impact is also implicitly of benefit to society drawing on the ethical principles of causing no harm (non-maleficence) and doing good (beneficence) within an essentially utilitarian concept, namely the greatest good for the greatest number.

A changing academic viewpoint

The emerging picture of impact is driving research direction in the twenty-first century. This paradigm shift, a change in the way we are viewing research in higher education, is both changing practice among researchers and changing the behaviours of research funders. As with many changes, this has led to much debate and controversy within the sector; however, to use the words of the Research Councils, it is seeking demonstrable 'Excellence with impact' (RCUK, 2007). (More information about the Research Councils' perspectives can be found in the next chapter.) This focus on impact could be seen to have parallels with research training, which was brought to the fore in the Roberts review 'Set for success' in 2002 (Roberts, 2002) where the need for a wider training was identified in doctoral education to better fit researchers to the needs of industry and subsequently society in general. The powerhouse of postgraduate research must not be underestimated as the pipeline to the development of highly skilled individuals who will not only populate higher education in the future but also be key drivers and leaders in the social, economic and cultural development of healthy societies in the UK and across the world. In this time of global reach in our universities we must also consider the global impact of our and our students' activities.

Thomas Kuhn, in his analysis of the history of science, used the term *paradigm shift* to explain the step changes in worldview that occurred following a new discovery, or way of thinking (Kuhn, 1996). Over the past decade, the worldview of the nature and purpose of research has changed with respect to the issue of impact.

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This is exemplified by a number of specific changes (see Box 1.1) which are addressed below:

BOX 1.1 CHANGES IN THE WAY RESEARCH IS VIEWED

From	To
Implicit	Explicit
Research – an end in its own right	Focused and forward-looking research
Curiosity driven	Targeted
Academic freedom	Constrained
Self-regulated	Governance
Serendipity	Investment
Academic excellence	Excellence with impact

Within the research community there has been an implicit understanding that research makes a difference – it may not be immediate, but the growth of knowledge about our world and about our ways in society would inevitably contribute to its development. The evidence of the nineteenth century with its rapid technical and industrial development speaks for itself. The technological developments in the second half of the last century have changed the way we work, communicate and live. Much of this development has been led through university research.

Over this period there was a massive expansion of the university sector in the 1960s with the building of new universities and the establishment of the polytechnics and then in the 1990s with the inclusion of the former polytechnics into the university sector. Throughout this period, university education expanded from the province of the select few, to the experience of a substantial proportion of young people and an increasing number of mature students. Alongside this, the postgraduate and academic opportunities also expanded to service the growing university population. Research was an implicit part of the university academic's work and its impact was passed on through teaching and academic publication in the main part.

Over the past decade, there has been an increasing demand to make explicit the purpose of each research endeavour and the difference or impact it will make or has made. As *The Times* headline in 2010 stated, 'Prove the benefits of research or lose funds' (Hurst and Henderson, 2010), and as a senior member of the funding council is reported to have said when defending the inclusion of impact in the next assessment exercise – REF2014, 'Showing the impact of research beyond University walls makes good political sense' (Lane, 2011).

When the requirement to show how research may make an impact was introduced, considerable argument was made around academic freedom and the need for research as an end in its own right where the impact would be seen in retrospect in the longer term. This was based on the argument that at the time that the research was undertaken, the difference that it would make (if any) to future society was unknown. Examples were cited of Newton's definition of the laws of motion, which underpin the majority of engineering applications today, and the discovery of radium and polonium by Marie Curie with the development of the theory of radioactivity, which have led to advances in many diverse fields, for example medicine and weapons development. In contrast, the shift has led to more focused and forward-looking research where pressure has led to thought and argument being put into some prediction of the potential of the research for the future. This is often speculative in nature but has led to a more future oriented, focused and forward looking approach. Perhaps this can be seen as making explicit the implicit expectations, hopes and dreams of researchers.

Confronting some challenges

Is there then a threat to curiosity-driven research? Perhaps, and fears were certainly expressed over the narrow perception of impact, that it was being focused mainly on economics, that followed the publication of the Warry Report (Warry, 2006). However subsequent work, in particular in the area of the arts and humanities, has helped develop a wider understanding of impact in broader societal terms (AHRC, 2008). Targeting research into potential benefit areas does not necessarily prevent curiosity-driven research, but does require researchers to consider the trajectory and potential benefit of their research, which in turn can address the current Impact Agenda. This has been clearly demonstrated in the arts and humanities areas, which may have felt most threatened, through the AHRC case studies and the Rand study based at Cambridge University (AHRC, 2008; Levitt et al., 2010).

Perhaps the loudest *cri de coeur* has arisen over the perceived erosion of academic freedom. Academic freedom is perhaps already an illusion which has been constrained now for years through funding mechanisms and the need to convince funders that a research idea is worth funding and within their remit. Hence constraint has existed previously, but the question still remains about whether impact is now adding a further strand to that constraint. Underlying the above points is perhaps the fundamental concern that blue-skies, curiosity-driven research, will be replaced by applied research only focused on short-term goals with clear and obvious return.

This concern is perhaps upheld when consideration is given to modes of funding where an increasing volume of commissioned research is being funded compared to response mode funding. The Research Councils, though, continue to base their research project funding primarily on response mode. However EU funding is predominantly commissioned and charities are mixed but constrained by their charitable purposes. Private sector funding tends to be contract based with a clear view to a return on their investment.

Another shift has been the increasing development of the governance and public accountability agendas to replace self-regulation, or at least peer regulation, within the academic community. Transparency over the use of resources in higher education for teaching and research has been explored through TRAC returns (Transparent Approach to Costing) (HEFCE, 2009). It is clear that public, voluntary sector and private funders all want to see a return on the investments they make. However the opportunities presented with the current Impact Agenda are for the universities to demonstrate the breadth and diversity of that impact. In the Knowledge Exchange arena much play is made over the creation of KTPs (knowledge transfer partnerships) and spin-out companies, though this ignores the majority of the impact of knowledge exchange which occurs through informal contacts between universities and organisations often through the medium of postgraduate education. It is no surprise when employers comment on postgraduate provision: *'These programmes not only changed people's lives but led to genuine improvements in policy and practice'* (Northumbria University, 2007).

The governance agenda has also led to the creation of many opportunities within universities for posts encompassing the Impact agenda and has undoubtedly led to an increase in the administrative burden on researchers and university managers. However, this parallels the increasing need for public accountability across all areas of the public sector.

The emerging picture of impact

Whether by good luck or good planning, we have moved from a situation where impact is the serendipitous outcome of research, to one where the investment of funders needs to be seen. A number of reports over the last decade have led to the need to demonstrate in particular with our students the skills outcomes of research training. The Roberts review, 'Set for Success' (Roberts, 2002), initiated the postgraduate skills agenda and has, through the resultant funding streams, led to the development of a wider skills training and now on to the Researcher Development Framework (see Appendices I and II), extending this concept to the researcher's

lifelong career (Vitae, 2011). Support mechanisms focused on researcher development ensure that doctoral candidates, and to some growing extent postdoctoral researchers, have access to training and other opportunities to expand their skill set. The emphasis is on the wider skills that feed into impact-like activities. The Leitch and Warry reports (Leitch, 2006; Warry, 2006) followed this up, further supporting the need to develop wider researcher skills. Alongside this has come the question of what return the funders are getting on their investment. Vitae, through the Impact and Evaluation Group (see Appendix I) developed a tool – the five-stage impact framework (Bromley and Metcalfe, 2012) to address this challenging question. The highest level of this looks at the long-term benefits of the training and is certainly the most difficult to quantify. Demonstration of this level of impact is reliant on case examples where, of course, a myriad of other factors and experience may contribute. This reflects the complex reality of the researcher's context.

There is no doubt about the legacy of the academic excellence of research over the past decades, though the shift needs to be, in the words of the Research Councils, to excellence with impact (RCUK, 2007). This paradigm shift is on-going. The research landscape is complex and, as the recent REF impact pilot demonstrated, there is still much learning to be achieved for the sector to demonstrate this aspect effectively (REF2014, 2010). The complexity of the research contexts must not be underestimated and different disciplines must be allowed to respond in their own way to reflect the real world impacts that they demonstrate in their own specific contexts.

The features of the paradigm shift described above are more embedded in newer researchers as exemplified by recent doctoral graduates. The doctoral degree in the UK is essentially a research degree in which the student engages in original research and makes an original contribution to knowledge (QAA, 2011). In professional doctorates this contribution is linked in some way to the professional perspective through theoretical or practical development (QAA, 2011). It is interesting to note that these contributions do not specifically have to demonstrate impact. This diversity of programmes reflects the range of doctoral research. They include major discovery or establishing new theory (but these are rare), although more commonly moving knowledge forward through the use of novel methodology, a new application of existing techniques or knowledge applied in a new context. The analogy of a wall can be useful here, where the modest contribution of the doctorate can be described as adding another brick in the wall of knowledge. However, the change in emphasis in doctoral education with concurrent researcher development training has led to researchers who are better equipped to communicate and engage with the public over the impact of their research. Perhaps we could say that they are not just producing a brick but ensuring that it is carefully set in the wall!

This can be illustrated by an encounter I had with a professor in the middle of an Indian city where western medicine rubbed shoulders with abject poverty. He said, 'the important thing is that we make a difference in individuals' lives.' An example from my own area of research is where an appropriate intervention supported by telemedicine saved the life of a Nepali lady. This has led to recognition of important principles which have been explored more widely in Nepal and are now informing telemedicine development in other areas of the world (Lama et al., 2011). Working with an individual and specific focus remains important, but retaining the wider view of where the research is going and what effect it may have embraces the Impact Agenda.

So I suggest our emerging understandings of impact should embrace a range of definitions, shown in Box 1.2.

BOX 1.2 A COLLATION OF HELPFUL DEFINITIONS OF IMPACT

To have impact is to have a strong effect, to make a difference.

By impact we mean the 'influence' of research or its 'effect on' an individual, a community, the development of policy, or the creation of a new product or service. It relates to the effects of research on our economic, social and cultural lives (AHRC, 2010).

Impact is the demonstrable contribution that excellent research makes to society and the economy (RCUK, 2011).

Impact ... an effect on, change or benefit to the economy, society, culture, public policy or services, health, the environment or quality of life, beyond academia (REF, 2011).

These suggest that we must consider the nature of research impact, the context of research impact and the outcome or effect of research impact. These features will help us to recognise the *significance* or importance of the research and its *reach* or pervasiveness into society.

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