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A Short Guide to Leading Interdisciplinary Initiatives

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Completion of an interdisciplinary initiative clearly requires effective *management* - and we address some of these issues in Short Guide Number 5 but generating genuine added-value requires something more: *leadership* is vital to realising the full potential of an interdisciplinary team. True interdisciplinarity is by definition creative and risk-taking. An interdisciplinary leader has to encourage individuals to behave in new ways while steadily guiding them towards achieving results.

Leadership draws upon not only intellectual but also personal attributes, many of which are seldom made explicit. Individuals may find themselves designated as a leader of an interdisciplinary initiative without having had any guidance as to what such leadership entails. This note provides a stimulus for self-reflection and complements other Short Guides in this series (e.g. *Troubleshooting Some Common Interdisciplinary Research Management Challenges*; *Developing Interdisciplinary Strategies for Research Groups*; and *Building and Managing Interdisciplinary Research Teams*).

Developing personal leadership capacity

Any individual taking on an interdisciplinary leadership role should assess the positives and negatives associated with such a position. Concerns that other leaders have experienced include: possible negative perceptions of interdisciplinarity by others, with possible negative career implications; a feeling of loneliness at the top intensified by possible disconnection or lack of engagement by team members; the challenge of juggling the inherent (potentially creative) 'messiness' of interdisciplinarity with the need to develop meaningful synergy and realistic but tangible results. On the other hand, enthusiasts offer many positives such as: the enjoyment of doing something new; the excitement of collaboration leading to new perspectives; the satisfaction of making connections that tackle new questions and often real-world problems in ways that make significant contributions.

An awareness of key personal traits may also be helpful. Enthusiasm for the interdisciplinary challenge is paramount, with enough drive to sustain the leader and team members throughout the endeavour. A leader has to have 'vision' in order to engage the commitment

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of diverse individuals to work towards a common goal. Effective people skills (e.g. tact, assertiveness and patience) will be essential to maintaining that engagement throughout the initiative. A leader needs to have the time and space to take on the role, as an asset rather than a detriment to career progression. Ideally, a leader will have had experience of interdisciplinary collaborative work and will have the ability to secure the necessary support from funders and from host institutions.

Certain habits of mind are important; a leader needs to:

- be able to conceptualise complexity and integrate various components or strands
- be flexible and open-minded, recognising that others have valid approaches to problem-solving, and curious, interested in finding out more about those approaches even when their approach to research is radically different
- exhibit simultaneously confidence and humility
- convince team members that something worthwhile will result from their collective effort, and that s/he has the intellectual calibre to ensure high quality outcomes
- be willing to cede to others the status of 'expert' in components of the endeavour
- act as a role model for the reciprocal respect and trust expected in others

Developing the leadership traits and style that will bring out an interdisciplinary initiative's full potential can take place over time. A prospective, new or current leader should try to think objectively about their own personal portfolio of traits, abilities and attitudes relative to the particular challenges of their own interdisciplinary leadership position.

A sympathetic mentor who has had experience in leading an interdisciplinary initiative may be helpful; even if the subject area was quite different, a seasoned veteran of processes and challenges could be a helpful sounding board. Another mechanism could be to utilise a well-chosen Advisory Board, picking experienced and helpful individuals who represent a diversity of perspectives as well as a background in leading interdisciplinary initiatives. A further approach to personal development as a leader is to network with experienced peers, sharing issues and solutions. Over time, perhaps with the support of funders, such leadership networks might evolve into lasting communities. It may be helpful to join with other leaders in a learning experience tailored specifically to leadership of interdisciplinary initiatives.

Finally, a leader is helped most by on-going self-reflection that takes place throughout an initiative, not just at the start. Reflective leaders can learn by doing. Formative evaluation and/or utilisation of a 'critical friend' can provide a useful mirror for the leader, as well as a sensitive way of tracking processes and interactions crucial to the unfolding of the initiative.

Identifying and communicating responsibilities of leadership

Interdisciplinarity is a *process*: achieving a successful result is not simply a matter of coming to the end of an initiative and adding one bit from Discipline A to one bit from Discipline B to one bit from Discipline C. From the very start, at the earliest design, team selection and proposal writing stages, both formal and informal steps need to be set in motion by the leader. Ideally, these steps will be based on an understanding of interdisciplinarity as a process, and a strategic analysis of the current or upcoming initiative's needs.

A key part of such an analysis is to identify and delegate responsibilities, so that the leader maintains sufficient time and energy to lead rather than being expected to manage everything. Development of some form of management team, and perhaps an external advisory body, is likely to be required. One example would be to augment the leader with a person serving as pro-active liaison/coordinator/trouble-shooter across individuals, disciplines or projects within the initiative. Another (not mutually exclusive) approach to sharing out responsibilities is to delegate to leaders of constituent projects. Each member of the team, whether an established or early career researcher or a stakeholder, should understand clearly that they have roles to play and responsibilities to meet. Along with vision

and skilful facilitation, a leader can engage everyone in the ultimate success of the initiative through explicit discussion of interdisciplinary processes. This needs to be tied in with clearly communicated and agreed responsibilities of the leader and others.

Carrying out leadership functions

In considering one's own leadership responsibilities in the round, it may be helpful to consider what a list of leadership functions might look like. Several key leadership functions occur in the critical *early stage* of an interdisciplinary initiative:

- developing an appropriate focus around an informed definition of genuine interdisciplinarity
- selecting the right people for the team
- planning
- involving stakeholders early on

Throughout an interdisciplinary initiative, leadership functions include:

- developing and maintaining effective communication mechanisms and common understanding
- ongoing use of effective mechanisms for building relationships, teamwork and networking
- recognising (and adjusting to) the extensive time and effort taken by interdisciplinarity
- effective management, so that tasks and also ultimate 'products' result
- setting a tone and developing a team culture that fosters interdisciplinarity.

Reflecting on different leadership roles

When thinking through one's own approach to carrying out leadership functions in an interdisciplinary initiative, it can be helpful to think about the myriad possible roles that should/could/might be played. For example, one of our masterclasses identified the following roles for leaders of interdisciplinary initiatives:

What roles does an interdisciplinary leader need to adopt?		
• Banker	• Facilitator	• Peacemaker
• Cheerleader	• Fire fighter	• Plate spinner
• Coach	• Interpreter	• Referee
• Communicator	• Matchmaker	• Relationship counsellor
• Damage limiter	• Mediator	• Role model
• Diplomat	• Motivator	• Salesperson
• Enforcer	• Negotiator	• ...
		• Chocolate provider

It is quite likely that any one leader will have to play multiple roles over the lifetime of an interdisciplinary initiative and will often have to play several roles simultaneously. A few key roles, that recognise the importance of good management but go further on into leadership, are suggested here:

Visionary: A leader needs to conceptualise and communicate an inspiring yet achievable goal, deploying sufficient enthusiasm and charisma to engage diverse individuals. As a visionary, a leader can help individuals see how their own expertise and interests can feed into something larger, in a way that will help them achieve professional objectives of their own while also contributing to a broader goal that is new and exciting. Each leader will need to develop his/her own style as a Visionary (perhaps pushing themselves to be more overtly enthusiastic than usual, or a bit more patient with individuals slower to 'catch on').

Culture Catalyst: A leader acts as a special element that kicks off chain reactions and infuses energy into a developing system. Throughout the course of the initiative, a leader will have to act as a rechargeable ‘energy source’, providing periodic infusions of extra energy, especially during problem periods or lulls, to help drive the initiative along the lines of the vision. In terms of establishing a team culture centred around a common goal, a leader needs to be able to set a tone of mutual respect and, eventually, trust.

Translator or Communicator: Not only does a leader need to be able to share ideas, approaches and findings with team members from different disciplines, an effective interdisciplinary leader needs to help team members communicate and share with each other, so that the whole can become more than the sum of the parts. This entails acting as an exemplar, personally, and also ensuring that from the very start, time and energy are spent by team members on activities – often informal – which build mutual understanding over time. Special attention may need to be paid to early career researchers, so that they do not get lost or swamped. When stakeholders are involved, attention to development of good two-way communication will be particularly important.

Facilitator: Interdisciplinarity comes about through a process that involves people. This human dimension means that an inescapable role for a leader is dealing with people. Ideally, a leader will have sensitive antennae so that problems (such as ‘mission drift’ or suspicions that certain team members are not pulling their weight) can be anticipated and dealt with early. Troubleshooting is likely to be necessary at times, along with reassurance of those whose confidence is faltering and sorting out problems between individuals. A leader may be assisted by another who actually carries out much of this role, but still cannot afford to ignore sensitivities and dynamics of human relationships.

Agent of Change: Not only does the leader need to develop and share a vision of something new as a goal for the team, but the leader needs to behave in a new way involving pro-active management. To make the most of the creative potential of interdisciplinarity, a leader needs to balance a steadfast drive toward agreed goals with period reflection ensuring that the team also considers new insights and opportunities that arise. In this way informed, dynamic evolution of the initiative can take place.

Different interdisciplinary initiatives will require different styles of leadership. A keen awareness of the nature of the processes involved in interdisciplinarity, combined with self-knowledge, can help a leader develop his/her own potential and elevate the achievements of their initiative to the creative synergy that is the hallmark of the best interdisciplinarity.

This Short Guide draws on findings from a recent study for the Natural Environment Research Council ‘QUEST: Capturing Lessons for Interdisciplinarity’ (NERC grant reference: NE/H012001/1) and includes contributions from participants who attended our Interdisciplinary Masterclasses including one on Leadership Training for Interdisciplinary Environmental Initiatives which took place in Edinburgh, 18-19 January 2011. Other notes in this series can be downloaded from www.tinyurl.com/idwiki

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