Executive leadership of research development
A HANDBOOK FOR

Executive leadership of research development

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Foreword

During a period of significant sectoral change in higher education in Australia and in many parts of the world it is timely to reflect on the importance of executive leadership in developing an enduring institutional research profile. After all it is critical to ‘being a university’. Resource constraints and shifting government policies are impacting on the ability of many institutions to maintain institutional strengths and nurture emerging research areas. This is particularly true as we begin to recognise the importance of inter-disciplinarity and research impact in assessing performance and in determining strategic investment priorities.

It is within this context that the authors of this handbook emphasise the role of a positive organisational environment, and its deliberate creation by senior leaders, in increasing research intensity in universities. They tackle the questions of why some Australian universities have lifted their research performance rankings in the past decade and whether the less well-established universities can develop a serious research profile in the next. These are important considerations for university managers, the sector and the nation as a whole. This is not only for policy reasons, but also because Australia’s future prosperity depends on its ability to make a larger contribution to the discovery and application of knowledge. According to this handbook, the answers are to be found in the imagination and courage of Vice-Chancellors and their executive teams, and their determination to develop research capacity and capability within their institutions.

One of the interesting features of this handbook is its approach to integrating research development with the other roles of universities. It is refreshingly non-utilitarian in its portrayal of the engine rooms of research productivity, linking them directly with excellence in both teaching and engagement. According to the authors the foundation for all this is skillful disciplinary and inter-disciplinary enquiry supported by strategies, structures, systems and a culture that enable individuals and teams to flourish. The reader develops an image of successful academic departments, research groups, and professional staff characterised by a greater sense of shared purpose and a heightened and broadened commitment to cooperation. As the authors point out ‘robust and collaborative leadership’ is
critical to enhancing research productivity. This idea is built up by the authors, not as some fanciful ‘theoretical’ ideal, but as the possibly fragile outcome of intelligent leadership and management.

The evidence the authors have assembled is the key. It comes in three forms, first their own extensive experience as researchers or research managers. Second the useful and focused observations of practitioners in some well-selected case studies, including one from the United Kingdom. And finally and perhaps most interestingly, the handbook includes an all too scarce insight into the international literature on research development. There is an irony here. While research is judged ruthlessly on the quality of its scholarship, it isn’t necessarily the case that the practice of research development in our universities is actually subjected to the same rigorous review and analysis.

This handbook is a timely and practically useful original contribution to the field of research development in Australia. Everyone involved, including policy makers in government and leaders in research-intensive universities who want to know what the potential challengers are up to, should read it. Its primary audience is the senior leaders of institutions with genuine ambition to climb the rankings. Its great value to these universities is as a sound and coherent guide against which to test everything they are doing to lift their research profile, performance and culture.

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We also appreciate the valuable advice we received from a wide range of university leaders and experts who shared their personal experiences and identified the things that matter most for executive leaders of research development. We hope the handbook does justice to their contributions and of course we take full responsibility for the views expressed.

Finally, our thanks to Professor Paul Burnett (Queensland University of Technology) for his advice and assistance throughout the process.
Introduction

This handbook is a source of advice for university executives about the leadership of research. Its specific focus is on research development in less research-intensive universities that are seeking to expand their research profile, enhance their performance and compete more effectively for research funding. The advice is also relevant to senior executives faced with the challenge of rebuilding a research culture in universities that have lost momentum and are seeking to enhance their performance or change direction in a highly competitive environment.

In addition to proficiency in general aspects of management and leadership, leadership for research requires specialist skills and knowledge about the organisational conditions that contribute to academic productivity. We attempt in this handbook to make available ideas and knowledge that are relevant across diverse and changing policy contexts and are useful in the long term. We do this by focusing on a series of core principles that typically guide the strategic leadership of research development. Some aspects of these principles apply to any academic environment. However, our main focus is on encouraging and supporting research in institutional contexts that do not have a university-wide culture of research and may not possess the structures and processes to enable its effective execution.

The principles are based on what successful leaders actually do: they are illustrated by material drawn largely from case study universities and the observations of experienced and successful executive leaders. They are designed to provide senior executives with options for research development based on evidence of what might lead to favourable in different circumstances. They are by no means a set of isolated formulae for success.

The primary audience for the handbook consists of provosts, deputy and pro vice-chancellors whose responsibilities centre on the governance, leadership and management of research. Any practical approach to research development, especially in an institution that does not have the advantage of building on a sustained culture of research excellence, must be faithful to that institution’s purpose and to the context in which its research activity is delivered. The handbook’s focus is therefore on strategic leadership — on an institution’s distinctive vision for research
development and performance across different subject areas and on the means by which that vision might be realised.

The handbook presents an optimistic picture of the potential to develop a strong institutional research profile, even in institutions that have an inconsistent pattern of output and activity across subject areas or indeed are starting from scratch. Leadership is the single most important environmental factor influencing research productivity at the level of the research group or department. We aim to show how, in a similar way, effective leadership (including clear organisational goals, collaboration, communication and effective recruitment processes) can make a conspicuous impact on institutional research performance.
Executive leadership of research

A central theme of this handbook is the major role of executive leadership in maintaining a strategic focus on the entire institution’s research activities. Many entrants to research leadership at senior executive level will have come from a disciplinary background and have experience of leading a faculty or department. Now they must think in a cross-institutional way, addressing variations in the cultures of different fields of study and probable disparities in the maturity of the research ethos across different organisational units. Their long-term aim will be to create an environment in which all staff members are genuinely committed to research.

Effective leadership at this level involves coordinating multiple challenges and is notable for its skilful approach to locating these challenges in a larger framework. This framework embraces national policies, an awareness of areas of research that are relatively open to new contenders, opportunities for cross-disciplinary and collaborative activity, acknowledgment of existing areas of institutional strength (including strengths in research administration) and changing expectations of academic work.

We are convinced both from the extensive literature on this topic and from personal experience, that such leadership must be both robust and collaborative in order to enhance research productivity. ‘Assertive participative governance’, which combines unambiguous objectives with devolved ownership of projects, is the style of leadership that is the defining feature of success in transforming the research profile of universities.

We also stress the importance of creating a distinctive vision for research and articulating it right across the university. At this level of leadership it is not enough to address operational issues; these matters – such as developing action plans in faculties – should be delegated to those who are closest to the staff involved. Senior executives will focus their attention on the framework in which local issues are situated and on ensuring symmetry between them and the institutional vision. We describe practical steps to achieving this aim in the principles identified in this handbook.
Senior academic leadership for increased research performance naturally demands an emphasis on outcomes. Building and sustaining a productive research organisation involves more than discussing its characteristics and publishing a plan. It is not an abstract exercise – even though it demands some conceptual thinking about high quality research and the appropriate roads to institutional success. It requires making the strategy happen through continuous intervention. The effective senior leader will be careful to focus sharply on aspects of research productivity that are under their control; actions that may be desirable in theory are not necessarily the best way to expend time and energy. He or she will be aware that a major part of this simultaneously energetic and reflective approach involves gauging progress towards specified outcomes if the desired ethos is to become embedded in the institution.

The purpose of this kind of leadership is to provide clarity about the direction of change, to propagate examples of success, to encourage constructive competition and to raise the awareness of colleagues so that they work cooperatively to deliver tangible enhancements in research activity and productivity. However, modifying an institutional research culture is a long-term project; senior executives must be ready to acknowledge that changes will happen over a lengthy period and that setbacks will be the norm rather than the exception.

It is important to recognise that academic and administrative staff experience leadership for research development in an institutional context. What heads, deans and research office staff do influences the probability that academics will develop a strong attachment to a culture of research excellence. We argue that senior executives should understand and reward the efforts of managers to support research development and that they should set up mechanisms to recognise performance and inspire innovation at all levels.

It is particularly undesirable to run the risk of creating divisions between different parts of the institution and its members – executive leaders, research managers, academics, research institutes, commercial activities and students. Productively connecting research and teaching, for example – rather than separating the two areas in a kind of competitive tension – is a characteristic of highly dynamic university research cultures.
The principles and elements are applicable to universities laying the groundwork for the future as well as those that need revitalising in response to declining productivity. In both cases a rebuilding of the organisational culture is required. The principles and elements are also relevant in the context of pressures to conduct cross-disciplinary research in groups identified and driven by the senior executive. Essentially, we identify a series of synergies between individual factors, leadership factors and institutional factors that make for a supportive environment that facilitates productivity. A research-productive institution, we argue, depends on leadership that makes that supportive environment’s features available to a well-prepared staff.

Three important points we make throughout the handbook are that: research intensity has to be made to happen hence the importance of robust and far-sighted leadership; that the inevitable set backs and periods of stasis along the way can be managed if there is a strong sense of confidence from leaders about the long-term direction the university is taking; and that progress comes from meeting exacting international standards and criteria for success. Above all, research development is a highly interactive endeavour that requires effective communication at all points along the way.
A background briefing on the evidence

This section provides an outline of evidence from key research that has informed our approach to the handbook. We have included this brief summary of materials around four key themes because of our conviction that the lessons of these research findings, many of which have withstood numerous tests over many years, are often not incorporated into the decisions of senior executives who are responsible for research development.
1. Research productivity and the individual and environmental factors related to it

The public sharing of research findings is frequently regarded as central to the academic mission. However, while most academics teach and undertake administrative duties, and many are involved in public service, producing research is by no means a characteristic of every member of the academic community. On the contrary, a small proportion of staff generate most of the output. Typical estimates from US, Australian and UK studies show that in research-focused universities about half the publications are produced by about fifteen per cent of the total number of academics; in newer, teaching-focused institutions half the publications come from ten per cent of staff\(^1\). The total outputs from many teaching-focused institutions are low\(^2\).

Research productivity can therefore be thought of as a key discriminator between academics and between higher education institutions\(^3\). This implies that the task of improving research performance in newer universities presents extraordinary challenges to executive leaders.

The most important indicator of research productivity is publication – in both quantity and quality. Despite the growing importance of measures such as the external impact of research and its commercial application, excellent publication outputs are still generally regarded as the main source of scholarly esteem, as requirements for individual academic promotion, as evidence of institutional prestige (and a university’s position in international league tables) and as a prerequisite for obtaining competitive research funds.

If publication is central to scholarly activity and recognition, what do we know about how we might enhance it? Studies of the correlates of research productivity provide important clues for academic leaders. An early interest in research, involvement in research activity, satisfaction with reward systems and seniority of academic rank are all related to academic productivity. For example, highly active researchers produce on average more than five times as many publications as the least active group. Academics reporting high levels of intrinsic academic motivation (tending to agree with statements such as ‘I find most new topics in my subject area interesting, and often spend extra time trying to obtain more information about them’) are twice as productive as the least intrinsically motivated\(^4\).
By far the best background or environmental predictor of individual output is an academic’s membership of an active research department. He or she is, according to one study, four times more productive than his or her colleagues in one of the less vigorous units (partly because of selection effects, but also because high levels of total output stimulate individuals to do more). ‘Active research’ will vary by discipline and is related to esteem, but includes things such as being involved in research projects, gaining research funds, supervising postgraduates, editing journals, being invited to give papers and attending scholarly meetings). ‘Active’ research departments, with a strong culture of research quality and support for staff to develop research careers, produce more publications for their size than less active ones.

What factors hinder research engagement and productivity? In addition to the individual and environmental aspects implicit in the above paragraphs, perhaps the most significant revolve around the critical importance to a sense of academic identity, productivity and overall work satisfaction of an individual’s autonomy to pursue personal academic interests. Academics, in contrast to most workers, have usually been able to declare their preferences for the type of work that best suits their interests and the subjects about which they are enthusiastic at a particular point in time. These interests may have had their genesis as far back as undergraduate study. Being able to focus on their own interests and being able to make choices among them provides academics with a sense of personal satisfaction and credibility amongst the community of scholars; it also satisfies the desire to make an original and ongoing contribution to knowledge. The main predictor of work satisfaction for academics, clearly ahead of salary and job security, is the opportunity to pursue their own academic interests.

Because intrinsic motivation plays such a decisive role in productivity, it is important for leaders to consider what factors might attenuate this enthusiasm. Making choices about teaching and research is increasingly less likely for large numbers of academics. The nature of freedom and autonomy amongst tenured academics over what is researched and taught can no longer be taken for granted.

Self-regulation in the management of work and its implications for academic identity are easily underestimated as a defining element in academic identities. Academics place a premium on the freedom they have to manage their work in ways that suit their personal priorities and approaches to research and teaching. Autonomy over what academics will teach and research extends to setting their own priorities.
and organising daily work patterns within the relatively permeable constraints of institutional structures and processes. While their idiosyncratic approach to the management of time and task is often a source of tension between them and others in the workplace, it is frequently justified on the grounds that self-regulation is a prerequisite for discovery, and correlates with productivity.

This creates a key point of friction with the increasingly professionalised cadre of specialists in the workplace who have less autonomy over their work, time and location, and who are entirely focused on the achievement of institutional strategic goals. The ways in which these tensions are being resolved is of considerable significance for the future of academic identity and productivity, which is in turn critical to the performance of institutions8.

There is a common belief that ‘research concentration’ through directing resources to bigger units and research-focused universities will enhance productivity. However, larger work units do not necessarily produce better research outcomes. The quality and quantity of communication within the unit appears to be the decisive factor. Thus, although there is a ‘critical mass’ for a research group below which productivity is compromised, it also appears that there is optimum size of group, which differs between disciplines. Beyond a certain number of individuals, productivity declines9, implying that diminishing returns set in, most probably due to limitations imposed by scale on the quality and quantity of communications. In considering the experiences of postgraduates and postdoctoral fellows in science, Seashore Lewis and colleagues10 argue that work group size, membership of a productive unit, individualism and collaboration all contribute to early productivity. There is, however, a tension between size and willingness to collaborate; and there appear to be differences between laboratory disciplines in experiences of organisational climate.

Environmental factors associated with research productivity have been thoroughly investigated over many years. The application of the findings can be seen in the criteria and results of research performance exercises such as the UK Research Assessment Exercise (RAE) and Research Excellence Framework (REF) and the Excellence in Research for Australia (ERA) initiative. Although twenty years old, Bland and Ruffin’s11 conclusions from an extensive literature review still hold. They identified twelve characteristics consistently linked to high productivity:
clear goals that serve a coordinating function
research emphasis
distinctive research culture
positive group climate
assertive participative governance
decentralised organisation
frequent communication
accessible resources (particularly human resources)
sufficient size, age and diversity of the research group
appropriate rewards
concentration on recruitment and selection
leadership with research expertise and skill in both initiating appropriate organisational structure and using participatory management practices.

A related factor that stimulates both research activity and productivity appears to be academic perceptions of whether the working environment is cooperatively managed and allows high levels of participation in decision making. In more cooperative environments in that study, staff seemed more likely to show high levels of intrinsic motivation for academic work, to be less likely to be dissatisfied with the reward system, and to be more likely to be highly committed to research. The most cooperatively-managed departments had the highest productivity levels; and this was true in the older universities as well as the newer institutions. The cooperatively-managed departments were ones where staff agreed that:

- staff are consulted on matters of policy even when they are not directly affected
- staff in the department often discuss research issues together
- teaching loads are negotiated cooperatively among staff
- there is plenty of discussion on teaching and curriculum issues among academic staff
- there is little professional jealousy among the academic staff
- good teachers are highly respected in this department.

It would be overstating the case to say that a cooperative academic environment causes higher research productivity. On the contrary, it is true that a group of highly
active and committed researchers helps to create a context in which collaborative management is more easily practised. The association does suggest, however, that a focus on effective management and leadership – especially management and leadership that enables frequent, high quality communications – may be an important strategy for enhancing academic output.

Many of the factors linked to research performance that have been outlined above contain clear implications for the work of executive leaders. To them we can add some of the RAE 2008 features distinguishing high performing units of assessment in practical terms:

- a vibrant research environment and an active research culture created through critical mass and strong leadership
- investment in infrastructure (laboratories, libraries, facilities)
- effective implementation of policies for recruiting and rewarding high performing academic researchers
- good support for emerging researchers (including postdoctoral fellows)
- (for less developed units) encouragement for academic staff to obtain doctorates
- effective use of research funding to stimulate research development
- clearly articulated strategic plans: ambitious, forward looking, building on strengths, widely understood and effectively monitored
- support for career development, for all staff from new researchers to world-leading experts
- a strong profile of external research funding across coherent academic groups
- a large cohort of research students with good completion rates
- significant esteem, in terms of service to the academic community, visiting academic positions, international recognition and considerable editorial work
- institutional support for career development and research training
- where appropriate, strong user engagement, a wider public role, and evidence of impact on policy and practice.
2. Leadership, management and academics in the context of changing policies

Changes in national policies and funding regimes for university research have led to enlarged scrutiny of research productivity and activity, which has in turn influenced university structures and processes. To the traditional focus on research as the advancement of knowledge have been added systems of research assessment, growing competition for research funding and increased emphasis on the contribution of research to the economy and its benefits to society. Research activity is more expected more than ever before to lead to outputs such as publication and commercial application. These changes have highlighted the importance of research centres, interdisciplinarity and partnerships between entrepreneurs and universities. As demands for higher institutional performance have increased, so accountability requirements for individual academics have inevitably become greater than before. There is a general view that these changes may lead to tensions and have damaging consequences for academic work. Academic research is by definition about unpredictability and personal commitment; it sits uneasily with management systems that rely on command and control. Solutions to this dilemma revolve around distributed leadership, collegiality, the need to recognise the mutual dependency of different functions and the alignment of management, leadership and individual responsibilities. These strategies call to mind the characteristics of productive research environments described by Bland and Ruffin. They are relevant not only to research-intensive universities but also to institutions that aspire to a larger research role.

Executive leadership for research, research management and the work of researchers can be understood along a single continuum. To enable research activity and productivity to flourish at individual level, each party to needs to show mutual respect and support for the others. Research support offices and executive leadership work best in close partnership; the requirement for complementarity between management and leadership identified by classic writers on modern leadership applies accurately in this context.

A particular emphasis appears to be necessary on effective and empathic communication between the groups and on creating an environment in which academics feel actively engaged. These are clearly fundamental leadership responsibilities. Executive leaders leading change in research development must
manage a lively tension between institutional demands and individual requirements. It is essential for them to work alongside academics in order to identify new research directions and to support their productivity in a dynamic environment. In pursuit of this endeavour, their own competence as successful scholars plays a key part in establishing credibility, confidence and a sense of common purpose.

Leithwood and associates\textsuperscript{16} stress the need for what they call ‘contingent leadership’ in these circumstances. Contingent leadership is specific to context – its premise is that no one style of leadership works well in all conditions. In responding to the context of a newly developing research culture, the optimal leadership style is one that highlights transparency and staff involvement and does not stimulate the kind of inter-staff competition that leads to distrust and disillusionment.

3. Research strategy and staffing issues

There is broad agreement that the external challenges outlined above require universities to develop coherent research strategies – strategies that are sustainable and that enable an institution to build on its successes. Effective strategies will typically include targeted development of key areas in which growth is sought, efforts to generate engagement across faculties and buy-in from staff, links to recognition and reward systems, incentives for adherence, internal competition for funding and quantitative systems to monitor progress and benchmark progress against other institutions.

Molfese and her colleagues have examined the issue of how the strategic planning process can benefit research performance both in research intensive and in ‘predominantly undergraduate’ institutions\textsuperscript{17}. The latter are, of course, organisations dedicated mainly to teaching, so that many staff will have been recruited principally as teachers and will rate teaching as their main or favourite interest. Recollecting the importance attached by academics to autonomy and self-determination, this poses a leadership difficulty that is only partly solved through the efforts of good research managers and effective coordination between leaders and managers.

It is important for executive leaders to have a clear appreciation to have a clearly articulated view of why research is important to the university and how its pursuit follows from the institution’s vision and mission. Leaders will need to know how significant the links between research and teaching are in academics’ and academic managers’ ways of thinking. What are the strengths and weaknesses of the institution
4. Building a research culture: issues specific to research development in newer universities

Many issues connected with the executive leadership of research apply equally across different types of higher education institutions. However, as the work of Molfese and colleagues shows, there are important themes that are specific to the development of research activity and capacity in newer universities.

Universities that have limited research capacity can no longer ignore the forces of change that propel them towards enhancing their research capability. The generation of new knowledge has become a global priority at the highest level of politics. The increasing importance of academic research to national governments around the world, together with greater competition for students, funding and commercial partnerships, have led to pressures for every university to focus on producing and sharing scholarly outputs. ‘Excellence’ in higher education is progressively more likely to be defined in terms of ‘highly active and productive in research’.

As we have seen, however, research productivity is unevenly distributed between individual academics and between universities. Many newer universities were established as teaching-focused institutions, recruiting academics who were not research active; although changes in the UK and Australian higher education systems have led to a broader distribution of research activity, and some staff in newer universities have built active research profiles, there remain large numbers of academics at these universities who are neither eager to pursue research, nor capable of pursuing it effectively.

Ellen Hazelkorn has systematically reviewed these issues in a series of publications that embrace international perspectives on growing research from a ‘fragile base’. Developing research in newer universities (and in older institutions that have an existing, but relatively poor record of research) presents redoubtable challenges. It
represents a significant strategic redirection for the institution that must be undertaken concurrently with entry into a highly competitive market. In that market, research-intensive universities’ history of success, not only in discovering new knowledge but also in applying it in partnership with professional, industrial and commercial organisations, presents a formidable barrier to new entrants. Older research-intensive institutions are advantaged by long-standing expertise in gaining funding and administering research; and they are more likely to be imbued with a research ethos that gives priority, recognition and reward to scholarly endeavour at all levels of seniority.

Refocusing on research means that academics who have made their careers in a less research intensive institution, including heads and deans, will be presented with a different set of expectations. Hazelkorn identifies ‘research active’ staff (who may become uneasy if their scholarly areas are not identified as strategic institution priorities), ‘uneasy researchers’ (who are apprehensive because they are new to doing research, but who are potential contributors in future, if properly supported and rewarded), and ‘research negative’ individuals (who are hostile to research, unsure why it is important, or lacking confidence and possibly fearful of getting started in research).

An important issue for leadership is the extent to which developing an institutional research capability depends on existing staff or relies more on recruiting new individuals who have a strong research track record, or show promise of developing one. In practice, successful institutions have rarely trusted in strategies that do not involve new appointments. Table 1 presents a range of human resource strategies to address the growth of research.
### Table 1. HR strategies to grow research (from Hazelkorn, 2008)

<table>
<thead>
<tr>
<th>HR strategy</th>
<th>Indicative actions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Recruit</strong></td>
<td>Align recruitment strategy to priority areas via experienced researchers, post-doctoral or other senior professorial posts, sometimes on contract and accompanied by relatively generous support funds and salaries, and supported by good induction programmes.</td>
</tr>
<tr>
<td><strong>Re-invigorate</strong></td>
<td>Incentivise, reward, and recognise research performance via promotion, salary, and other benefits, including career stream choices and new academic contracts which include research or research-only positions; clear promotion criteria and performance indicators measuring both quantity and quality across disciplines.</td>
</tr>
<tr>
<td><strong>Train</strong></td>
<td>Implement faculty development strategies or faculty-building plans to assist new researchers, including facilitating PhD attainment, mentoring, application writing, etc.</td>
</tr>
<tr>
<td><strong>Re-orient</strong></td>
<td>Encourage involvement in new fields or large-scale interdisciplinary research teams—involving the community or industry—via incentive schemes.</td>
</tr>
<tr>
<td><strong>Enable</strong></td>
<td>Enhance research facilities and opportunities, including flexible workload schemes to meet different abilities and capabilities over a faculty member’s career, sabbatical leave, research scholarships and fellowships, and gender specific initiatives, for example family-friendly workplace and a women’s register. Establish a Research and Technology Transfer Office to provide direct support to R&amp;D groups and faculty in the formulation and financial management of projects, communication tasks, marketing and connections with the technological, industrial and economic environment, etc.</td>
</tr>
</tbody>
</table>
Hazelkorn also describes the importance of a variety of reward and award systems for research activity and performance, including research time, travel funds, targeted grants, additional salary payments, achievement awards and mentoring systems.

A progressively more competitive research environment has tended to favour what Gibbons described as ‘mode 2’ forms of knowledge production: an emphasis on teams, a greater user focus, transdisciplinarity and problem focus, organisational diversity and broadly-based quality review (incorporating user judgments as well as peer review). In turn this has led to stronger internal management processes, increased accountability, preferences for interdisciplinary teams, the growth of research centres and institutes and the separation of undergraduate teaching from research activity. These developments are as relevant to growing research in newer university environments as they are in established ones.

A core issue for executive leaders of research is working effectively with the professions. It is particularly relevant in newer universities that are developing functions in para-professional areas or growing alternative approaches to professional practice. Some fields, such as allied health, have been identified as ones that typically find it difficult to show progress in research development: capacity may be limited because many of the academic workforce are engaged in practice, or are ‘research negative’ individuals (as described above), whose academic identity is not shaped through research and who may lack the intellectual orientation and skills to pursue it successfully.

A helpful case study of the early stages of building a research culture in a primarily undergraduate institution is provided by Studman and Tschecko. The process involved developing a short research policy (strategic plan) based on a vision for academic excellence. Key challenges were identified, including lack of alignment of research with university goals, poor use of internal funds, lack of accountability, no management of output quality, no training in research management and limited postgraduate research.

As a result, more transparent funding procedures, a stronger emphasis on quality and accountability, training in writing research proposals and
incentives to undertake research (including awards and competitive grants) were provided. Any unused research funds ‘stockpiled’ by faculties were returned to the central pool and the previous system of per capita funding was replaced by a discretionary method that was ultimately linked to performance (as measured through research productivity). The effects were monitored through observing changes in outputs and activities and by means of a staff survey of attitudes.

Examples such as this, and from our case study universities, reinforce our view that implementing strategies and policies to develop research in newer universities demands visionary leadership and firm management. This will imply realistic appraisal of research strengths and weaknesses; a vibrant strategic plan; strong endorsement of excellent research as a future direction for the university by all its senior executive; explicit acknowledgment of the institutional and individual prestige acquired through research productivity; and financial support that is directly linked to performance and promise.²³

The principles and elements that follow in the next section centre on five assumptions drawn largely from the evidence summarised here:

- Strategic leadership is the single most important environmental factor influencing research productivity.
- Institutional leadership of research development is not simply faculty, research group or department leadership on a higher level.
- Leadership of research development requires specialist skills and knowledge about the organisational conditions that contribute to academic productivity.
- Strategic leadership must be simultaneously robust and collaborative in order to enhance research productivity.
- ‘Assertive participative governance’, which combines unambiguous objectives with devolved leadership of research, is the key to success.
Principles and elements
Focus 1— Setting an agenda for change

The first task of the senior executive responsible for raising the research profile of a university is to set out a clear and inspiring schedule for change. A similar task faces an executive charged with raising the research profile of a university where performance has declined. Each must resolve to transform a culture in which research is seen as marginal or optional (or perhaps even a threat) into one in which it becomes an indispensable part of the university’s work – an activity that is endorsed and promoted by every member of staff as a principal pursuit.

In setting the agenda for change, senior executives should be mindful of evidence about strategies that lead to success. A persuasive vision is essential, but not sufficient; also required are determined support from all parts of the senior executive and a series of actions designed to embed the fundamentals of research productivity throughout the university community.

From these essentials flow strategies for developing the workforce, encouraging a positive attitude to change through shared leadership and building institutional capacity.
Principle 1. Create a compelling vision

The goal of the senior executive is to win over academics and administrators to the vision he or she has articulated for the university as a research-productive institution. The case for change needs to be compelling, using a mixture of rhetoric, hope, inspiration, appeals to deeply-held values and an appreciation of the risks posed by pressures external to the university. The vision needs also to present the institution as innovative in its outlook and approach.

The senior executive’s past performance as a leader of change and of research is likely to weigh heavily in establishing the credibility of the vision, supported by a convincing evidence-based account of recent performance. Clear organisational goals that emphasise the importance of research are central to guiding change.

What it means in practice

Make a clear-sighted assessment of the university’s performance

Creating an ambitious and innovative vision is a first point of influence for executive leaders of research. It must be a realistic vision that recognises the distinctive attributes of the university to which it applies, including its current performance and areas for development. Needless to say, a plan that envisions a series of wishes and hopes rather than an honest assessment of weaknesses and potential strengths is to be avoided. The new executive leader also needs to gain an accurate picture of how the university has managed research in recent history and especially how people understand the nature of research.

“Recognise strengths and then have the courage to go into unexplored areas”.

A high level assessment of performance against national and international benchmarks is generally best done centrally with the executive leader taking advice from senior executive and external experts. In some cases, where there is a history of positive responses to change and a highly transparent approach to decision-making, a working group of internal experts may be a more effective option to scope the strengths and weaknesses.

Context and comparison is vital: making use of accurate and contemporary data to construct a succinct and methodical representation of current performance. Which faculties and departments, if any, have achieved a track record of success
in gaining financial support from external bodies, evidence of impact through influential publications and indicators of scholarship? How do their achievements stand in comparison with other institutions? Which areas are weakest in research? Which areas have shown increases in volume and quality? How effective are internal administrative and support systems for research?

In universities where research productivity has declined there is a tendency for reputation in past achievements in research to cloud judgement about the need for urgency. In these instances it will be important to ensure that a justifiable level of satisfaction in past achievement does not become a drag on the effort required to make major steps forward. The risk of living on past success is that the current reality of poor performance is easily avoided. Success in getting this message across to all parts of the university will depend heavily on an analytical approach to current performance led by the senior executive and backed by hard evidence.

**Clearly define the future research orientation of the university**

This aspect follows on naturally from decisions about the current position of the university. The focus should be informed by standards which are widely understood across the broader academic community and against which the university will assess its planning and actions. These principles might include the significance of research in developing the institution’s reputation, attracting students and making the best use of research income.

The executive leader’s vision for a research orientation should start with a clear understanding of a sense of place: where research fits into the institution and its role, and where the university will direct its focus locally and globally. It follows then that this needs to be set clearly in the framework of the university’s proposed purpose in the long-term, that is, the type of university it wants to be. There is no point pursuing a vision for research unrelated to what the university sees as its place and purpose in the future.

In addition to greater clarity about its place and purpose, the orientation and direction would benefit from developing and promoting a limited number of designated research concentrations that are or will be distinctive peaks of world-class research. These peaks should give the purpose and direction of the vision a clear,
concrete and tangible form that fit with a consistent message about the nature and purpose of the institution. The areas should be sufficiently specific and distinctive and generally align with some existing relevant strength and a realistic prospect of expansion and enhancement to attract funding. This sets the groundwork for a series of ‘headline’ or ‘flagship’ high profile projects that will provide a focus for the program of reform and renewal.

**Decide where the university should be positioned**

The compelling vision will need to be based on a tangible picture of what the university aspires to be and where it might sit in relation to emerging opportunities. The senior executive needs to take a strong lead at this point with an authoritative understanding of the national policy framework. An independent and systematic analysis of the national and international context and a review of the options are then needed. This is done typically by identifying universities in similar contexts: those that have achieved a widely acknowledged significant increase in their share of research funds, with a sustained trend of improvement over time.

“Stop talking about the university – start talking about the strengths”.

Universities that have made a notably bold step towards a more research-intensive profile make a deliberate choice to target universities in the group beyond their established national benchmark institutions. They focus on a substantial set of universities internationally — as many as 15 to 20 — that have had a sharp take-off at a similar point in their history and they look for convincing evidence of a sustained shift in reputation for a research-led orientation over a few decades.

The aim at this point is to differentiate the approach of the university from other universities and not simply imitate them. This of course means the benchmarking choices at this point are critical to shaping the compelling vision and the success of the change agenda. Taking the long-term view reduces the risk of giving too much credence to comparable institutions that have made short-term gains on the basis of relatively minor initiatives and opportunities. The challenge for executive leaders of research here is to broaden the horizons of the university community while maintaining credibility.
Positioning is not just about research performance. Successful senior executives develop aspirations for research development with an eye to the context and mission of the university including, for example, the relationship of teaching and research, the community it serves, and its national reputation in areas of curriculum specialisation.

**Identify the core academic values underpinning the vision for research**

In aiming to make research an institutional priority, the senior executive must explicitly link the vision to fundamental academic values universally supporting the research enterprise. This makes it all the more important that academic research leaders confirm the sentiments that distinguish the research enterprise in universities prior to articulating the vision.

These values are likely to include the significance of making knowledge more widely available to the benefit of the community beyond higher education; the open exchange of ideas; the importance of suitable recognition and reward for achievement; the pre-eminence of research to the reputation of established academic environments across the world; a participative culture which supports research; collaborations that stimulate academic interest; a commitment to research informing teaching; and a desire for a collective emphasis on generating and sharing knowledge.

The executive leader needs to spend considerable time in the early stages of forming a vision and plan for action becoming familiar, first hand, with the diverse and often idiosyncratic disciplinary worlds of the research enterprise within the university. Knowing what people do and how they go about it makes a significant difference to their sense of being valued and their propensity to accept change.

The values that relate to academic work roles also need to be understood and acknowledged in the current institutional context, but more importantly how they may need to be cultivated and supported to underpin the vision for the long-term future. In some instances a considerable proportion of academics whose activities are centred on teaching will find the shift to a research emphasis a threat to their sense of identity. The approach of the senior executive to this will be first and foremost to build trust and mutual respect. Considerations for the future may well include a greater emphasis on research informing the curriculum.
Compile a vision statement that excites and inspires

Creating a distinctive vision for research in universities with low or declining levels of activity requires a carefully judged balance of an imaginative and inspiring scenario for the future with a firm sense of what is genuinely achievable with the right policy settings and supports in place. Given the importance attached to consultation processes up and down, we should emphasise that this is typically prepared as a draft, sometimes in the form of a ‘green paper’, but firmly stamped with the personal vision and voice of the executive leader.

“The game changer was the Research Quality Framework, which forced the university to look at the reality. This is in contrast to the risk of living on past glory and avoiding the conversation. The RQF was a wake-up call and basically the argument was that you cannot change things until you recognise that you have to.”

The distinctiveness of the vision should be a striking feature. It should provide a strong sense that the efforts to change the orientation of the university will have a lasting legacy. The vision statement needs to be clear and attractive with specific and tangible objectives that can inspire and motivate, both internally and externally. It should link to the past but be decisively new in some key respects. It should be supported by an account that is frank about the past, balanced about the present, and compelling but honest about the future prospects. It needs to set out the benefits of success but also the consequences of failure.

The vision statement should also be succinct and sufficiently precise to lead to conclusions about things that the institution will not do or will cease doing, as well as about new things to take on. At the same time it is important for the credibility of the vision, and that of the executive leader, to acknowledge the challenges and constraints that face the university and therefore to make it clear that the vision allows for flexibility on the ground.

Without a widely shared vision initial enthusiasm is likely to fade. On the other hand, too much vision and not enough action can lead to frustration, cynicism and a retreat to the status quo. It is useful then to outline the broad phases, perhaps with an initial 3-5 year horizon as the main focus, through which the university’s research development will progress until it reaches the level of research intensity it is aiming for.
CLEAR INTENTIONS: DELIBERATE STEPS

Griffith University

Griffith started its transformation process with a clear intention to become a research-intensive university, a long-term view, and a clear plan of action. The research strategy was centralised and provided top-down direction for big changes. A team of respected and determined leaders was put into place to provide stability and continuity to the change agenda. Their success rested largely on an analytical approach backed by hard evidence. The first steps included defining ‘research-intensive’, reducing organisational complexity, simplifying structures, and focusing on niche areas. Griffith then reduced some 80 research centres to just 30, and set about recruiting ambitious researchers. Each area prepared a business plan: a significant number recruited research stars and outstanding post-doctoral students. The University invested heavily in eight areas of research excellence that related to teaching strengths. The shift towards a research-oriented university included providing every undergraduate student with the opportunity to undertake a value-added experience involving something to do with research.
Principle 2. Provide clear coordinating goals

Research development leaders across the university, including deans, will need clear coordinating goals from the senior executive leader to guide their contribution to achieving the vision. The goals will be unambiguous, clear to all leaders and explicitly linked to their work roles, performance expectations and rewards. The outcomes articulated in the plan must be determined, forward-looking and capable of being effectively monitored.

Deans, associate deans and heads of school can help the executive research leader to change the university’s research performance by taking on some of the important tasks identified in the overall research development plan. They can also make a great deal of difference by aligning their own areas with the university’s research directions and leading them in ways that are consistent with the whole of institution plan. If there is little experience among deans and other academics of leadership in research, a more centralised management approach will be needed to create a change agenda. If the university already employs leading academics as drivers of research, a less top-down approach is appropriate.

What it means in practice

Build a strong coalition of support

Gaining endorsement from senior executive is an essential first step in building support for the vision and the research plan. Unambiguous support from the vice-chancellor is required to engage all members of senior executive in the implementation process, particularly where there are competing priorities around budget allocations. The vice-chancellor and senior executive have a particularly crucial role to play in making it clear to governing bodies, and business and community stakeholders, that the changes will require a lengthy period of commitment and that focusing on short-term returns from research is not necessarily in the best interests of the institution.

While the development of a shared culture that highly values research starts at senior executive level, lasting change also requires support from a range of opinion leaders across the university who can influence research leaders, academic and general staff to support the vision and strategy. The people identified should be forward-looking, open to possibilities and have the interests of the institution at heart: the kind of people who want to take the university on the journey. They should be drawn from
across the institution to provide perspectives from a range of disciplinary cultures but not selected as delegates representing interest groups.

“One way of engaging these opinion leaders is through the formation of ad hoc working groups focused on specific issues with limited timeframes to achieve the tasks set. This has the added value of generating a sense of urgency to the task of raising the profile of research and provides a sense that the university is going somewhere. Another option is to form these people into an advisory committee to guide research development with the job of looking at the big issues and providing advice. Executive leaders find that these individuals can also take some responsibility for the implementation of policy.”

**Translate the vision into a plan and consult widely**

The immediate task in the initial stages of the change process is to establish an achievable medium term vision and an integrated framework that sets clear directions for achieving the vision, places specific elements of the reform agenda in context, and helps faculties, research centres and individuals understand how it all relates to them. The research plan should reinforce the message from the vision about the type of university it wants to be and the priorities should be limited in number, not overly specific, and quite obviously related to the targets set and the resources allocated to achieving the goals. These components in combination should articulate the direction and distinctiveness of a renewed sense of purpose.

It often helps to give structure and coherence to the reform and renewal program if the major elements of the plan can be grouped and managed as a set of related ‘headline’ projects. The plan might, for example, emphasise the place where the university will direct its focus locally and globally, and identify specific areas and activities in which it will aim to excel. This also demonstrates to university staff and other stakeholders that the reforms have a well-considered and positive purpose and are not just more change for the sake of change. It will be important in this respect to demonstrate that one aspect of the reforms is to provide productive staff with additional resources, not simply about doing more with less.
Universities that make a significant improvement in research productivity ensure close alignment of faculty and research centre plans and activity with the core goals. The new executive leader of research has the task of making it clear to all staff just what the priorities for action are from the university’s perspective when, as is often the case, so many areas are in need of attention and resources are limited. In this situation there is a risk of exhausting the good will of staff in pursuit of multiple, apparently unrelated reforms to systems, processes and structures.

“The nature of research leadership has changed – it is not only about doing research, but more broadly about appreciating research. This implies collaboration and a multi-disciplinary approach. There is a tension between the regulated external environment and the creativity and collegiality that needs to be managed.”

Setting the course for change requires a systematic planned approach to consultation under the personal control of the senior executive leader. Consultation not only improves the plan but also sets a discussion in train that lasts the life of the plan. For example, if teaching workloads are high and there is little internal funding, an overly ambitious short-term strategy to grow research will not work. A collective effort involving the working groups or advisory committee to refine the plan prior to the general consultation process will give it greater credibility and increase the likelihood of broad and enthusiastic support.

However, it is not uncommon for senior leaders to prematurely assume that their message has been understood or to be lulled into thinking that the vision and goals have been accepted. The experience from most universities undergoing this process is that it requires a great deal of persistence and a highly transparent approach to engage the university community and external stakeholders. It helps to identify major transition points towards achieving the vision and to celebrate milestones. It is essential to acknowledge contributors along the way, and that the input is duly reflected in the final version of the plan.

**Communicate the vision and goals**

The vision and plan need to be communicated in ways that reach and motivate people all parts of the institution. Communication at every point of the reform and renewal process is the key to successful implementation. This means personal
communication in a wide range of forums and, more than anything else, regular communication with individuals. Every opportunity should be taken to explain the goals and aspirations: the messages need to be absolutely consistent and confirming.

A communication plan is useful. It should provide a sequence and timeframe to guide each step of the consultation and dissemination process with a deadline as a major event in the university governance calendar. Communications through formal internal reporting process and direct reports should be limited and carefully managed to avoid unnecessary delays and distractions.

“You have to work with the staff you’ve got, focusing initially on the people who are on side. Win the hearts and minds of individuals gradually. Develop a supportive structure around you to enable leadership at senior level. You need good academic credibility personally.”

The sequence of drafting the plan through to final document should be structured around a tight timeline in advance: drafts should be kept to a minimum, and sufficiently polished to boost confidence without suggesting a predetermined outcome. The communication plan should identify the major stakeholders, including external bodies and authorities, and the appropriate forms of communication. Effective communication with potential national and international partners will flag the intent of the university and confirm the reality of reform and renewal.

Communications should also celebrate milestones in the planning process. These are often achieved under considerable pressure and require substantial personal investment of time and energy from the working group members. Public acknowledgement of their contributions goes a long way towards maintaining the quality of input required to see the implementation process through the first critical stages. This also adds to the sense of ownership and more importantly to the long-term commitment required to see the vision and plan realised.
REVITALISING PRODUCTIVITY

Deakin University

The initial phase of raising the level of research activity at Deakin University included setting aggressive stretch research targets. There was a high level of buy-in and the research income went up dramatically for five years but then plateaued. The Deakin strategy to revitalise productivity involved a number of elements, including an injection of funds to kick-start new activities, but was also accompanied by significant structural changes to reduce organisational complexity. Arrangements were simplified around three ‘mega research pillars’, and new research centres established. A critical change in approach involved distributing funds to the faculties and pushing responsibility back to leaders and researchers, with part of the funding dedicated to nurturing new areas. Transparency in tracking progress was also critical to success. This included income predictions in reports to heads of school. Other major elements in the revitalising period included a major investment in recruiting with a target of 200 new researchers over three years.
Focus 2 — Taking an assertive-participative approach to leadership

The leadership challenge in universities is, above all, to strike a balance between autonomy and direction that respects academic traditions, but is effective in the institutional context. How can the executive leader of an institutional research development strategy find this balance? Experience and evidence suggests the answer lies in an assertive-participative approach.

Executive leaders of research striving to improve institutional research profile and performance adopt a form of leadership that is firm, if not somewhat forceful. Too much effort and too many resources have to be marshalled, usually against a tight timeframe, and too much sophisticated positioning has to be achieved for the process to be led entirely by gentle persuasion. Qualities of imagination and boldness are required of the executive leader along with personal credibility as a successful researcher closely connected with external bodies and national policy developments.

On the other hand, robust and inspirational executive leadership of research needs to tap into the resources of collegiality in the university by engaging others in the leadership process. This includes both other senior leaders and researchers who may not necessarily hold formal leadership positions. There are many ways in which research leadership can be exercised and the executive leader needs to be adept in identifying potential leaders at the level, creating opportunities for them to contribute, and ensuring they are recognised and rewarded for their efforts.
Principle 3. Create a competitive environment

A defining feature of research-intensive universities is a meritocratic culture in which excellence is pursued through rewarding success. As the international and national context for research has become increasingly competitive, these universities have increased their support for those interdisciplinary teams and research centres that are able to compete on the world stage in order to maximise their advantage. Research productivity is very unequally distributed. The fact that most research is produced by a small proportion of academics is testimony to its highly competitive character.

When linked to an inspiring vision and systems for assessing progress towards the university’s research ambitions, strong-minded research performance goals – including aspirations to increase research income – help to reinforce a sense of collective responsibility for raising research activity and outputs in the context of external competition.

What it means in practice

Establish research management systems that mirror the external environment

Creating a culture in which every member of staff takes research seriously will require internal systems that reflect external ones. Clear expectations of what counts as research performance must be established. Internal research grants should be distributed through a process of strict merit-based allocation. Weaker applicants should have access to support to improve their applications; under no circumstances should there be an equal distribution of resources. Research support offices need to echo this competitive environment through maintaining systems that target teams and individuals that are successful and those that show clear promise of success.

“While it’s tempting to do very serious strategic plans and SWOT analyses (they are important elements) often aspects of cultural change come about by small wins.”

Some key actions are required in the very early stages of change to shift the culture from one of entitlement to competition. These include applying the same research grant assessment criteria and evidence regimes as are used for national and international grant applications, and raising expectations about the quality and quantity of research outputs and the forums for dissemination of findings to international standards. It also means setting challenging performance targets for faculties and research centres.
It is worth noting that these external systems are in a constant process of change and modification in response to external conditions. The senior executive typically anticipates these developments — often through their personal involvement in national policy development — and steers the faculties and research centres towards the required adjustments. It is particularly important to counter the tendency of those who find it difficult to meet the competitive demands to blame the system for their failure.

**Align faculty and research centre action plans with university goals**

Judicious use of funds concentrates minds on the priorities in the direction of the research development goals. Successful executive leaders design grants and incentives systems from a range of funding sources with the clear objective of changing individual choices about where to focus personal energy and resources. The most obvious way of doing this is to design funding formulas and targeted incentives to steer faculty and research centre action plans towards supporting university goals.

Incentives to produce faculty and research centre action plans that support institutional research goals similarly have a function in encouraging a vigorously competitive environment. These typically involve bidding for central funds dedicated to specific changes in the approach of research teams, such as collaboration with outside bodies, pilot studies and bringing in research expertise from external sources. Leadership also needs to spot plateaus in performance and intervene. At that point a carefully targeted injection of funds can reinvigorate and start new activities.

Research activity and significant outputs aligned to institutional research goals should be rewarded through the allocation of additional resources, special initiatives funds, support for collaborations, study time and scholarships. Rewards need not be large: academic research performance is largely driven by peer recognition: modest seed funding and public appreciation of success together often have large positive effects often stimulating a significant leap in productivity and long term changes.

Successful executive leaders understand that breathing space is needed for researchers to develop and that cycles of grant winning and research activity vary

“The University had way too many people publishing in conference proceedings and research centre internal reports. They needed a huge cultural shift away from that mode of publication to the highest international standards.”
across disciplines. This is particularly so in universities with a strong profile of academic disciplines which have limited research traditions. Research works on longer rhythms and it needs a critical mass to develop. The focus needs to be on the longer-term durability.

Over-management by deans and heads is especially to be avoided. A more productive strategy is to remove impediments to success for those who have the potential to succeed. Peer review of internal grant applications, mentoring of inexperienced researchers, attention to improving the quality of external grant applications and acknowledgement of achievement all play a role in supporting vigorous competition at the same time as providing collegial support.

Set challenging performance targets and timeframes
The research plan should include key performance indicators limited to, and directly aligned with, the goals and priorities. The performance indicators should be in a form that can be benchmarked nationally and internationally and they should identify the people responsible for achieving the goals, with individual accountabilities set out in clear timeframes. The performance targets should reflect the main phases of the university’s development towards a stronger research orientation. While the demands should be high they should also be realistic and matched by new support systems and processes.

In all universities, whether starting from scratch, revitalising performance, or aiming to reach a new level, strong consensus is needed on what it means to be research active. This varies considerably between universities and across the fields of study, and it changes over time. It is of course set in the context of national measures of performance. Reaching agreement on the nature of research and the metrics involved is a critical preliminary step in the process of establishing a new performance regime. This is best done in a transparent and collaborative process with faculties to ensure that definitions of research active make sense in the disciplinary contexts.

Once consensus is achieved on the definitions of research active, the executive leader needs to take a robust approach to setting faculty and research centre performance targets against the university goals and timeframes. The performance indicators should be directly linked to the emphasis on research in promotion criteria.

“You don’t necessarily need a large amount of money. You need a can-do culture and strategic points for development.”
and all elements of the university rewards systems including for example, sabbatical leave, conference leave, and support for travel on academic business.

In faculties with low expectations and poor track records of research, the collaborative process may require direct involvement of the executive leader and the advisory group of research leaders who can assist in taking people back to some of the basics about doing research. One of the consequences of this is likely to be a process of moving beyond the standard model of workloads. The research active definition will not necessarily be a particularly high bar, initially at least, but it certainly should identify precisely what is expected. Processes need to be agreed from the outset for dealing with consistent failure of individuals to reach the bar such as providing performance management.

**Monitor progress against the plan**

As we noted in Principle 2, the institutional research goals must be in a form that enables progress to be monitored. The overall implementation of the plan should also be monitored and reviewed at regular points. The process must be highly transparent: it is in everyone’s interests that the process is articulated in the plan and that there is a clear focus on the formative purpose of monitoring. The set of measures should be sensitive to disciplinary differences but equally rigorous across the different settings to provide clear evidence of progress and diagnostic information about ways of accelerating those that are successful as well as addressing underperforming areas. In addition to the standard measures of research performance around income, outputs and research training, a range of measures are needed that are directly related to the major components of the institutional framework for change.

“There is now much more of a culture of performance across the university and the centre and institute directors are driving it. The University is recruiting ambitious, hungry people who are committed to their research.”

The executive leader of research development is assumed to be fully acquainted with the literature, debates and research on the nature and use of performance indicators, especially their use for internal assessment of initiatives to raise research productivity. They will be familiar with issues concerning the collection of relevant data, the costs involved (time and money), and the management and dissemination of reporting processes. Likewise, they will be alert to the potentially positive and negative consequences of the uses of performance data — particularly with respect to funding regimes — and the sensitivities involved in
the initial period of adjustment and transition from a low to high performing research environment. In a staged approach towards a research oriented university some more nuanced metrics may be needed to assist the adjustment process.

Monitoring is a process of leadership, collaboration and learning. It should inform a transparent process of review at regular intervals to establish the degree to which improvement has occurred as the basis for making adjustments to the plan. Executive leaders will also focus on establishing meaningful international benchmarks as a central element of monitoring the process. Taking the initiative in identifying a sustained program of benchmarking provides the executive leader with a significant opportunity to cultivate a productive and rewarding competitive environment.

**Support excellent research wherever it is found**

For universities with limited research profiles direct intervention from the executive leader may be needed to support individuals and groups in specialist areas with notable track records or promise to take advantage of opportunities as they arise. There is also a more general positive effect from this strategy: it signals that potentially strong individual initiatives will be encouraged even where they are outside the priority areas. It also confirms that the research plan is flexible and that development funding is available to support ongoing areas of excellence as well as for promising new initiatives.

Where there is research from small groups or individuals that is clearly excellent according to national and international benchmarks, the executive leader of research development should make a careful assessment of the potential value for the university in supporting the activities with appropriate resources and other forms of support. Some of these people may have strong international reputations that may at some point lead to a concentration of activity. They may be working in new areas with potential for expansion with the right support and incentives but there is a risk that their work is overshadowed by the attention given to the strategically aligned programs and projects. Retaining these researchers may require some specific initiatives in the rewards system including promotion. The executive leader might consider ways of ensuring that these people are properly acknowledged and that their work is fostered, valued in its own right, and acknowledged as evidence of the research-orientation.
CREATING A CULTURE OF PERFORMANCE

Griffith University

Underpinning the change in culture was a major shift towards evidence-based strategic development. The analytical approach with hard evidence extends to all elements of research development. The institutional KPIs are very quantitative and provide a clear picture of how well the University is doing. Annual reviews and funding based on performance were introduced for research centres with clear conditions imposed if they were not performing. Performance measurement also occurs through staircase modelling, which sets out for units what base levels are appropriate. For individuals, defining research-active academic profiles set a standard for new work patterns and expectations maintained with a systematic approach to performance management. International benchmarking was a focal point of the development process. Griffith identified 15 universities outside Australia focusing on those that had a sharp take-off in their 50th year and had acquired a reputation for distinctive achievements. The sustained culture of performance is reflected in the ongoing self-critical analysis of progress and a sense of confidence in achieving the long-term goals.
Principle 4. Devolve leadership of research

Effective devolution of control, or distributed leadership, is fundamental to improving research performance at all levels: the aim is to push responsibility for outcomes back to faculties and research centres with clear top-down direction and support. Effective devolution requires a team of determined leaders operating at both central and faculty levels to provide consistency and continuity and ensure that academic managers and research leaders develop systems that interpret the university’s research strategy in the context of specific local conditions.

A highly effective first step will be to develop a larger number of new research leaders across the university: the type of people who are keen to participate in national forums and pursue competitive opportunities and who encourage their peers to do likewise. This involves extending the expectations of academic appointments beyond excellent teaching and research track records to possession of wider scholarly, leadership and entrepreneurial capabilities. The intention is to enhance institutional stocks of academic staff willing and able to lead change processes and take their universities to significantly higher levels of research intensity.

What it means in practice

Provide role clarity for senior research leaders

We have emphasised that leadership is the single most important environmental factor influencing research productivity. This applies especially at the level of the research group or department. It follows that one of the most significant things an executive leader can do to ensure that devolution works is to focus on improving the quality of research leadership at all levels.

The coordinating goals of the plan should identify how research leaders in faculties and research centres are expected to contribute to the change agenda. This includes clear expectations about their performance with criteria and accountabilities directly related to the tasks and timeframes set out in the research plan. Role clarity encourages a strong sense of ownership of the goals and the implementation process. Assertive-participative leadership comes to the fore at this point with sharply focused expectations, managed firmly, but with high levels of support, rewards and recognition.
The plan for achieving the vision will comprise a combination of actions at the level of the university as a whole, and at faculty, school and research centre level. Research leaders can be engaged at both levels. The executive leader of research development, regardless of the university’s research profile, has a demanding portfolio and can energise the process by sharing core roles with other research leaders.

In universities that have made significant gains in whole of institution research productivity executive leaders have been highly successful in cultivating a balance of collaborative commitment to the common interest. The most influential factor supporting this mix is a strong focus on goals and highly transparent processes. In many universities academics with designated positions such as Associate Dean (Research) play a vital role in implementing the plan at the faculty level. These are increasingly full-time specialist roles with a skill set centred on coordinating research development.

The major advantage of these types of positions in the initial stages of the change agenda is that they can be fully focused on implementing the research plan. The most effective typically have direct communications with the executive leader and are therefore able to provide advice from the local perspective as well as taking advice back to the faculties and research centres to promote and mediate change at the local level.

Develop and support a strong network of research leaders

A key initiative will be to identify and engage new research leaders across the university – the type of people who participate in national and disciplinary panels, lead forums, pursue competitive opportunities and encourage their peers to do likewise. The task then is to create and sponsor internal networks and actively manage them to maintain a sense of collective ownership of change and a continuing willingness to participate.

Regular meetings between the senior executive and associate deans for research, deans and centre heads cultivates collaboration and enables participants to share good practice in response to the challenges and opportunities of generating high quality research activity at the local level. Frequent contact, open exchanges of ideas, sharing of information and the valuing of frank expressions of views by all parties, together help to construct productive networks of research leaders.
The continuity of the leadership group needs to be managed with succession plans and professional learning arrangements to attract and retain new senior leading researchers. Associate deans are effective facilitators of these networks often taking on an executive officer role. They can be highly effective in reducing the complexity in organisational arrangements, simplifying communications and as a source of specialist knowledge for both the executive leader and the deans. The most productive usually have a budget to run projects at the faculty level, including funds to engage expert advice and professional development for research teams. They also support the executive group in a variety of ways such as engaging project officers to conduct whole of university monitoring of progress to inform senior leadership decisions.

**Sponsor professional learning for research leaders**

The senior executive leader can add significant value to the quality of research leadership by sponsoring a systematic professional program of professional learning closely aligned with the research goals. A thorough assessment of the research training needs should provide the basis for a substantial ongoing program, especially for the first cycle of research development initiatives and then regularly revised in response to changing conditions. The training analysis sends a strong message early in the change agenda that the university values the research leaders and researchers generally. This also serves to make the point that while generic leadership programs have a place, research development leadership requires specialist expertise to run sophisticated management systems to meet the challenges of competition and take advantage of opportunities in new areas of research activity.

“You need new people who are externally focused and people who nurture talent internally. You need processes or forums and occasions to get these people to talk to one another. You need to create the conditions for serendipity.”

In most universities the human resources department, or an academic development unit, provides the professional learning program. These typically involve a series of workshops and forums designed and delivered with advice and support from the executive leader of research development. Whatever the organisational arrangements it is vital that the executive leader is closely involved to ensure that the programs directly enhance the leadership skills needed to implement the plan. In contrast to somewhat reactive professional learning events this might include specific training in response to specific opportunities as they arise. While it would involve
workshops and seminars on core elements, it might also include, for example, mentoring, shadowing, travel grants, internships, team building, grants management and international partnership development.

A strategically oriented program of professional learning opportunities for research leaders has the major advantage of creating a consistent approach across the university. It forms a powerful basis for driving change with a shared purpose. For universities building or renewing a research profile, more specific local needs can be identified. Priority should be given to developing senior leadership capability with high profile opportunities including international professional development programs. The areas of focus might include high level policy development, strategies for generating innovation, planning, project evaluation, and mentoring future research leaders.

**Involve research development leaders in achieving the vision**

Successful universities are often highly self-conscious about their team approach to meeting challenges and exploiting opportunities. They encourage good ideas from staff at any level and in many cases enshrine these shared values in vision statements and planning documents. If a devolved model is a central element in the change agenda then it makes sense for the plan to spell out the nature and extent of opportunities for these people to contribute.

Engaging research leaders and managers directly in policy and planning requires confidence and mutual trust. Strong leadership in this respect involves identifying and structuring opportunities for research leaders to contribute to policy and planning. This can take many forms but should not be overly formalised, especially in the early stages of defining and implementing the change agenda.

Creating opportunities for research leaders to contribute will enhance the decision-making process and again reinforce the element of collective ownership and the importance of ensuring the change agenda acknowledges local disciplinary contexts. Effective communication by research leaders will include running open consultation sessions and creating working groups at which the strategy is debated and sharpened into a local action plan. These plans will generate discussion about local expectations of what makes an academic research-active, which in turn will feed back to the overall university planning document.
Recognise and reward research leadership at all levels

Much of the executive leader’s work in forming and engaging the wider research leadership group demands the creation of new relationships, systems and processes. If a wider group is to engage effectively with the executive leader of research development they will need to believe it enriches their careers and their levels of job satisfaction. Individual leaders should be able to translate their contributions into advances in their careers and a more productive and positive work environment.

The executive leader has a vital role to play in enabling these leaders to record their work and document their achievements in ways that register in processes such as academic promotion. Productive work as a leader of the research development process should be recognised and rewarded. It should not distract from the research program of individual leaders or their opportunities, indeed their research efforts should be more actively supported to make the leadership role a more attractive proposition.

Conventional individual recognition and rewards, while essential, may not be sufficient: removing systemic obstacles to enable academics to get on with their research with a minimum of bureaucratic intrusion can make a significant difference to work satisfaction and productivity. The executive leader can also provide powerful support for research leaders by working through institutional problems with them and together developing novel solutions. This may include new workload regimes, development of a contextualised research performance index, or alternative mechanisms for rewarding faculties and research centres for research performance.
CREATING A CULTURE WHERE EVERYONE TAKES RESEARCH SERIOUSLY

The University of Portsmouth

Prior to establishing the role of Director of Research it was not possible at the University of Portsmouth to assess performance and progress towards research goals. The first task for the newly appointed Director was to establish clear expectations for academics by driving change with an ambitious target of increasing research income by 20 per cent over five years. A working group was set up to conduct a scoping study of strengths and weaknesses in relation to the external environment. The leadership decided on the final vision and themes to guide the research strategy followed by further consultation on the outcomes of the working group. The transformation process was particularly influenced by a collaborative approach to developing strategy and action plans, underpinned by central investment in thematic research networks with internal funding that involved bidding.

The Director prepared a paper on how to put a new strategic plan together and consulted up and down. Action plans for each faculty were then developed, each based on a central strategy containing six core themes. The plans included targets. In collaboration with faculties this also involved constructing a definition of ‘what makes a research active academic’. Since it varies by subject area they wrote their own. Making external appointments of deans helped to ensure that active researchers were selected when recruiting.

The approach of the executive leader also included: gaining strong corporate buy-in; removing systemic obstacles to success: using peer review, mentoring, and rewards; recruiting active researchers and experts from outside; and devolving leadership. Careful monitoring of quality of external funding applications is an essential element of the strategy using a peer review college and band of reviewers for all substantial grant bids. One of the more challenging themes in the research strategy is to integrate education and research. This is being achieved partly by involving top researchers in teaching and introducing research internships for undergraduate students.
Focus 3 — Expanding research capacity

Addressing deficiencies in infrastructure and staffing early in the change process can be a morale raising start, especially if the gaps can be filled quickly and with a modest injection of funds. While these early gains provide the executive leader with credibility across the university, building capacity to new levels to support a major lift in research productivity and orientation requires a lot more direction. In a resource-limited environment this requires innovative solutions. The role of the executive leader typically includes identifying new ways of expanding institutional capacity to support the vision and plan, and generating a sense of optimism to develop commitment to the change agenda. Increasing research capacity stimulates a benign cycle of increasing the level of research activities that in turn should attract high calibre researchers and students. It has the effect of becoming self-reinforcing as academics, students, and granting bodies change their perceptions about what the university can offer.
Principle 5. Build on current strengths

Realising an ambitious vision for research begins with selection of existing areas of strength and concentration of effort and resources to build them up. One of the strongest messages from successful executive leaders of research is to start with what you have. This includes not just the current crop of researchers, but also areas of strength in teaching, aspects of the student profile, social and geographic advantages, and established partnerships and community links of various kinds.

“Every institution has good people – you need to send a signal to individuals that their work is valued and that they have opportunities, and that they will be supported. While it’s useful to bring in new people you haven’t necessarily created a group of people they can work with.”

The executive leader needs to get a strong sense from the senior leaders about what the university, faculties and departments are known for and good at. Perhaps the most significant part of the role, however, is the high level strategic thinking and positioning that is required to help senior leaders create developmental opportunities for themselves. These primarily involve collaborations, prudent exploitation of research funding programs, and international connections in their respective fields, including the recruitment and supervision of research students.

Selection of existing areas of strength and concentration of effort and resources to build them up to a level of excellence seems straightforward enough, but in order to be effective it must be achieved with rigour, sensitivity and imagination. A useful piece of advice from a variety of sources is that it is easy to get carried away in producing a highly logical plan for capacity building relying on prediction, goal setting, hierarchical structures and top-down strategy. Hard headed assessments of performance and potential have to be made, and misplaced sentiment avoided. Habit and custom can be the enemies of this process, as can an ill-founded sense of entitlement among established but under-performing researchers.

What it means in practice

Concentrate resources in areas with potential for development

Senior executives will typically be no strangers to pragmatism — and its value will be apparent in defining the trajectory for change. It is important to support and develop the highest quality research in areas that are already successful or that have obvious
potential for improved performance. It is important from the outset to have a shared understanding that the university cannot succeed in its research goals if it attempts to be all things to all people and that it is impractical in the short term to attempt to produce strong performance across all parts of a university — the kind of wide-ranging productivity that might be expected in an older, research-intensive institution.

A balance needs to be struck between stressing the importance of research for everyone in the university and supporting the teams and individuals that are most likely to deliver. Going head to head with research-intensive universities may be possible for some existing strong areas (despite strong barriers to the entry of new participants). Other research specialisms may be relatively new, more open to fresh competitors, and therefore also worthy of support. It is important that current areas of research strength should be identified using nationally and internationally prevailing measures of research performance to provide confidence that the investment in capacity building is worthwhile.

In order to establish sound areas of research strength with sufficient critical mass, it will almost certainly be necessary for researchers from related areas to adjust their research focus and begin to form larger groups. The executive leader will, however, need to guide such aggregations to avoid incoherence, insufficient focus and the tendency to be too inclusive. Concentrating resources in a few areas is likely to be resisted in universities where ‘equal shares’ has been the tradition. It is obviously important to select areas for concentration on the basis of strong evidence of performance and against clear criteria.

**Accelerate growth of areas with potential for excellence**

Establishing, connecting and resourcing designated research areas are necessary, but not sufficient conditions to see them become excellent. The executive leader, in coordination with other senior research leaders, can accelerate the progress of designated research groups with a variety of additional interventions. The key messages are that the university needs to provide targeted support based on what has been achieved. The target is to be the best in those areas. Where it applies, the executive leader should use the advantage of being smaller, cutting through the bureaucratic processes and working directly with the leaders of the selected areas, guiding them in developing their own goals, strategies and organisational systems.
A core task of the executive leader’s office will involve actively monitoring external developments and gathering intelligence about emerging opportunities. This should include aligning these opportunities with the areas of potential excellence and assisting faculties and research centres to assess their prospects of success and the directions they might take. This is not the sole preserve of the executive leader, but is also part of the role of other senior research leaders operating in concert with the executive leader.

“There needs to be some tough love with lower level academics who are just simply not going to get lucky. They need alternative pathways and support mechanisms. There is a need for people to know what the discipline is doing well but also where it is weak internationally. The ideas in some areas are simply not leading edge enough.”

In an increasingly professionalised research environment, success for research groups depends on both their research skills and their organisational competence. Senior research leadership includes getting this message across as well as providing leadership in its implementation. This also involves working with the relevant deans, associate deans and heads of school to ensure the groups are receiving the treatment the institution intends.

The tough-minded approach of the executive leader extends to setting realistic expectations about what can be achieved and the time it takes to grow research concentrations to a sustainable scale. It is generally the case that with the right funding and income stream the time frame is about three years to get new ventures up and running, or to accelerate them to that point from a modest base. Five years is typically a reasonable business plan framework. A five-year business plan with a three-year milestone helps put people under pressure to perform but gives them room to respond to unanticipated changes or to make adjustments.

Identify areas of low performance that may have potential for development

Benchmarking existing research in the university will not only identify areas of research strength, but also those areas that are not operating at the appropriate standard. Some of these, with the right sort of support, may eventually be able to improve their performance enough to warrant inclusion among the designated areas. All support for research groups, whether designated or potentially designated, should be provided on the basis of performance against explicit and exacting criteria.
When faced with the challenging task of reducing research centres and programs, executive leaders of research focus first and foremost on clear and unequivocal evidence of recent trends in performance relative to benchmarks. Low performance needs to be addressed with frankness and options for development including alternative pathways and support mechanisms for individuals. Where projects are lagging but the researchers are highly capable, the research leaders should endeavour to steer the research in a new direction. There is a strong case for people continuing to pursue their academic interests where they built connections between areas of strength in research and teaching, including research to inform teaching.

The strategies of accelerating areas of strength and reframing low performing areas with potential both carry risks of the research programs not measuring up to the challenge. Any number of factors can conspire to undermine the good intentions. Highly successful executive leaders in research productive universities allow for risk, indeed they create room for flexibility in structures and regulations to encourage faculties, research centres and researchers to be entrepreneurial. The risk points are tolerated and rewarded, as long as they meet the outcomes that are set.

**Enable research leaders to maintain their research activity at the highest level**

The academics identified as research leaders will be amongst the most productive researchers in the university. The executive leader of research should not overlook the direct contribution these people make to the research capacity of the university as researchers. The leadership roles and the multitude of development activities they are involved in should not interfere with their own research programs. Time and space to maintain a consistent workflow is usually the main issue.

A notable predictor of the publication success of university departments is the head of department’s record. Not only should this be a factor in policy for recruitment and internal appointments, it can also be supported in real terms including additional allowances for personal research assistance, time to present research findings at conferences, and support to engage in review processes. Direct support in the form of small grants from the executive leader’s discretionary fund will assist the head of department to maintain their research and publication productivity, and have the added impact of sending a message to new and prospective academics that good leadership should not compromise good research.
The executive leader needs to help these people find the synergies between continuing to undertake high quality research, leading processes to advance institutional research performance, and significant personal recognition and rewards. Not least of these is the provision of support in the form of additional research assistance or administrative staff that may possibly be funded directly from the office of the executive leader.

**Initiate and sponsor targeted research partnerships**

Capacity building strategies for universities starting from a low base generally give priority to establishing active research partnerships with high quality national and international research institutions and networks. A major component of the research environment is the partnerships that enable researchers to collaborate with the best people in their respective fields, including the translation of their research into professional and commercial practice and products. Successful industry engagement and commercialisation increasingly requires specialist skills and support particularly where it involves international partners.

Institutions that create new horizons for research pay particular attention to supporting the international connectivity of academics and departments, and look to the potential for long-term partnerships. Formal partnerships with a variety of leading international research organisations enables sharing of resources that would be beyond the reach of many low-performing universities and provides greater value for money in terms of impact. The newly appointed executive leader needs to take a strong lead in these developments including a rigorous assessment of the worth or otherwise of existing partnerships. As the major sponsor or patron of partnerships the executive leader is then in a position to ensure they advance the vision for research and align closely with the research strategy.

International education partnerships and consortia provide a base to attract research partners and potential research leaders and researchers through joint projects, joint appointments, joint research infrastructure development and cooperative research management arrangements. Initiatives from the office of the executive leader typically include providing direct incentives and support to stimulate networking activities.

Executive leaders and the research leadership group can achieve a lot simply by identifying potential partners and opening up conversations. It helps if they have personal credibility as researchers and can play to their strengths. They should
do everything they can to facilitate the interactions and networking that follows and make a point of removing barriers. The notion of ‘marrying up’ with leading research-intensive universities ultimately relies heavily on personal connections and can be highly rewarding all round. While forced marriages may open up new horizons they are potentially problematic and often require sensitive management: many of the most successful and life-long research partnerships come from personal contact between researchers. Academics collaborate best when they like the people involved in partnerships and their approach to research. They will be more obviously committed when there are strong synergies and clear rewards including the opportunity to pursue areas of mutual personal interest.

Successful executive leaders focus on looking for long-term relationships. They take slow steps to build up the relationships with a small number of institutions with similar aspirations. These are not necessarily the most prestigious universities: the match needs to be based on pragmatic goals. It is important that the relationships are not just faculty-to-faculty but university wide, that is, they are multi-stranded relationships, which are therefore more likely to endure. This is in contrast to discrete projects involving specific individuals that disappear when key researchers take up positions elsewhere.
LAYING THE FOUNDATIONS WITH STRATEGIC PARTNERSHIPS

University of the Sunshine Coast

The University of the Sunshine Coast provides an example of a new university in the process of getting its policy settings in place to achieve its goal of building a nationally and internationally competitive research profile. The long-term vision (10-20 years) is to achieve recognition as a major regional university. The medium term horizon is 5-10 years with a focus on growing and building on the current rates of performance by establishing and expanding regionally relevant research niches through institutes and centres directly addressing regional issues and developments. The plan includes making strategic appointments through a research fellowship scheme. These new researchers are aligned with USC’s designated research concentrations and are expected to contribute significantly to increasing the volume and quality of publications, grow research higher degree enrolments and maintain high completion rates.

A major element of the strategy is building productive partnerships with ‘kindred spirit’ institutions: bringing groups with complementary expertise and research capabilities together to combine capabilities ‘exceeding the sum of the individual parts’. The University aims to encourage research partners with a proportionate share of research block grant income to develop partnerships, allowing resource sharing and further accelerating growth in research. The strategy is to ‘marry up’, exposing staff and students to enhanced research capabilities at the partnering institutions. International reputation is a key aspect, so the University is establishing formal partnerships with a variety of leading international organisations.
Principle 6. Invest in research infrastructure and systems

Research infrastructure and management systems embrace a wide range of resources, physical and human, as well as structures and processes. Capacity building in research infrastructure and management systems has the primary goal of enabling researchers to do their research in the most efficient and effective way possible. As the complexity of systems evolves and the management of competition and collaboration increases, a new cadre of specialists in research management is emerging supported by newly formed specialist professional associations. The executive leader will need to make a point of taking early action to inject new life into the research management staff by appointing outstanding people who have a sharp sense of purpose and an appreciation of the imperatives embedded in the vision.

The investment in the quality of infrastructure should be a clear signal that the executive leader aims to match high expectations for research performance with world class support. Researchers should be able to concentrate their energies on core business supported by organisational structures and policies that help rather than hinder. Investment in these critical areas has an impact on almost every dimension of research activity, from the appointment of research assistants to the purchase of equipment. It also adds an incentive to attract and retain world-class research teams, and helps keep those already on board.

What it means in practice

Recruit outstanding professional research managers

The quality of research managers responsible for central administrative functions is critical to achieving significant gains in research productivity, particularly in small institutions. Executive leaders of research development should review best practice institutions with an eye to the strategies used to build and sustain a strong base of highly effective staff. Some lessons from international best practice include: putting time and energy into inducting people with a different ethos; emphasising a high level of professionalisation of administration across all functions; and making an exceptional effort to train people for their new or changed roles.

Strengthening research management across the university with high quality appointments demonstrates confidence in the potential of professional managers to make a difference to achieving the long-term goals. This involves a wide range of activities, from access to research infrastructure, including connectivity,
through effective and efficient administrative systems and the high quality staff to manage them.

It is generally preferable to recruit professional managers with expertise and interest in the research enterprise. Without overstating the point, understanding the nature and purpose of research, and appreciating the diverse ways academics go about doing research, not to mention their work motives and values, is an advantage. Research managers with these perspectives and outlooks are better equipped to respond to local, national and international policy changes, funding and collaborative opportunities, and general trends in research and innovation. They will have a clearer sense of priorities in supporting improvements in research performance.

Create highly responsive research management processes and systems

The influence of the executive leader on research performance extends to every contact point between the university research and development office, and the faculties, centres and researchers. In the initial phase of implementing the change agenda the executive leader should aim to take the research management processes and systems rapidly to a new level, with roles and functions explicitly derived from and supporting the vision and coordinating goals.

“For new universities it’s important that the commercialisation office and consulting policies actually support research productivity rather than distract from it and this gets back to deciding what’s the main game for the university. Consulting can distract from the core purposes of the university. This can be managed through performance planning and the review process as well as a good consulting policy.”

The exercise in reframing or renewing research management will require some radical action to stimulate and support the culture change. This often includes reducing the number of people intervening in the research process and ensuring the effectiveness and efficiency of research policies and procedures and the electronic systems that support their implementation.

It takes considerable time and resources to change the attitudes and behaviours of underperforming management staff and systems. Successful executive leaders of research take a direct interest in reshaping the ethos from a negative service culture and aim to remove systemic obstacles and impediments to research performance. It is not unusual in cases where the research profile of a university has declined
markedly to find core staff—at critical points of contact for researchers—who have lost sight of the purpose of the university and their role in supporting the research agenda and the work of researchers.

Whole of university transformation of research orientation and performance can only occur if university, faculty and research centre management systems and the quality of service are closely aligned. The executive leader should ensure that faculty and research centre processes and systems are uniformly responsive and outcomes focused.

**Make performance data systems a priority**

The strategic use of high quality and timely data to monitor the impact of capacity building stands out as an indicator of the successful transformation of low-performing universities. Highly successful executive leaders of research are typically pragmatic and outcomes focused in assessing how well the university is performing. They limit data generation to that which directly informs progress and assists in managing the performance of faculties and research centres, which in turn should be able to access accurate data on demand. They also focus on building strong performance-data management systems integrated across the research activities, with all systems speaking to each other and users fully trained in the management and application of the data.

The attention given to the collection, analysis and application of performance data has significant returns. The executive leader will ensure that the data is readily accessible and presented in a form that enables research leaders at all levels to make regular and useful assessments of performance against benchmark institutions, competitors and national trends. It should be used for multiple purposes, including boosting income by capturing more information about research activity, achieving strong alignment with the shifting focus of funding sources, and allowing timely and meaningful comparisons with benchmark institutions.

The data should also be used to great effect with stakeholders and grant agencies in showcasing information about research outcomes to demonstrate to the government the value of the work they fund, and it should facilitate data sharing agreements with partner universities and others.
Invest in professional development for research managers and support staff

Building the capacity building of research infrastructure and systems in the initial implementation phase of the change agenda will require an intensive period of targeted professional development for research managers and support staff. The executive leader should ensure that the investment in professional development contributes directly to building research infrastructure and systems, and by definition, the activities should be aligned directly to the vision and goals.

The professional development program should also be directed at career enhancement and linked to the rewards and recognition system, including promotion. It should take a planned approach to building a cohort of research management and support staff with a shared understanding of the vision and goals. This should lead to a number of significant outcomes including a consistency across the university in the approach and standards of service, a strong sense of purpose, new career pathways, and improved professional standing of research managers and support staff.

The executive leader should take a high profile as sponsor of professional learning activities for research management and support staff. A presence at these events will confirm the importance of professionalising their roles and raising the quality of the specialist services their staff provide. This should extend to supporting active membership of specialist professional associations and encouraging managers to raising the profile of the university and its research enterprise at national and international forums.
Focus 4 — Developing a research-oriented workforce

The long-term goal of the change agenda is to achieve a university culture where everyone takes research seriously. This applies equally to universities that aspire to create a strong research profile from scratch, rebuild their profile, or move to a significantly higher level. A strongly research-oriented workforce takes time to build, decades in most cases, and successful executive leaders start with this long-term outcome in mind as the legacy of the groundwork they have established. Their communications frequently, consistently and confidently remind the university community and external stakeholders that this is the ultimate goal of the change agenda.

Developing a research-oriented workforce is not simply about developing individual skills and expertise in research and research management. The focus is on generating and sustaining a critical mass of people — executive leaders, academics, managers and support staff, and students — who appreciate and value the role and significance of research in the university as a central part of its existence.

The initiatives of the executive leader signal to individuals who embrace the research agenda as a core role that their work is valued, that they have opportunities and that they will be supported. This does not preclude the appointment of teaching only or research only staff. It does however place emphasis on rewarding the majority of academics who maintain a preference to engage in both research and teaching and who see the value-added to the experience as personally important.
Principle 7. Focus appointment and promotion policy on the goals

Appointment and promotion policy has a direct bearing on the extent to which the university takes research seriously. In the context of assertive-participative leadership, the process of reviewing and reframing the policy presents a major opportunity for the executive leader to directly lead the shift to a research-oriented university. The rewards and recognition embedded in these policies shapes the priorities academics give to their work and career choices. Quite obviously this is a major tool for executive leaders to focus attention on the priorities and direction of the change agenda. There is usually some urgency to this — which is useful from a change leadership perspective — if the university aims to make significant moves to recruit research active academics early in the initial phase of the plan.

The cornerstone of a strategically aligned appointment and promotion policy is an expectation that all new academic appointments will require evidence of a strong track record of research and currency of research activity. This does not mean working from a generic template — the executive leader and colleagues will have worked through a process of identifying the type of person who can advance the change agenda and, importantly, fits with the distinctive character of the university: ‘our kind of academic’. A more general guiding principle is that appointing good people attracts more good people.

An immediate injection of talent is important but the broader objective is to change the way the university goes about creating a research-oriented workforce as distinct from creating small pockets of high activity in the short term. The search for talent also needs to focus on potential research leaders to build a research leadership group, and a succession plan. Recruitment and selection strategies that bring in skilled, research active academic staff typically include talent spotting via extensive user of networks, tracking emerging talent, using national recruitment mechanisms, and hosting visiting scholars and talented prospective applicants.

What it means in practice

Recruit active researchers

The reality of the global competition for talent means that recruitment and promotion systems need to be highly flexible and support a proactive approach to recruitment. The responsiveness of the appointments system gives confidence that the university is making progress in its aspirations to recruit research active academics. In some cases
this may mean a major overhaul of policies is needed, in others incremental change such as removing barriers to making timely offers and appointments may be enough to make a difference. An intensified effort to attract leading researchers, particularly for flagship projects, is often the first option for executive leaders looking to make a major step forward in capacity building. Appointing high profile research teams provides a rapid boost to research output and income given the appropriate level of investment in salaries, conditions and infrastructure support. It does not necessarily follow that this strategy will make a major impact on the research orientation of the university overall.

One of the most effective ways of shifting the orientation towards active researchers in the short term is for the executive leader to take a direct role in selection panels for all new academic appointments. In small universities personal involvement is highly desirable at all levels, particularly in the initial phase of implementing the change agenda. Alternative approaches vary across different contexts, for example, in some universities an independent researcher or a research centre director is a member of all academic selection panels and a small central committee reviews all panel decisions.

Whatever the approach, successful executive leaders make personal involvement with selection and appointments a priority. This ensures that statements of duties and selection criteria for all academic position descriptions include specific reference to excellent research performance as measured by external grant income, weighted publications, numbers and completions of higher degree by research candidates, citation indices, and high level collaborations. Active researchers should be aware of the importance in the long term of not just raising the volume of publications to international threshold levels, but increasing the quality as evidenced by national and international prizes and awards.

Active central participation in all academic appointments, particularly the personal involvement of the executive leader, underlines the priorities for selection panels and appointment decisions. This highlights the need for research leaders to do the best they can to get competitive staff. It has to be asked: where does this researcher fit in the disciplines, and it should make the effort to fit their sub-disciplines into the broader mix. Once on deck, you need to give that person the tools to fly. And not overwork them. You need to get them to put in a two to three year plan ensuring that people have a sense of where their research is going, and they have a portfolio of teaching that works for their research. They also need to be exposed to students and PhDs that can assist their development.”
establishes precedents that confirm the direction towards a research-orientation in advertising, position descriptions, referee reports and so on. The people appointed to selection panels will be increasingly confident about the criteria that count and the type of person the university wants. It also means that the executive leader has a personal investment in appointments, which should translate into strong commitment to induction and professional development strategies.

**Design flexible and responsive appointment and promotion systems**

The executive leader will from time to time need to intervene to ensure that once identified, talented research active academics will have to be sufficiently attracted to actually take up an appointment. While it is not uncommon for senior executives to have to intervene and work around the system to make high profile appointments, it is far preferable that the systems are redesigned as a central element of the research plan in the first place.

There are two sides to this: facilitating the processes with streamlined systems to support proactive talent seeking, and removing obstacles to making appointments. Of course, none of this should undermine the integrity of academic appointment and promotion processes. The executive leader of research needs to ensure that flexibility in the approach does not raise concerns about the quality of the appointments or undermine confidence in the participative element of leadership.

A set of protocols and a core group of respected senior academics is preferable in many respects to using ad hoc committees formed to make recruitment or promotion decisions under pressure of competition. Designed with collegial support, the protocols enable timely appointments to be made in the face of competition from other universities. Likewise, promotion systems can be designed to allow for responses to opportunities when, for example, competitors target key personnel and a process of counter offer and negotiation is needed to retain them.

Exercising executive authority is always possible if urgent action is required to make an appointment, but shifting academic staff towards a research-oriented university is better served over the long term with collective input into appointments and promotions. Adopting a mix of assertive-participative processes achieves the strategic outcomes while promoting a sense of collegial commitment to new appointments and promotions.
Introduce measures to reward and retain talented researchers

Investing in measures to reward and retain high performing researchers is as important as recruiting them in the first instance. It confirms beyond doubt that university takes research seriously. As we observed in the introduction to this handbook, leadership for research requires specialist skills and knowledge about the organisational conditions that contribute to academic productivity. Promotion systems are an obvious point of focus for executive leaders early in the implementation of the change agenda. They should be reviewed and reframed with input from research leaders to reinforce the value the university places on the work of highly productive researchers.

Financial rewards are important but not sufficient to attract, motivate and retain talented research academics. Amongst other things, they can be rewarded simply by being part of a significant new venture and raising the international profile and standing of the university. The structure and processes of rewards and recognition should send a strong and singular message to these people: ‘if you are good at what you do we have ways of helping you stay and succeed in your research endeavours to a world class level’.

Executive leaders of research should therefore ensure that the systems of reward for highly productive, and the work conditions provided, respect and tap into the core work motives and values of high-performing academics — especially the opportunity to engage in research work of deep personal interest. This requires resources, direct incentives and opportunities to collaborate with colleagues nationally and internationally. Talented researchers are intensely focused on being at the leading edge in their field and welcome less obvious indirect rewards include supporting partnerships that help them find new avenues for research, stimulate their personal interest and advance their careers. Finally, systems aside, personal acknowledgement of their work from the executive leader can be a very powerful motivator even for the most experienced and talented. Academics are rewarded when research leaders they respect take the trouble to get to know them and their work.
Queensland University of Technology

Underlying the QUT research and innovation agenda for change was the conscious decision to improve its research performance not just incrementally, but rapidly to a higher level as a ‘selectively research-intensive university’. The objective is widely understood and clearly shapes the thinking of research leaders at all levels. It was agreed that the University had to have a real sense of the direction it was taking with a strong guiding framework and an opportunistic and targeted approach. QUT decided to make some immediate major changes beginning with a ‘reframing of its research activities as a contribution to creating new knowledge’.

Senior executive identified 39 specific areas for attention and promoted the value of interdisciplinary research. The next task was getting alignment of all the elements in place so that systemic obstacles did not undermine decisions about research development. Targeting individuals and providing them with support was important, but so too was the need to gain the buy in of heads of schools, and also to recruit heads of schools from the kinds of institutions QUT aspired to be.

The University has taken a cohort approach to recruitment, for example, advertising 50 positions with a supporting structured induction program. This enabled a richness to be exploited from putting these people together and adding value by opening up opportunities for multi-disciplinary approaches to research. Capacity building has included maximising the research and research training capability of individual staff, and fostering early career researchers by linking their research development to faculty or University-wide research programs.

The Early Career Academic Recruitment and Development (ECARD) Program is a major element of the strategic approach of QUT’s research and innovation agenda. It is targeted at newly appointed academics with less than four years experience and provides them with a range of opportunities to build their academic careers. It has become a highly effective scheme to attract talented young academics to join QUT as well as retaining those already working at the University. The two-year program includes the provision of start-up funds of $15,000 for each ECARD participant, $5,000 of which must be spent directly on research activities. The program provides advice on grant writing skills in the context of QUT’s research and teaching priorities, support for research, teaching and community engagement, and assistance in developing networks and interdisciplinary collaborations with colleagues in other parts of the University and beyond.
**Principle 8. Invest in early career researchers**

Investing in early career researchers is one of the strongest features of institutions establishing the foundations for a research-oriented university. These are high profile university-wide initiatives designed, sponsored and guided by executive leaders, central to the clear coordinating goals, and with significant contributions from research leaders. These programs present a major opportunity to introduce imaginative and distinctive approaches to engage early career researchers in the academic life of the university. The ultimate test of their effectiveness is the extent to which early career researchers become embedded in the fabric of the university and change the way people go about conducting and supporting the research enterprise.

Perhaps more than most initiatives designed and sponsored by the executive leader of research successful implementation of early researcher programs require a long-term view. It is unrealistic to expect an immediate and major impact on research outcomes. It follows that assessment of progress in the early phases should concentrate on monitoring the success of activities in terms of basic outputs such as the number of students attracted by scholarships, the breadth of staff involved in mentoring, the resources allocated by faculties and so on.

Short to mid-term outcomes will emerge in a timeframe of around three to five years. Some of the important changes in that time will be highly visible and reassuring to stakeholders that the university is heading in the right direction, but they will not necessarily be directly measurable. Early signs of change will include a vibrant atmosphere of early career and established researchers working together with the shared goal of advancing knowledge.

There should also be indications that the way in which academics go about doing research is changing. Successfully implemented initiatives will result in greater interaction across disciplines with early career academics involved in centrally managed university events. They should also be more obviously included as part of research team planning and involved grants processes, dissemination, and international networks. Supporting home grown researchers is generally considered a cost-effective approach to capacity building but building numbers is not enough. To make a significant impact on the research orientation the investment requires specific targets and sufficient resources to attract and retain a high proportion of high quality doctoral and post-doctoral students.
The executive leader will be mindful of the broader returns on the investment beyond this. The benefits for the overall change agenda include attracting a range of supervisors and research leaders into the whole of university processes, and building a critical mass of next generation researchers likely to continue with the university and support its move towards a strong research profile. In universities with low research traditions, the profile given to early career researchers should also translate into more administrative, support staff and governing bodies taking research seriously.

**What it means in practice**

**Develop a whole of institution approach to early research career development**

A systematic whole of institution investment in early research career development is a highly efficient and effective strategy to achieve a number of objectives: it should ensure a consistently high standard of support for the next generation of researchers while also underpinning the long term goal of achieving a strong orientation towards research across the university. Direct involvement of the senior executive in a centrally driven approach to managing early career development has the major advantages of enabling the university to recruit and engage early career researchers in areas targeted for growth, and concentrates resources to maximum effect.

Turning promise into performance requires a mix of high demands and strong support for early career researchers: which is not always possible in small universities with limited resources and a lack of critical mass of experienced researchers. While advice and experience at the subject discipline level will continue to be the primary source of informal support, even this is problematic for small organisational units. A suite of university wide centrally funded support programs and incentives is therefore essential in these cases. Half measures are likely to confuse and send the wrong signals to deans, heads and research centre directors, not to mention the early career researchers themselves.

The components of a whole of university approach are typically designed around an early career life cycle. A cohort approach is a feature in some universities. The cycle includes a strong induction program into the academic practices of the university and its goals and criteria for developing its academic profile, performance and culture. Beyond that, high quality ongoing professional learning is provided, again set in the context of the strategic direction of the institution and with research leadership training a feature. These activities include structured opportunities to expand horizons and networks with
central support for building research connections and networks – noting that many long
term and highly productive research partnerships have their origins in serendipitous
conversations where personal affinity and the meeting of like minds is the deciding
factor. This also has the added advantages of creating a collegial climate internally
with long-term future benefits for both the university and the individual researchers. The
activities also serve to maximise opportunities to develop a strong sense of community
and reduce the isolation of early career researchers.

**Link work performance measures to university research development goals**

A number of measures are available to the senior executive leader to ensure the
success of an early career research program. These may involve establishing
direct links between the measured work performance of early career academics
and achievement of the university’s research development goals. This provides
powerful incentives and messages for aligning individual research interests with
the institutional vision and goals. It also highlights expectations that line managers,
including heads of school and directors of research centres will play a major part in
developing the university’s research workforce.

A university’s performance planning and review processes might involve research
performance indicators for early career academics directly aligned with institutional
research expectations, progress against which influences access to future support.
The institution’s policy on research groups and centres creates the expectation that a
proportion of early career academics will be a major part of all designated groups
and centres. This involves explicit expectations that research centre directors adopt
complementary approaches to inducting early career academics into the area-
specific traditions and practices of high quality research.

Universities that invest in targeted recruitment of emerging high quality researchers
typically insist on performance management of this kind. These recruits are provided
with additional time and resources to advance their research in the new environment,
but are also expected to meet specific research performance measures while
increasing their involvement in teaching and other normal academic duties over the
period. These measures are preferably set alongside systematic support for individual
career planning and an enabling framework to help early career academics build
a competitive track record of research activities linked to the university’s research
development goals. In some cases, universities make the preparation of a career
development plan a condition of appointments and progression. The targets may
include, for example, becoming self-funding over a three-year period. Successful models are carefully structured and systematically executed with small centrally managed start-up funds to assist early career researchers to respond quickly to new opportunities.

**Establish university-wide mentoring schemes**

Executive leaders of research development are ideally placed to drive and sponsor whole-of-institution mentoring schemes for early career researchers. Mentoring programs have great potential for making a long-term impact on the culture of the university. Some universities have made this a central element in the research development process towards a new identity as a research-oriented institution with imaginative approaches that reflect its unique character.

Centrally driven mentoring programs have a number of advantages for universities building, renewing or accelerating their research profile. Mentors can sometimes provide a major turning point for early career researchers, for example, when they learn to be strategic about their careers or to create synergies between their teaching and research to make their work more effective and efficient. Early career researchers report getting indifferent, mixed and even conflicting advice from different sources in their faculties and centres about what they should focus on for their career planning. Novel approaches to address this and related issues include centrally managed cross-faculty mentoring to provide an independent view of opportunities for the early career researcher.

The expectations early career researchers have of the university and mentors vary to some extent across disciplines and local contexts but there are some common concerns that need to be recognised in a centrally driven program of support. For example, they expect to get the best teachers and researchers to guide and inspire them, and they attach importance to having ownership of their work, reflecting of course, fundamental work values around academic autonomy. They also expect that the university should invest in competencies that may emerge later in their careers without assuming that there will be immediate returns for the institution. Likewise, while early career researchers value support, particularly with respect to career planning, their preference is that mentors take a longer-term perspective on their futures: mentoring and support programs are not just about fitting the researcher to the university.
BUILDING ON STRENGTHS

University of Wollongong

The University of Wollongong is widely acknowledged as an agile and opportunistic research-active institution with a strong regional identity. The senior executive leaders have considerable credibility in research development, particularly since they are well connected with external bodies. The University succeeded in its various phases of development as a regional university with national and international aspirations, by agreeing that it could not be all things to all people. It had to concentrate on its strengths from the outset. It has consistently worked from clear organisational goals that emphasise research, led by academics with strong track records in research who have taken a highly participative approach to leadership.

Wollongong has developed a culture of both academic and general staff working together for the collective good. A mentoring program advises new academics on their research activities, socialises them into the departmental culture and connects them with relevant research bodies. Collaborative processes get academics working together, help them find new avenues for research, stimulate their interest, and nurture professional networks to advance their careers.

Historically, the University has taken a risk on young staff with a clear message that they could get ahead at Wollongong by paying attention to research. The Early Career Researchers (ECRs) program has been a key initiative. The year long program aims to develop the confidence of the ECRs to deal with critical challenges they face. Distinctive features of the approach include cross-faculty mentoring which has the advantage of broadening the base of support for research, teaching and community engagement, free from the priorities and issues of the participant’s academic department. In addition to developing the skills, knowledge and capacities necessary for a successful research and academic career, mentoring by academics outside the department opens up new opportunities for developing networks and interdisciplinary collaborations with colleagues in other parts of the University and beyond.

Wollongong has recently moved to rapidly step up its research profile with a package of refreshment and reform across the University. The process involved a typically consultative approach led by the Vice-Chancellor, including a town meeting, working group of key researchers, discussion papers and a consultation paper.
**Principle 9. Provide direction for postgraduate research programs**

Strategic development of postgraduate research programs and support of early career researchers are interconnected issues. A rapid and substantial growth in the number of high quality postgraduate students is one of the strongest indications of progress towards a research-oriented workforce. In keeping with the general approach of focusing investment in specific disciplines, executive leaders will need to put systems in place to enable new peak areas of research to attract potential high calibre students: recruiting talented research students is similar in many respects to the process of recruiting leading research-active academics. Given that the capacity of a university to conduct postgraduate research programs is governed by the scale of research activity in the first instance, for those starting from a low base, collaborative arrangements with partner universities is an appealing strategy. Success breeds success. A reputation for excellence in research degree supervision matched by ongoing support for early career development attracts more high calibre students. This in turn makes the university a more attractive proposition for research-active academics and supervisors committed to supporting students and value their enthusiasm and energy as a major contribution to their research endeavours. It also means matching the high expectations of student and supervisor activity with strong support from the centre, or where it is devolved to faculties, ensuring consistency in practices across the university.

Robust leadership is required on a number of fronts, and in a short timeframe, to make the changes typically needed to lift the quality of students attracted, provide the best research supervision possible, and retain talented higher degree and postdoctoral researchers contributing to research productivity. The focus is first and foremost on encouraging alignment of postgraduate research programs with the vision of a research-oriented university. Creating a significant cohort of graduate research students, integrated into the fabric of the university’s research activities, involves making some hard choices about targeting resources to encourage postgraduate engagement with the research goals by building concentrations of student numbers around institutional priorities. The executive leader aiming to create and embed these conditions in the university will

“ Leaders should identify the areas that can respond to intervention. They need to address systemic problems and create targeted incentives.”
create a sense of urgency with respect to removing obstacles to excellent research supervision and changing established practices that undermine the quality of the postgraduate experience.

**What it means in practice**

**Reframe student recruitment and retention strategies**

New research universities face special challenges in attracting talented students into postgraduate programs. Some successful universities develop their recruitment strategies around particularly innovative approaches to postgraduate research training, appealing to students looking for an alternative to traditional models. They align the recruitment program with the research goals. These successful institutions avoid simply mimicking established research-intensive universities and seek to create an approach that confirms the overall distinctiveness of their mission. In the longer term this will require a constant cycle of renewal to capitalise on the appeal of new approaches and new horizons: a reality that should be acknowledged in keeping with the notion of a plan as a ‘living’ document.

Recruiting is not just about marketing, it is specifically targeted at attracting students who will value being part of team making a difference in an area of enquiry about which they are passionate. For universities aiming to raise and sustain the quality of the research student cohort, this means identifying the factors that influence the choices of potential students as they relate to the specific research goals of the university. It also means providing a unified and purposeful approach combining the strengths of the supervisor, department and university with the promise of strong support systems and a sense of belonging to a leading research community.

Scholarships and awards schemes are a highly effective way of supporting targeted recruitment and retention of outstanding postgraduates. They should be reinforced by a clear emphasis in the wider benefits of being part of the new or renewed mission of the university. Examples of these include philanthropic, business and industry sponsored scholarships around specific themes aligned with the research goals. However, in line with the view that excellence in research should be supported wherever it is found in the university, tagged central funds should also be available to support exceptional candidates in any field of study. Finally, the approach to recruitment will need to be renewed with a highly professional evidence-based
strategy that meets best practice standards from student enquiries, offer and acceptance, and relationship management right through to the commencement and confirmation stages.

**Raise standards of supervision and examination**

Years of policy drift and idiosyncratic approaches to supervision and examination practices can lead to a pattern of poor student progress rates, extended time to completion, and low standards of examination across the university or within specific discipline areas. In many if not most cases a radical overhaul of higher degree research programs is needed with the aim of turning performance around in the space of three to four years.

Close analysis of available data by the executive leader should identify the major gaps from central records and student feedback on supervision, administration and support. The major aspects of interest usually include time to completion, completion rates, and patterns in the turnaround of examination to the final result. From that may evolve a closer more diagnostic faculty-by-faculty review, with support from a research leadership group, to explore more discipline-specific issues such as the quality of examiners, the involvement of students in their supervisor’s research program, levels of engagement with department and faculty activities and succession management of supervision partnership arrangements.

The examination system is an obvious target for review and change in cases where current supervisors may be locked into a pattern of low aspirations and expectations where standards have declined as a consequence of internal and self-referencing processes. The introduction of external examiners is a useful step in raising understanding of the quality required. This sometimes leads to mandating that examiners should be recruited from external authorities, especially those from international benchmark universities, to push up the quality. Policy changes may even extend to articulating principles and specific requirements with respect to protocols and criteria for examination, and benchmarking against like disciplines in other universities.

Highly effective steps taken in some institutions also include changing the composition of higher degree research committees to include a clear majority of members currently research active at a high level. This has the considerable benefit
of strengthening the shared understanding of the standards required of supervisors and candidates. Other examples include forming supervising teams rather than relying on individuals; introducing viva voce examinations for all doctorates; and ending long-term enrolments with strongly enforced regulations. Increasing the level of on-time completions starts a positive cycle of improvement in a relatively short time frame, encouraging greater efficiency and better outcomes for both students and supervisors.

**Focus postgraduate research systems on support and service**

A carefully integrated and comprehensive system of support and service underpinning postgraduate research programs is a hallmark of universities intent on raising their research profile. The task of the executive leader is to ensure that available resources are brought together in a well-integrated support program matched with a service culture focused on achieving the research goals of the university.

The provision of induction and professional learning opportunities is a major area for investment in student development and raising the standard of supervision. These programs are well established in most if not all universities and typically involve the provision of a formal induction program for students led or co-ordinated by the central research office or human resources department. Universities with limited resources are not necessarily able to fully meet the needs of research students and supervisors in-house, and draw on multiple providers from a variety of internal sources as well as from consortia networks, partner institutions, research agencies and authorities, and professional and disciplinary associations.

These external professional learning opportunities can be highly effective; but none is a substitute for a university-specific approach designed to guide and support research students and supervisors in their endeavours. Centrally steering induction and professional development programs to align with whole of university goals, adds significant value across a range of dimensions involved in the change agenda. A university-wide focus has the advantage of encouraging internal networks and potential cross-disciplinary collaborative arrangements for supervision that may ultimately lead to further engagement. The consistent message from all levels of administrative and support services, from recruitment to graduation and beyond,
is that they are there to help students achieve their best, and that research students are respected and valued as a central element in the fabric of the institution. This covers every point of contact postgraduate research students have with the university administration and support services. Obvious as it seems, this sets successful institutions apart from those that where a service culture is missing and systems get in the way of student and supervisor activities.
TARGETING STRATEGIC SUPPORT TO BUILD ON STRENGTHS

Southern Cross University
Improving overall research performance at Southern Cross University started with an initial five-year change process stimulated by successive vice-chancellors who have had a particularly strong influence on the directions and the change process. The University set out to differentiate its approach from other universities. The change process included a shift in the internal budget allocation to research aimed at increasing the productivity in the areas that the University knew it was good at. Some areas targeted for a significant shift in performance had been working towards national and international standing for over a decade: the last five years provided them with a marked step-up in research activity. At the same time an opportunistic approach by senior executive encouraged some areas to come out of left field.

The strategic actions to build on these developments included establishing good industrial linkages: the University decided that it was important to try for larger grants and industry was the best potential source. The University has also made a point of looking for long-term relationships with a small number of institutions of the same kind. The relationships are not just faculty-to-faculty but university wide, and since they are multi-stranded are more likely to endure.

Strategic support was also focused on recruiting research active staff; the Deputy Vice-Chancellor takes a direct role in selection panels for new staff to ensure that appointees have strong research records. These appointments set up a positive cycle of attracting and retaining high quality post-doctoral students. With that came new approaches to performance management to send clear signals through promotions and work allocations that research is valued. The University has a continuous review process in place where those areas not doing so well are identified and new targets set. Higher degrees have been the subject of particular attention with steps to lift the whole profile of higher degree research and the impact that it has on the research profile of the institution.
Principle 10. Strengthen the alignment of research and teaching

The benefits of strengthening research–teaching relationships are often overlooked in the initial phase of research development reforms in the face of more urgent and immediate tasks of capacity building. However, the process of making connections between research and teaching should be a major component of the more fundamental goal of achieving sustainable improvements in the nature, level and quality of research.

Universities that have been successful in charting a new course focus on strengthening the connections between research and teaching to underpin the cultural shift to a research-oriented workforce. As we noted in the introductory section to the handbook, productively connecting research and teaching rather than separating the two areas in a kind of competitive tension is a characteristic of these highly dynamic university research cultures.

Much of the success of the transformation process hinges on the work culture of academics. Spending significant resources on the recruitment of research active academics should be accompanied by systematic measures to retain them, including a satisfying work environment. Major research intensive universities instinctively recognise the importance of sensitively managing the balance of permitting substantial freedom in the ways academics arrange their academic lives, while maintaining their primary obligation to the mission of the institution.

The executive leadership position statement on research-teaching connections should therefore explicitly acknowledge the critical importance of core academic values and aspirations, especially those centred on academic autonomy, leaving room for interpretation at the local level. It is useful to consider that tapping into the preference of most research-active academics to engage in both research and teaching in a meaningful and balanced way, has the major overall benefit of improving their general level of work satisfaction.

What it means in practice
Identify practical steps and tangible benefits to support change

The importance of aligning research and teaching is widely acknowledged in mission statements but not always central to the actions of executive leaders of research as they go about the task of increasing research productivity. While there may be a general view that the link between research and teaching is important for the
university, it is not unusual for university and faculty leaders to be uncertain about what this means in practice.

The case for a productive alignment of research and teaching should be presented as a position statement from the senior executive leadership group, relevant to the institutional context, its aspirations and what it means in practical terms. But it should also have the personal stamp of the executive leader of research to demonstrate commitment to the view that the alignment of research is genuinely strategic. Token acknowledgement of the value research adds to teaching or vice versa, simply leads to patchy experiences and ultimately makes claims for a whole of institution cultural shift in orientation unconvincing.

Clear guidance and appropriate support is needed to assure research-active staff, particularly early career researchers, that they will be able to pursue their research programs and teach effectively at the same time. This should be accompanied by a highly effective program of professional learning: preferably an integrated approach to professional induction programs in research and teaching involving both the executive leader of research and the counterpart leader of teacher. Without practical support and tangible benefits, including the reduction of factors that hinder work satisfaction, the default position for faculties, centres and research active academics is to withdraw into silos of peak area research activity disconnected from education programs.

The challenge for executive leaders of research is to achieve a balance in linking research and teaching without distracting from the main focus of making research a core function of academics, and raising and sustaining the profile of research through the rewards and recognition system. They have a critical role to play in making systemic changes to open up opportunities for productive connections between research and teaching. This needs to be done in close collaboration with their counterparts responsible for teaching and learning. The process should aim to remove any ambivalence in the minds of academics administrative and support staff about the university’s intentions.

**Embed changes in performance and workload management systems**

Ensuring that performance indicators, promotion criteria, and workload allocations reflect the importance of aligning research and teaching in the systems of rewards and recognition includes systematic removal of the factors that hinder the links between them. This is a long-term program of cultural change since existing policies
and practices have often evolved over time in response to local contexts, including complex arrangements in response to disciplinary or course specific issues that are no longer relevant. The first steps should be decisive with strong support from senior executive targeting changes in relevant policies and processes that have the immediate effect of opening up opportunities for stronger links between research and teaching.

Matching the rhetoric about the research-teaching connection includes changes to performance and workload management systems. This involves identifying and eliminating policies and processes that send contradictory messages to staff about the value they should personally attach to research and teaching. It also includes the addition of explicit references to activities of faculties and individual academics that connect research and teaching in the rewards, recognition and performance management systems.

A closely related area of change is the development of institution-wide approaches to the management of workloads that reflect the importance of aligning research and teaching. Deans and heads are the point of influence to target in the implementation process. Ensuring their key performance indicators include active encouragement and support for academics who connect research and teaching is a decisive lever to support change.

A third set of changes involves the introduction of relatively low cost incentives for faculties and individuals to connect research and teaching. Recognition of academics who have successfully integrated their teaching and research can take a number of forms, from institutional awards, prizes and formal titles to leadership and mentoring roles. A more direct approach taken by some universities is to require that all new research active appointees teach in undergraduate courses, especially in first year foundational programs to give students early exposure to the research activities of the university.

Encourage links to the research culture across undergraduate teaching programs

Executive leaders of research and their counterparts responsible for the quality of teaching and learning have good reasons to link the research culture to undergraduate teaching programs. In a university where everyone takes research seriously, ensuring that undergraduate students are touched by the research enterprise broadens the potential for transformation beyond a handful of
concentrations of research activity. The benefits include setting the scene for the longer-term change to its character and the public perception of its role and standing.

This adds to the impact in locations where governance bodies and local stakeholders are looking to the university to make a significant contribution to the regional economy and infrastructure. Increasing the quality and depth of research activity also plays a significant part in attracting talented students into peak area teaching programs, which in turn creates a pipeline of students for postgraduate research programs and potential involvement as early career researchers.

There are direct and indirect benefits for students from their engagement with research activity. While there is a distinct lack of convincing evidence to support the view that being an active researcher enhances the quality of classroom teaching, there remains a compelling case for an undergraduate curriculum infused with the research orientation of the university. The opposite is certainly a poor option for universities aspiring to higher standing: undergraduate learning divorced from the institutional focus on research is effectively limited to a training experience. Successful research oriented universities are conscious of providing opportunities for the development of generic graduate skills through first hand experience of research activity, including an understanding that knowledge is provisional, contestable and changing.

The benefits for researchers involved in connecting the research culture to undergraduate education are often overlooked. Career benefits from the positive cycle should not be underestimated, especially for early career researchers. Aside from opening up new networks and creating career opportunities, teachers who introduce research activities into assignments generally rate more highly for their teaching. Active researchers who happily teach undergraduates point to the value of gaining clarity in their research methods, a deeper understanding of their subjects, and new insights and connections as a result of their interaction with students. There is some evidence, reinforced by our own observations that postgraduate students and early career researchers who teach and research show greater improvement in their research skills than those who focus exclusively on research. Teaching undergraduate students tests the researcher’s competence, clarifies questions, and sharpens their understanding of research methods.
There are a number of practical things executive leader of research can do at whole of institution level to encourage links to the research culture in undergraduate education. These strategies should not be left to chance; they need to be reinforced in the university structures and processes. There are examples of successful universities making it mandatory that every undergraduate student undertakes a value-added experience including something to do with research. Others require that research-only centres formally link with teaching programs as a way of signaling that the centres do not operate independently of the teaching role of universities.

Working jointly with their counterparts responsible for teaching and learning, executive leaders can introduce performance measures to reward faculties that involve students in departmental or postgraduate research projects. It is preferable that faculties and departments come to a shared understanding of how the connections between research and teaching translate into enhancing the research program while adding value to curriculum design and delivery, and the student experience more generally.

This can extend to encouraging deans and heads to actively promote the importance of drawing on current research and scholarship in course content and delivery. A variety of mechanisms can be used to facilitate these links. For example, joint working groups involving associate deans research and teaching on curriculum design and assessment provide a highly effective means of making the links. Setting expectations that the associate deans will be involved in both research and teaching underlines the significance of a university’s commitment to making the most of the connections between the research culture and undergraduate education.
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