A modified action framework to develop and evaluate academic-policy engagement interventions

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Abstract

Background

There has been a proliferation of frameworks with the common goal of bridging the gap between evidence, policy and practice, but few to
specifically guide evaluations of academic-policy engagement. We present the modification of an action framework for the purpose of
selecting, developing and evaluating interventions for academic-policy engagement.

Methods

We build on the conceptual work of an existing framework known as SPIRIT (Supporting Policy In health with Research: an Intervention Trial),
developed for the evaluation of strategies intended to increase the use of research in health policy. Our aim was to modify SPIRIT to be
applicable beyond health policy contexts, and to address broader dynamics of academic-policy engagement. We used an iterative approach
through literature reviews and consultation with multiple stakeholders, alongside our evaluation activities in the Capabilities in Academic

Results

Our modifications expand upon Redman et al.’s original framework, for example adding a domain of ‘Impacts and Sustainability’ to capture
continued activities required in achievement of desirable outcomes. It fuls criteria for a useful action framework, having a clear purpose,
being informed by existing understandings, being capable of guiding targeted interventions, and providing a structure to build further knowledge.

Conclusion

The modified SPIRIT framework is designed to be meaningful and accessible for people working across varied contexts in the evidence-policy
ecosystem. It has potential applications in how academic-policy engagement interventions might be developed, evaluated, facilitated and
improved, to ultimately support the use of evidence in decision-making.

Contributions to the literature

- There has been a proliferation of theories, models and frameworks relating to translation of research into practice. Few specifically relate
to engagement between academia and policy.
- Challenges of evidence-informed policy-making are receiving increasing attention globally. There are a growing number of academic-
policy engagement interventions but a lack of published evaluations.
- This article contributes a modified action framework that can be used to guide how academic-policy engagement interventions might be
developed, evaluated, facilitated and improved, to support the use of evidence in policy decision-making.

Background

Academic-policy engagement refers to ways that Higher Education Institutions (HEIs) and their staff engage with institutions responsible for
policy at national, regional, county or local levels. Academic-policy engagement is intended to support the use of evidence in decision-making
and in turn improve its effectiveness, and inform the identification of barriers and facilitators in policy implementation (1–3). Challenges of
evidence-informed policy-making are receiving increasing attention globally, including the implications of differences in cultural norms and
mechanisms across national contexts (4, 5). Although challenges faced by researchers and by policy-makers have been well documented (6,
7), there has been less focus on actions at the engagement interface. Pragmatic guidance for the development, evaluation or comparison of
structured responses to the challenges of academic-policy engagement are currently lacking (8, 9).

Academic-policy engagement exists along a continuum of approaches from linear (pushing evidence out from academia or pulling evidence
into policy), relational (promoting mutual understandings and partnerships), and systems approaches (addressing identified barriers and
facilitators) (4). Each approach is underpinned by sets of beliefs, assumptions and expectations, and each raises questions for
implementation and evaluation. Little is known about which academic-policy engagement interventions work in which settings, with scarce
empirical evidence to inform decisions about which interventions to use, when, with whom, or why (10). Deeper understandings through
evaluation of engagement interventions will help to identify inhibitory and facilitatory factors, which may or may not transfer across contexts
(11).
The intellectual technologies (12) of implementation science have proliferated in recent decades, including models, frameworks and theories that address research translation and acknowledge difficulties in closing the gap between research, policy and practice (13). Frameworks may serve overlapping purposes of describing or guiding processes of translating knowledge into practice (e.g. the Quality Implementation Framework (14)); or helping to explain influences on implementation outcomes (e.g. the Theoretical Domains Framework (15)); or guiding evaluation (e.g. the RE-AIM framework (16)) (17). Frameworks can offer an efficient way to look across diverse settings and to identify implementation differences (18, 19). However, the abundance of options raises its own challenges when seeking a framework for a particular purpose, and the use of a framework may mean that more weight is placed on certain aspects, leading to a partial understanding (13, 17).

‘Action frameworks’ are predictive models that intend to organise existing knowledge and enable a logical approach for the selection, implementation and evaluation of intervention strategies, thereby facilitating expansion of that knowledge (20). They can guide change by informing and clarifying practical steps to follow. As flexible entities, they can be adapted to accommodate new purposes. Framework modification may include addition of constructs or changes in language to expand applicability to a broader range of settings (21).

We sought to identify one organising framework for evaluation activities in the Capabilities in Academic Policy Engagement (CAPE) programme (2021–2023), funded by Research England. The CAPE programme aimed to understand how best to support effective and sustained engagement between academics and policy professionals across the higher education sector in England (22). We first searched the literature and identified an action framework that was originally developed between 2011 and 2013, to underpin a trial known as SPIRIT (Supporting Policy In health with Research: an Intervention Trial) (20, 23). This trial evaluated strategies intended to increase the use of research in health policy and to identify modifiable points for intervention.

We selected the SPIRIT framework due to its face validity as an initial ‘road map’ for our evaluation of academic-policy interventions in the CAPE programme. The key elements of the original framework are catalysts, organisational capacity, engagement actions, and research use. We wished to build on the framework’s embedded conceptual work, derived from literature reviews and semi-structured interviews, to identify policymakers’ views on factors that assist policy agencies’ use of research (20). The SPIRIT framework developers defined its “locus for change” as the policy organisation (20, p. 151). They proposed that it could offer the beginning of a process to identify and test pathways in policy agencies’ use of evidence.

Our goal was to modify SPIRIT to accommodate a different locus for change: the engagement interface between academia and policy. We wished to include processes and influences at individual, organisational and system levels, to be relevant for HEIs and their staff, policy bodies and professionals, funders of engagement activities, and facilitatory bodies. Ultimately, we seek to address a gap in understanding about how engagement strategies work, for whom, how they are facilitated, and to improve the evaluation of academic-policy engagement.

Aim

We aimed to produce a conceptually-guided action framework to enable systematic evaluation of interventions intending to support academic-policy engagement.

Methods

We used a pragmatic combination of processes for framework modification during our evaluation activities in the CAPE programme (22). The CAPE programme included a range of interventions: seed funding for academic and policy professional collaboration in policy-focused projects, fellowships for academic placements in policy settings, or for policy professionals with HEI staff, training for policy professionals, and a range of knowledge exchange events for HEI staff and policy professionals. We modified the SPIRIT framework through iterative processes shown in Table 1, including reviews of literature; consultations with HEI and policy professionals through the CAPE programme; and piloting, refining and seeking feedback from stakeholders in academic-policy engagement.
Table 1
Processes to modify the SPIRIT Action Framework for academic-policy engagement interventions

<table>
<thead>
<tr>
<th>Steps</th>
<th>Modification processes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying the need and scope for framework modification</td>
<td>Attempting practical application of the original framework in the CAPE programme evaluation, identifying elements that did not fit or were missing.</td>
</tr>
<tr>
<td></td>
<td>Numerous meetings with the CAPE delivery team throughout the programme.</td>
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<td></td>
<td>Engaging with stakeholders in academia and policy to identify further missing elements.</td>
</tr>
<tr>
<td>Identifying relevant theories or models for missing elements</td>
<td>Targeted literature searches relating to misfitting and missing elements.</td>
</tr>
<tr>
<td>Combining the new elements into a modified action framework</td>
<td>Development of the relevant framework dimensions by integrating theories or models (i) into discrete elements and (ii) within the flow of the modified framework.</td>
</tr>
<tr>
<td>Integrating stakeholder feedback</td>
<td>Presentation of components of the modified framework to stakeholders in academic policy engagement (two workshops) and academics in the field of policy engagement (one conference paper). Comments sought on face validity and utility.</td>
</tr>
<tr>
<td>Piloting and refining the modified framework</td>
<td>Application to empirical data in the CAPE programme evaluation to assess functionality, followed by refinement of the new elements.</td>
</tr>
<tr>
<td>Testing against existing criteria for useful action frameworks</td>
<td>Assessing the new framework against four criteria: (i) clear purpose, (ii) informed by existing understandings, (iii) capable of guiding targeted interventions, (iv) a structure to build knowledge (20)</td>
</tr>
</tbody>
</table>

Findings

A number of characteristics of the original SPIRIT framework could be applied to academic-policy engagement. While keeping the core domains, we modified the framework to capture dynamics of engagement at multiple academic and policy levels (individuals, organisations and system), extending beyond the original unidirectional focus on policy agencies’ use of research. Components of the original framework, the need for modifications, and their corresponding action-oriented implications are shown in Table 2. We added a new domain, ‘Impacts and Sustainability’, to consider transforming and enduring aspects at the engagement interface. The modified action framework is shown in Fig. 1.
Table 2
Components of the original and modified SPIRIT action framework with corresponding action-oriented implications of the modifications

<table>
<thead>
<tr>
<th>Domain</th>
<th>Original framework</th>
<th>Modified framework</th>
<th>Action-orientated implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalysts</td>
<td>Policy/programme need for research. New research with potential policy relevance.</td>
<td>Need for engagement</td>
<td>What prompts engagement?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opportunity</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Motivation</td>
<td></td>
</tr>
<tr>
<td>Capacity</td>
<td>Organisation and staff value research. Organisation tools and systems to support engagement actions and use of research. Staff have knowledge and skills to support engagement actions and use of research.</td>
<td>Individual capability</td>
<td>What know how, structures and resources aid engagement?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organisational capability</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Systems, roles, tools</td>
<td></td>
</tr>
<tr>
<td>Actions</td>
<td>Research engagement actions: Access research Appraise research Generate new research Interact with researchers</td>
<td>Academic-policy engagement actions:</td>
<td>What are the multi-level dynamics of the engagement?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linear</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Relational</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>System level</td>
<td></td>
</tr>
<tr>
<td>Outcome</td>
<td>Research use in policymaking: Instrumental Tactical Conceptual Imposed Policy agenda setting Policy development Policy implementation Policy evaluation</td>
<td>Engagement outcomes:</td>
<td>What does the engagement do (or not) and for whom?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Instrumental</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Tactical</td>
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<td>Conceptual</td>
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<td></td>
<td></td>
<td>Imposed</td>
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<td></td>
<td></td>
<td>Capacity-building</td>
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<td>Connectivity</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Culture or attitude change</td>
<td></td>
</tr>
<tr>
<td>Influences</td>
<td>Policy influences</td>
<td>Influences at levels of individual, organisation, system. Broader contexts: Social, policy and financial environments.</td>
<td>Which contextual factors may enable or constrain engagement?</td>
</tr>
<tr>
<td>(contextual</td>
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<tr>
<td>factors)</td>
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<tr>
<td>Unnamed in</td>
<td>Research-informed health policy and policy documents. Better health system and health outcomes.</td>
<td>Impacts and sustainability: Realisation of outcomes. Transforming and enduring effects. Maintenance work to sustain engagement. Monitor unintended consequences.</td>
<td>What are the lasting effects or changes and for whom? How are they recognised? How are they maintained?</td>
</tr>
<tr>
<td>original [results]</td>
<td></td>
<td></td>
<td>What was unanticipated?</td>
</tr>
<tr>
<td>Domain</td>
<td>Original framework</td>
<td>Modified framework</td>
<td>Action-orientated implications</td>
</tr>
<tr>
<td>------------------------</td>
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<td>-------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Unnamed in original</td>
<td>Reservoir of relevant and reliable research</td>
<td>Reservoir of people skills:</td>
<td>What ‘hidden’ work is needed for productive engagement outcomes and impact for all involved?</td>
</tr>
<tr>
<td>[prerequisites]</td>
<td></td>
<td>Facilitatory expertise (task- or holistic-oriented).</td>
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<td></td>
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<td>Strategic planning and support.</td>
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<td>Contextual awareness.</td>
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<td>entrepreneurial orientation.</td>
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</table>

**Identifying relevant theories or models for missing elements**

**Catalysts and capacity**

Within our evaluation of academic-policy interventions, we identified a need to develop the original domain of catalysts beyond ‘policy/programme need for research’ and ‘new research with potential policy relevance’. Specifically, there was a need to consider catalysts at level of individual engagement in interventions, for example HEI staff or policy professionals applying for seed funding or fellowships. We used the COM-B model, which describes factors of Capability, Opportunity, Motivation and Behaviour (24). Informed by CAPE evaluation activities and our discussions with stakeholders, we mapped the opportunity and motivation constructs into the ‘catalysts’ domain of the original framework. Opportunity is an attribute of the system that can facilitate engagement. It may be a tangible factor such as availability of seed funding, or a perceived social opportunity such as institutional support for engagement activities. Opportunity can act at the macro level of systems and organisational structures. Motivation acts at the micro level, deriving from an individual’s mental processes that stimulate and direct their behaviours; in this case taking part in academic-policy engagement actions. The COM-B model distinguishes between reflective motivation through conscious planning, and automatic motivation that may be instinctive or affective (24).

We presented an early application of the COM-B model to catalysts for engagement at an academic conference, to check face validity when developing the framework (7). This application introduces possibilities for intervention development and support by highlighting ‘opportunities’ and ‘motivations’ as key catalysts in the modified framework.

Within the ‘capacity’ domain, we retained the original levels of individuals, organisations and systems. We introduced individual capability as a construct from the COM-B model, describing knowledge, skills and abilities to generate behaviour change as a precursor of academic-policy engagement. This reframing extends the applicability to HEI staff as well as policy professionals. It brings attention to different starting conditions for individuals, such as capabilities developed through previous experience, which can link with social opportunity (for example, through training or support) as a catalyst.

**Engagement actions**

We identified a need to modify the original domain ‘engagement actions’ to extend the focus beyond the use of research. We added three categories of engagement actions described by Best and Holmes (25): linear, relational, and systems. These categories were further specified through a systematic mapping of international organisations’ academic-policy engagement activities (5). This framework modification expands the domain to encompass linear ‘push’ of evidence from academia or ‘pull’ of evidence into policy agencies; relational approaches focused on academic-policymaker collaboration; and systems’ strategies that aim to facilitate engagement in the complex ‘ecosystem’ of academics, policymakers, funders and other stakeholders, for example through strategic leadership, rewards or incentives (5).

**Outcomes**

We retained the elements in the original framework’s ‘outcomes’ domain (instrumental, tactical, conceptual and imposed), which we found could apply to outcomes of engagement as well as research use. We expanded these elements by drawing on literature on engagement outcomes (9) and through sense-checking with stakeholders in CAPE. We added capacity-building (changes to skills and expertise), connectivity (changes to the number and quality of relationships), and changes in organisational culture or attitude change towards engagement.

**Impacts and sustainability**
The original framework contained endpoints described as: ‘Better health system and health outcomes’ and ‘Research-informed health policy and policy documents’. For modification beyond health contexts and to encompass broader intentions of academic-policy engagement, we replaced these elements with a new domain of ‘Impacts and sustainability’. This domain captures the continued activities required in achievement of desirable outcomes (27). The modification allows consideration of sustainability in relation to previous stages of engagement interventions, through identification of beneficial effects that are sustained (or not), in which ways, and for whom. Following Borst (28), we propose a shift from the expectation that ‘sustainability’ will be a fixed endpoint. Instead, we emphasise the maintenance work needed over time, to sustain productive engagement.

**Influences and facilitators**

We modified the overarching ‘Policy influences’ (such as public opinion and media) in the original framework, to align with factors influencing academic-policy engagement beyond policy agencies’ use of research. We included influences at the level of the individual (for example, individual moral discretion (29)), the organisation (for example, managerial practices (29)) and the system (for example, career incentives (30)). Each of these processes takes place in the broader context of social, policy and financial environments (that is, potential sources of funding for engagement actions) (27).

We modified the domain ‘Reservoir of relevant and reliable research’ underpinning the original framework, replacing it with ‘Reservoir of people skills’, to emphasise intangible facilitatory work at the engagement interface, in place of concrete research outputs. We used the ‘Promoting Action on Research Implementation in Health Services’ (PARiHS) framework (28), which gives explicit consideration to facilitation mechanisms for researchers and policy makers (13). Here, facilitation expertise includes mechanisms that focus on particular goals (task-oriented facilitation) or enable changes in ways of working (holistic-oriented facilitation). Task-orientated facilitation skills might include, for example, provision of contacts, practical help or project management skills, while holistic-oriented facilitation involves building and sustaining partnerships to support skills’ development. These conceptualisations aligned with our consultations with facilitators of engagement in CAPE. We further extended these to include aspects identified in our evaluation activities: strategic planning, contextual awareness and entrepreneurial orientation.

**Piloting and refining the modified framework through stakeholder engagement**

We piloted an early version of the modified framework to develop a survey for all CAPE programme participants. During this pilot stage, we sought feedback from the CAPE delivery team members across HEI and policy contexts in England. We assessed face validity and utility, refined terminology, added domain elements and explored nuances. For example, stakeholders considered the multi-layered possibilities within the domain ‘capacity’, where some HEI or policy departments may demonstrate a belief that it is important to use research in policy, but this might not be the perception of the organisation as a whole. We also sought stakeholders’ views on the utility of the new domains, for example, the identification of facilitator expertise such as acting as a knowledge broker or intermediary; providing training, advice or guidance; facilitating engagement opportunities; creating engagement programmes; and sustainability of engagement that could be conceptualised at multiple levels: personally, in processes or through systems.

**Testing against criteria for useful action framework**

The modified framework fulfils the properties of a useful action framework (20):

1. It has a clearly articulated purpose: development and evaluation of academic policy engagement interventions through linear, relational and/or system approaches. It has identified foci for change, at the level of the individual, the organisation or system.
2. It has been informed by existing understandings, including conceptual work of the original SPIRIT framework, conceptual models identified from literature, published empirical findings, understandings from consultation with stakeholders, and evaluation activities in CAPE.
3. It can be applied to the development, implementation and evaluation of targeted academic-policy engagement actions, the selection of points for intervention and identification of potential outcomes, including the work of sustaining them and unanticipated consequences.
4. It provides a structure to build knowledge by guiding generation of hypotheses about mechanisms of action in academic-policy engagement interventions, or by adapting the framework further through application in practice.

**Figure 1**

SPIRIT Action Framework Modified for Academic-Policy Engagement interventions (SPIRIT-ME)

[Figure 1 here]

**Figure 1 legend**
The framework acknowledges that elements in each domain may influence other elements through mechanisms of action, and that these do not necessarily flow through the framework in a ‘pipeline’ sequence. Mechanisms of action are processes through which engagement strategies operate to achieve desired outcomes. They might rely on influencing factors, catalysts, an aspect of an intervention action, or a combination of elements.

Discussion

The proliferation of frameworks to articulate processes of research translation reveals a need for their adaptation when applied in specific contexts. The majority of models in implementation science relate to translation of research into practice. By contrast, our focus was on engagement between academia and policy. There are a growing number of academic-policy engagement interventions but a lack of published evaluations (10).

The Knowledge to Action Framework is a frequently cited conceptual framework for knowledge translation (31). Field et al. identified the multiple, idiosyncratic ways it had been applied in practice, demonstrating its ‘informal’ adaptability to different health care settings and topics. Others have reported on specific processes for framework refinement or extension. Wiltsey Stirman et al. adapted a framework that characterised forms of intervention modification, using a “pragmatic, multifaceted approach” (32, p.2). The authors later used the modified version as a foundation to build a further framework to encompass implementation strategies in a range of settings (21). Oiumet et al. used the approach of borrowing from a different disciplinary field for framework adaptation, by using a model of absorptive capacity from management science to develop a conceptual framework for civil servants’ absorption of research knowledge (33, 34).

We also took the approach of “adapting the tools we think with” (35, p. 305) during our evaluation activities on the CAPE programme. Instead of imagining a unidirectional, linear process in which knowledge comes from researchers and is transmitted to policy professionals, we extended the framework to non-linear, relational and system interfaces. Our conceptual modifications align with literature on motivation and entrepreneurial orientation in determining policy-makers’ and researchers’ intentions to carry out engagement in addition to ‘usual’ roles (36, 37). Little previous research has evaluated how organisational contexts affect motivation and capabilities and for such engagement (11).

Conclusions

Our modifications extend the original SPIRIT framework’s focus on policy agencies’ use of research, to encompass dynamic academic-policy engagement at levels of individuals, organisations and systems. Informed by the knowledge and experiences of policy professionals, HEI staff and knowledge mobilisers, it is designed to be meaningful and accessible for people working across varied contexts and functions in the evidence-policy ecosystem. It has potential applications in how academic-policy engagement interventions might be developed, evaluated, facilitated and improved, and it fulfils Redman et al.’s criteria as a useful action framework (20).

We are testing the ‘SPIRIT-Modified for Engagement’ framework (SPIRIT-ME) through our ongoing evaluation of academic-policy engagement activities. Further empirical research is needed to explore how the framework may capture ‘additionality’, that is, to identify what is achieved through engagement actions in addition to what would have happened anyway, including long-term changes in strategic behaviours or capabilities (38–40). Application of the modified framework in practice will highlight its strengths and limitations, to inform further iterative development and adaptation.

Declarations

Ethics approval: granted for the overarching CAPE evaluation by the London School of Hygiene and Tropical Medicine Research Ethics Committee (reference 26347).

Consent for publication: Not applicable

Availability of data and material: Not applicable

Competing interests: The authors declare that they have no competing interests

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Authors’ contributions: PM conceptualised the modification of the framework reported in this work. All authors made substantial contributions to the design of the work. PM drafted the initial manuscript. AB and KO contributed to revisions of the manuscript. All authors read and approved the final manuscript.
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Figures
Figure 1

SPIRIT Action Framework Modified for Academic-Policy Engagement interventions (SPIRIT-ME)

**Legend:** The framework acknowledges that elements in each domain may influence other elements through mechanisms of action, and that these do not necessarily flow through the framework in a 'pipeline' sequence. Mechanisms of action are processes through which engagement strategies operate to achieve desired outcomes. They might rely on influencing factors, catalysts, an aspect of an intervention action, or a combination of elements.