Best practice guidance for interdisciplinary research: Experiences from Bridging the Gaps

Danielle Sinnett, Katie Williams and the delegates from the 2011 Bridging the Gaps network event

October 2011

University of the West of England
BRISTOL

Introduction

Bridging the Gaps is an Engineering and Physical Sciences Research Council (EPSRC) initiative. The first call was announced in 2006 and around four proposals have been funded annually since this time.

The aim of Bridging the Gaps (BTG) is "…to enable Research Organisations to build a programme of new activities that will stimulate creative thinking, across disciplines, which reflect institutional strengths and strategies. Bridging the Gaps proposals should look to push the boundaries within an institution and address the new and exciting opportunities across disciplines." (EPSRC, 2009)

Bridging the Gaps has an active network of past and current grant holders that meet on an annual basis to share experiences of their projects.

The 2011 Bridging the Gaps network symposium was held on 8th September 2011; it was organised and hosted by the University of the West of England, Bristol. This event was different from previous years in that it was used to disseminate good practice of the Bridging the Gaps initiative both between grant holders and to institutions more recently in receipt of this funding. This meant that around half of the institutions represented were new to the initiative.

The theme for the 2011 event was 'Bridging the Gaps in interdisciplinary research: the good, the bad and the beautiful'. The aim was to enable delegates to share their experiences and develop best practice in creating and facilitating an interdisciplinary research environment. Ten members of the Bridging the Gaps network, representing grants awarded from 2007 to 2009, presented the good, the bad and the beautiful aspects of their institution's programme of activities. This included the aspects of their programme that worked really well and had beneficial outcomes (the good), those that they have learnt from and would do differently (the bad) as well as the most innovative, successful or inspiring part of their programme (the beautiful).

In the afternoon session the delegates were divided into groups and asked to discuss their experiences of their Bridging the Gaps programme and/or interdisciplinary research in more detail. Each group had a mix of delegates in terms of whether they were past or current grant holders, the duration of their programme and the institution they represented. The facilitated discussions focussed on:

- What worked in their Bridging the Gaps or equivalent programme?
- How did they make it work?
- What advice would they give to others?

The groups then prioritised their 'top five tips' for Bridging the Gaps which were presented to all delegates during the plenary.

This document presents the best practice identified during the event.

Best practice for interdisciplinary research

The discussions from the break out session were captured on flip charts (Appendices). The content of these has been summarised under sub-headings as shown below.

Programme approach

Get the team right: The Bridging the Gaps programme team is essential to its success. Teams need strong leadership, energy, enthusiasm and a passion for interdisciplinary research.

Identify the right project co-ordinator: There needs to be a specific point of contact for the programme that can also follow up collaborations and provide support to teams. It helps if this person has experience of the research environment. Models include a full-time manager or a rotating set of RAs.

Act creatively and flexibly: This is central to a successful project. Creativity and flexibility in terms of the approaches used, types of events, activities and funding offered. Also, be flexible enough to recognise when things aren't working and try something different.

Be supportive: The programme should provide a supportive environment for interdisciplinary research. This could include providing good feedback on bids for funding, support with writing and submitting bids for external funding, mentoring programmes for more junior staff or those new to interdisciplinary research or encouragement for all career stages to get involved.

Start off on the right foot: Research who the key contacts are at the institution and communicate the programme with them face to face. Find people who can talk across disciplinary boundaries and involve them in the programme.

Accept failure: Interdisciplinary research is not right for everyone and an important skill is knowing when to give up. All of those who are involved in the programme and the projects stemming from it need to see the benefits clearly for them and their discipline. Interdisciplinary research is challenging; some initiatives, ideas and projects will succeed and others will fail. The programme needs to be prepared to take risks, accepting that some will not come to fruition.

Create the right space: Neutral spaces are important for meetings and events. Use different spaces such as art galleries to bring people together.

Be patient: Interdisciplinary research can take time to develop; some projects may come to fruition later than others.

Be transparent: The programme should be transparent to encourage wide participation. Invite participation from all, for example, all grades from students to professors as well as all the disciplines of interest. Provide constructive feedback to unsuccessful proposals. Having a network can work well to promote the programme and its activities.

Programme activities

Link the activities: Activities that link together or to external activities work well, for example BtG funding linked to an event or BtG events linked to external funding calls.

Plan the right events: Develop events around their aims and objectives. There is a difficult balance to strike between events that are exploratory in nature and those that start with identified themes. Exploratory events may work well at the beginning of the programme to encourage a wider range of participants and open minds. Targeted events around a theme may work better to encourage 'key people', especially those with busy schedules. Small group discussions within larger events allow ideas to be developed.

Hold seminars: These can work well, especially when used as a social event as well (e.g. with some food and drink). Have short presentations, for example from different disciplinary perspectives, and plenty of time for socialising and discussions. Have sessions at other institutional events (e.g. introductory sessions on the disciplines of interest in events organised by other disciplines).

Get the right people, including facilitators: Ensure events are well managed and facilitated. Having an external facilitator can break down barriers between disciplines, hierarchy and individuals but the programme must work with the facilitator to get the most out of the event. But, external facilitators must have experience of working with universities in the context of research. The programme team can be trained in facilitation and having a facilitator that understands the programme and institution context can also be beneficial. The success of an event can depend on the participants as well! Ensure that the key academics are available and select participants carefully.

Develop the right online tools: Online and/or virtual tools can provide a useful resource for communicating and managing research. Only use online tools where there is a clear purpose for them and the target audience want to use them.

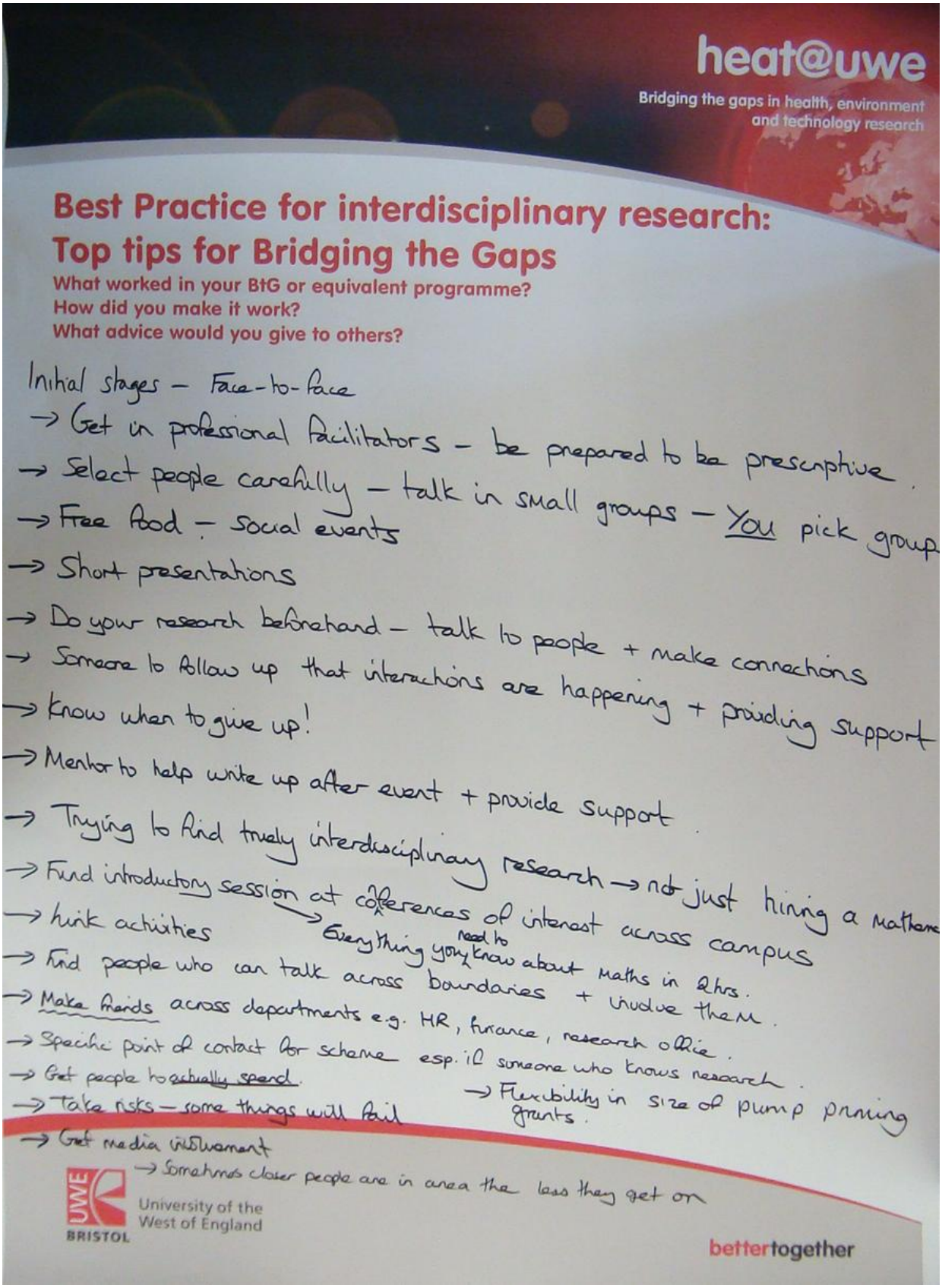
Offer small grants: Use small grants to enable academics to build partnerships. These can be particularly useful for early career academics with a limited track record creating a bridge to larger sources of funding. Additional funding can then be provided for projects that are working well. The mechanisms for funding should be fast and simple, examples include sandpit/Dragons' Den-style events, open and continuous calls for funding with one page applications and a programme credit card to buy low cost pieces of equipment or consumables easily. Funding can be offered for a range of expenses including buy-out from other duties, software, travel costs or consumables.

Programme challenges

Overcome institutional challenges: Interdisciplinary research can pose challenges to institutional systems not designed to work across faculties or departments. Programme teams should work with colleagues in HR, finance and research offices to try to overcome these challenges.

Consider where to go next: Projects that are successful can struggle to find sources of external funding to develop their research. It is crucial to maintain the funding for interdisciplinary research. Some institutions have continued to fund their Bridging the Gaps programme with internal resources.

Appendix 1: Flip charts of the best practice for interdisciplinary research




heat@uwe
Bridging the gaps in health, environment and technology research
Best Practice for interdisciplinary research:
Top tips for Bridging the Gaps
What worked in your BtG or equivalent programme?
How did you make it work?
What advice would you give to others?
• B+G LEADING TO FURTHER COLLABORATIVE PARTNERSHIPS
• WIDENING NETWORKS
• SOME PROJECTS WITHER - OTHERS SUCCEED
• TIMING — PROJECTS MAY COME TO FRUITION LATER
— DIFFERENT TIMEFRAMES
• SERENDIPITY!
• SMALL GRANTS - USEFUL CARROT TO BUILD PARTNERSHIPS - ENFORCING RELATIONSHIPS
• RESOURCING — BUY OUT TIME FROM OTHER DUTIES
— FLEXIBILITY - CENTRAL PROJECT - WAS EASIER TO GET THINGS OFF THE GROUND
COMMON FACTORS FOR SUCCESS?
• LEADERS CRUCIAL TO SUCCESS // CAN DEPEND ON PROJECT TEAM
• MIX OF SUCCESS - EARLY CAREER + MORE EXPERIENCED RESEARCHERS
• CREATIVE APPROACH TO RESEARCH / FLEXIBILITY
HOW DID YOU MAKE IT WORK?
• ENERGY / ENTHUSIASM / PASSION — SUPPORT BUT FLEXIBILITY
└ CHEERLEADING
• FACILITATION — MIX OF INT + EXTERNAL — DEPENDING ON INDIVIDUAL
• EXPECT FAILURE - NOT EVERY PROJECT SUCCEEDS
• GETTING THE DYNAMICS RIGHT - TIMESCALES ALSO CRUCIAL
• BACKING THE RIGHT ACADEMICS AND ENSURING AVAILABILITY.
• SUBJECT BASED EVENTS EG. THEMES - DIFFICULT BALANCE
• NETWORK MODEL // SAND PIT APPLICATION PROCESS
LO SUB GROUP EVENTS
BIGGEST CHALLENGE:. WHERE TO GO AFTER FUNDING ENDS
• SMALLER GRANTS / GROUPS NURTURING — LACK TRACK RECORD — BIG JUMP TO LARGER FUNDING
• PEER REVIEW PROCESS — MULTI DISCIPLINARY BIDS - HARD TO GET FUNDING — DIFF PERSPECTIVES FROM DIFF SUBJECT AREAS
→ FOLLOW ON FUND NEEDED?
• MAINTAINING B+G FUNDING / MULTI DIS. FUNDING CRUCIAL.
• HOW MUCH INFRASTRUCTURE IS NEEDED?
UWE BRISTOL
University of the West of England
bettertogether

heat@uwe

Bridging the gaps in health, environment and technology research

Best Practice for interdisciplinary research: Top tips for Bridging the Gaps

What worked in your BtG or equivalent programme?
How did you make it work?
What advice would you give to others?

Flexibility
Support with external funding
Mentoring programme
Institutional finance → project credit card

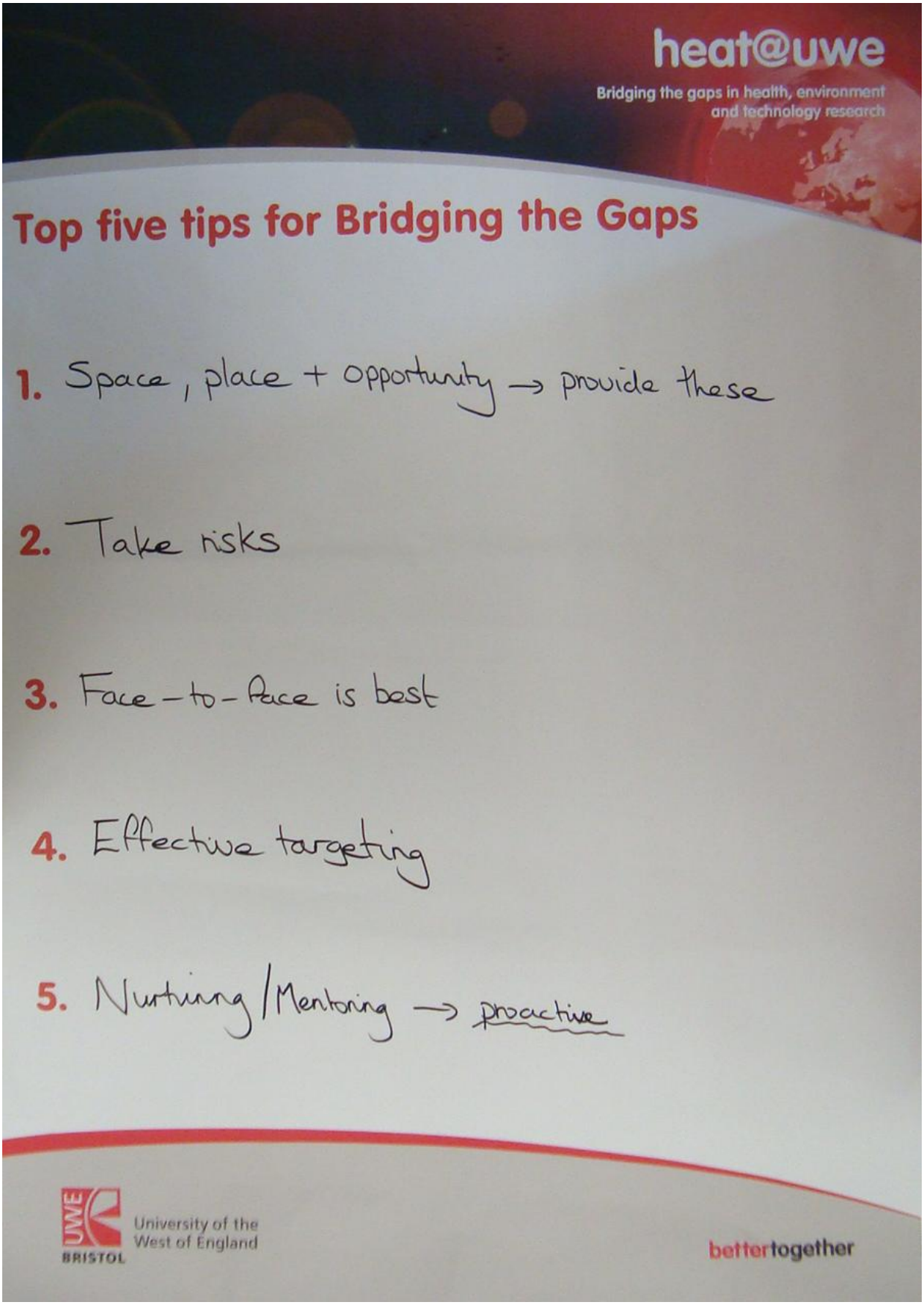
Having the right facilitator
- working with them
- iterative process
Use of neutral space

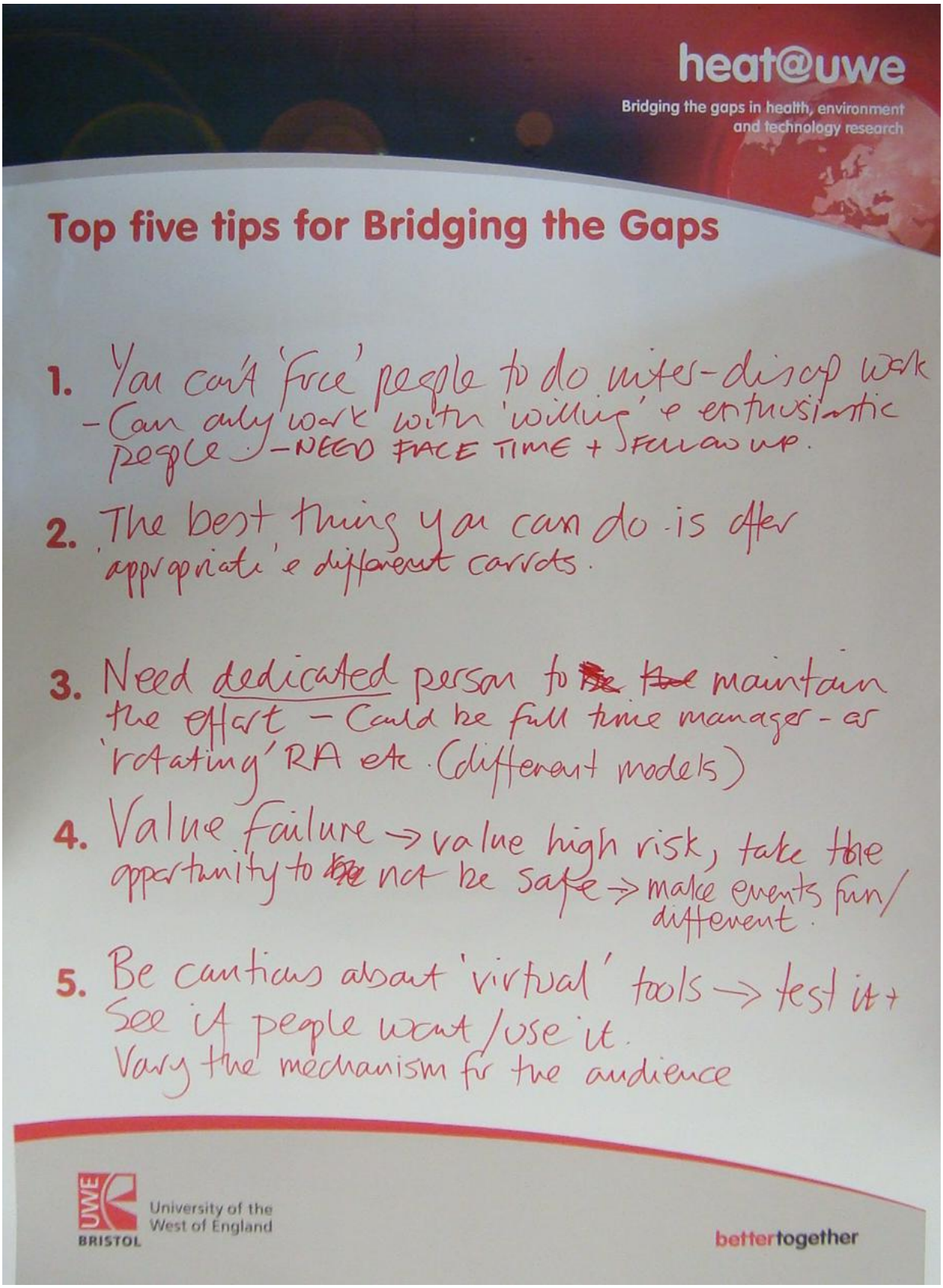
You can force people to do multi-disciplinary research or work together
All have to benefit + have a challenge
Encourage all levels
Accept failure
Mechanisms for funding - fast + simple
Feedback is important

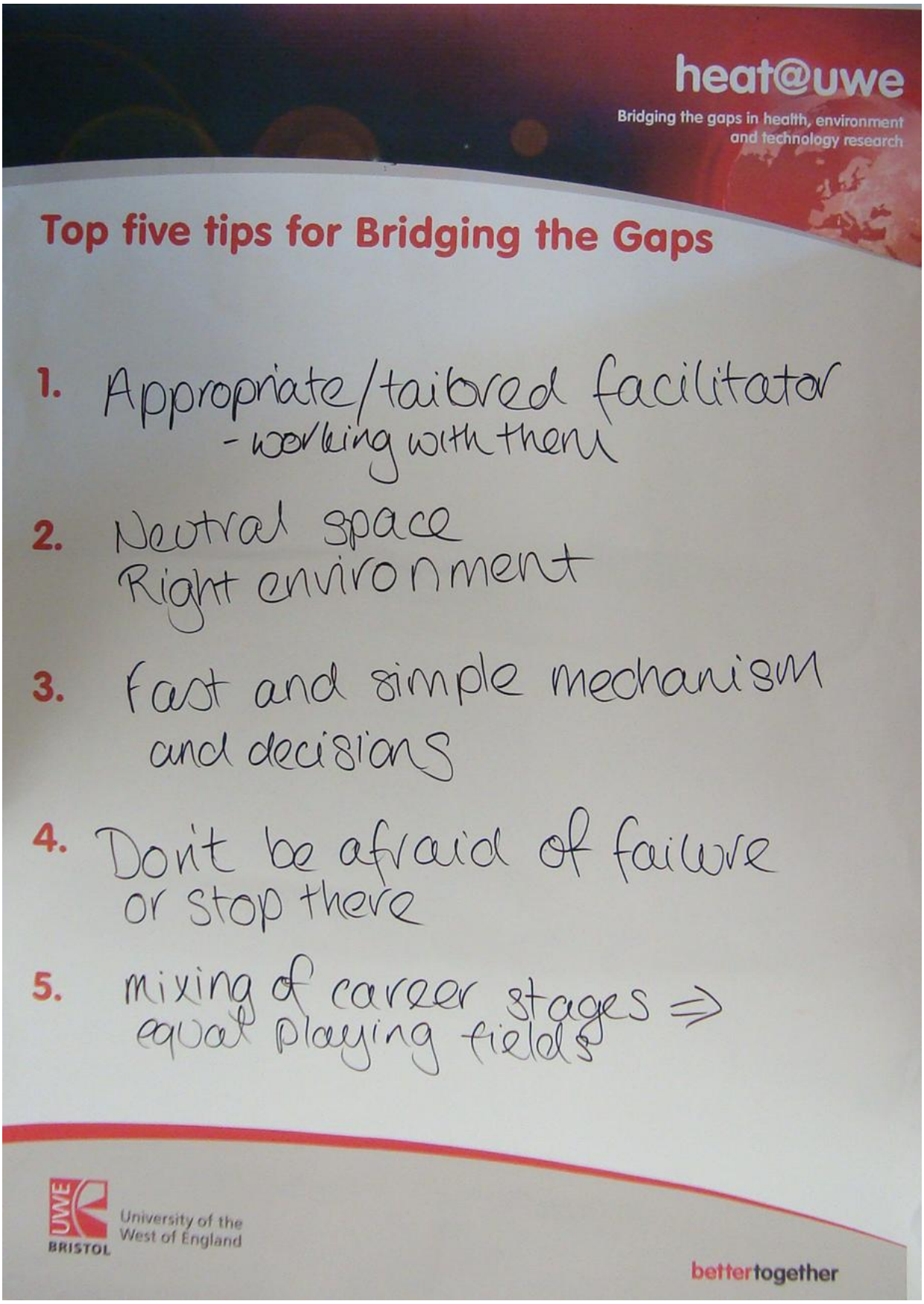
University of the West of England
BRISTOL

bettertogether

Appendix 2: Flip charts of the top five tips from each group




heat@uwe
Bridging the gaps in health, environment and technology research
Top five tips for Bridging the Gaps
1. You can't 'force' people to do inter-discip work - Can only work with 'willing' & enthusiastic people - NEED FACE TIME + FOLLOW UP.
2. The best thing you can do is offer 'appropriate' & different carrots.
3. Need dedicated person to maintain the effort - Could be full time manager - or 'rotating' RA etc. (different models)
4. Value failure → value high risk, take the opportunity to not be safe → make events fun/ different.
5. Be cautious about 'virtual' tools → test it + See if people want/use it. Vary the mechanism for the audience
UWE BRISTOL
University of the West of England
bettertogether


heat@uwe
Bridging the gaps in health, environment and technology research
Top five tips for Bridging the Gaps
1. Appropriate/tailored facilitator - working with them
2. Neutral space Right environment
3. Fast and simple mechanism and decisions
4. Don't be afraid of failure or stop there
5. mixing of career stages ⇒ equal playing fields
UWE BRISTOL
University of the West of England
bettertogether