

# BRINGING RESEARCH TO THE FORE. LESSONS FROM DEVELOPING A GREATER RESEARCH CULTURE IN A STEM DEPARTMENT WITHIN A TEACHING-FOCUSED UNIVERSITY

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## Abstract

Research can often be a fringe or niche activity in many teaching-focused universities, where learning and teaching can often dominate to the exclusion of other activities. This paper aims to evaluate the progress made and techniques used since 2010 to develop a greater research culture in a STEM-focused faculty comprising 4 schools, 3 of which had little research activity prior to 2010. The paper traces the development of a research culture, based on a Grounded Theory Analysis of interviews with staff, which led to the submission of high quality research from all four schools to the UK Government's Research Excellence Framework in 2014. It critically examines a range of initiatives that were designed to build capacity for research, which had varying degrees of success. The analysis identifies three elements of a research culture and three related drivers of research culture.

Keywords: Research culture; Research Leadership; Researcher Identity; Research Collaboration.

## 1 INTRODUCTION

Many countries have seen an increase in the number of public universities providing higher education in recent decades, as further education and technical colleges have increasingly been granted University status, and private universities have proliferated (Quddus and Rashid, 2003). In the UK, most of this change has taken place since the introduction of the Higher and Further Education Act (1992), which allowed many teaching-focused further education institutions to apply for University status. The development of research within these institutions has been key to the growth of their reputation, as measured in league tables, which has given them the ability to compete for students more effectively with older, more established universities (Henkel, 2005). However, there are many barriers to establishing research in institutions that have not historically carried out this activity. These include the need to both motivate and provide the necessary skills to existing staff, and the lack of specialist administrative support for research, competition with longer established research institutions and heavy teaching loads (Davis, 2003; Hazelkorn, 2005; Gilroy and McNamara, 2009; Holligan et al., 2011). More challenging however, is the culture change that needs to accompany a shift towards greater research activity, in institutions that have previously focused on teaching as their primary priority.

There is a growing literature on theories of research culture and culture change within Higher Education Institutions. Some have argued that it is not possible to define a research culture at an institutional level, given the division of research between differently managed faculties with different research traditions (Becher and Trowler, 2001; Deem and Brehony, 2000). Notwithstanding debate over the appropriate organisational scale at which research cultures develop and persist, Evans (2007) defines an institutional research culture as: "...shared values, assumptions, beliefs, rituals and other forms of behaviour whose central focus is the acceptance and recognition of research practice and output as a valued, worthwhile and pre-eminent activity." Building on this, there is a highly relevant literature on organizational culture, organisational change and behaviour change, which can explain some of the factors that may facilitate or hinder the development of an institutional research culture. Organisational culture may be defined as the values, beliefs and norms shared by an enduring majority of members of an organisation which influence the behaviours and outputs of individuals and the organisation, and which distinguish it from other organisations (after Katz, 1987; Hildebrandt et al., 1991; Schneider et al., 2013). As such, it is clear that an organisation's culture can be learned by those who join it. Indeed, Cheetham (2007) describes research as a "learned behavior" and "research culture [as] the structure that gives that behaviour significance and that allows us to understand and evaluate the research activity." This resonates with the idea that researchers can find collective identity through their work with like-minded colleagues. Ng and Pemberton (2013) describe this as the emergence of "communities of practice" (after Wenger, 1998) around different research areas, where "like-minded individuals seek to share common interests" to overcome intellectual isolation, generate tangible research outcomes, and

achieve synergies through collaborative research. Wilson & Holligan (2013) suggest that these “collective research identities build research capacity and establish the foundations for a vibrant department research culture”. Building on this literature, we define research culture within higher education institutions as “the shared values, beliefs and norms of an academic community that support the production of high quality research outputs, which then define the collective identity of that community and distinguish the strengths and foci of one institution from another.” Therefore, to achieve a research culture, it is first necessary to change the values, belief and norms that underpin the current culture.

There are many factors that may explain how an organisation’s culture may influence its performance and ability to deliver innovative outputs, such as research (if research is defined as the generation of new knowledge). For example, Denison (1984, 1990) argued that organisations with strongly participatory cultures performed better than those that did not. Martins and Terblanche (2003) argue that organizational culture can affect promote innovation in other ways, for example flat and flexible structures, with autonomy, empowerment and collaborative work teams are more likely to promote innovation than structures based around rigid specialisation, formalisation, standardisation and centralization (Arad et al., 1997). Organisational cultures that support innovation are more likely to: reward behaviours that are consistent with the values of the organization (Arad et al., 1997); give employees time to think creatively and experiment (Shattow, 1996); tolerate, acknowledge or even celebrate failures and mistakes so that others can learn from them (Ryan, 1996; Tushman and O’Reilly, 1997); and support open and transparent communication, based on trust (Barret, 1997; Robbins, 1996). Agency and power influence organizational cultures in many ways. Leaders have the power to influence the behaviour of many people within an organization, but depending on the nature of change, there may be many others with power to affect change. Dearlove (2002) suggests that any major change of this sort is likely to be opposed by members of staff who wish to protect the status quo and their own power. As such, experience in many universities that have not historically prioritized research is that creating a research culture is often fraught with difficulty. However, despite the importance and challenges of establishing research in new universities, there have been few analyses of attempts to initiate and support the development of research. This paper therefore aims to:

- Evaluate the progress made and techniques used, both successful and unsuccessful, between 2010 and 2014 to develop a greater research culture in a STEM faculty in a teaching-focused university;
- Trace the development of a research culture, based on a Grounded Theory Analysis of interviews with staff;
- Critically examine a range of initiatives that were designed to build capacity for research, which had varying success; and
- Highlight lessons relevant to post-1992 universities in the UK, and to similar institutions internationally, that wish to create a research-active culture among staff.

## **2 METHODOLOGY**

### **2.1 Introduction to case study**

The University examined in this study began life as an art school in the mid-nineteenth century. This developed into a polytechnic and it was granted fully university status in 1992 when the Further and Higher Education Act gave all polytechnics the power to adopt the title of 'university'.

Research has a long-established tradition in the built environment and planning disciplines within the University, with submissions being made to all Research Assessment Exercises (RAE)/Research Excellence Framework (REF) assessments since the introduction of such exercises in 1992. Submissions were also made to the General Engineering Unit of Assessment in 1996 and 2001, however it was not until REF2014, when a submission was made to the Computing and Informatics Unit of assessment, that the next non-built environment/planning submission was made. In the intervening years, much of the University’s work in fields such as electronic engineering, computer networks, telecommunications, aerospace and automotive sectors engineering, and supply chain and project management, was brought together as a centre, run at arms-length from the University, with the aim of specialising in learning, innovation and technology transfer. The result of this was that research was marginalised in those fields. In 2009 the Centre was fully incorporated back into the University, becoming part of the Faculty in which it now belongs.

2010 saw the appointment of a new Associate Dean, with specific responsibility for research activity. This resulted in the development of a new research vision for the Faculty, including those parts which had seen research activity marginalised. Although for the period 2009 – 2014, the Faculty was disinvesting in academic staff numbers due to budgeting pressures. Over the following seven years, however, the appointment of a small number of new research-active staff were made when appropriate opportunities arose. During the same period, the Faculty also looked to progress and develop a number of existing research-active staff.

## 2.2 Methods

Semi-structured interviews with eleven researchers were conducted by an experienced independent research with no prior connection to the University. Interviews typically lasted between thirty and sixty minutes and commenced with the interviewer asking respondents to discuss what research culture meant to them in the context of the Faculty and provide examples of research culture in the past and present. The interviews sought to draw out interviewees' experiences of, and opinions on, the previous (pre-2010) and present state of the research culture in the Faculty and what could be done to develop or improve it in future. Questions were designed by a research team comprising researchers and management staff involved in promoting a research culture within the Faculty, in collaboration with the interviewer, and there was no involvement from this team in the interviews, which took place over a three-day period in 2015.

Participants were selected for interview based on their longevity of service to the Faculty, and its forebears, and their current, or previous, involvement in research. The participants were also selected to ensure that views from all four schools in the Faculty were heard. Of the members of staff who were interviewed, nine held PhDs and two did not. At the time of the study, all were employed at 'Senior Lecturer' level or above and had been employed at the institution, or its predecessors, since at least 2010.

All interviews were professionally transcribed and analysed by the interviewer using a modified Grounded Theory Approach (Glaser and Strauss, 1967). This involved organising interview quotes into themes and sub-themes in a textual database to generate a narrative that could explain how the research culture in the Faculty had changed over time.

## 3 RESULTS

### 3.1 Pre-2010: a culture based on professional practice and teaching

Interviewees acknowledged the vocational roots of the University and emphasised the lack of a research culture within the Faculty prior to 2010 (the start of our research study period). The two main sources of income for the Faculty before 2010 were seen by the respondents to be teaching students and working with relevant industry partners. As a result, work and resource priorities for Faculty staff were built around those two areas. One respondent explained, "*a lot of the staff taught as well but the priority was about engagement with industry*". Another described how their entire time was spent working on "*two projects specifically aimed at assisting small businesses. It was very industry focused*". However, industry engagement was focussed on applying existing technology to industry problems, rather than developing new knowledge. Research projects were typically small in scale and short in duration e.g. two to three months. Research-active staff were in the minority, and events, meetings and discussions about research did not take place within the Faculty. Although some saw this institutional history as an important factor hindering the development of a research culture within the Faculty, others argued that the vocational reputation of the University should be seen as a strength rather than a weakness.

The majority of Faculty staff during this time were practitioners and there were very few PhD students or staff with PhDs across the Faculty. Interviewees could be divided into three categories. Some came into the University from a research background and then did not carry out research because it was not what the University required. One interviewee commented that they felt they had taken a long "career-break" from research and now had to re-train themselves. Other interviewees had always focussed on professional practice and teaching, and research was new to them. A third group of interviewees had been recruited as researchers around 2010, when there was the push for a stronger research culture. This group did not voice the same struggles or challenges as the other two groups.

### 3.2 Post-2010: a growing research culture

Interviewees agreed that the research culture of the Faculty had changed significantly since 2010. From a focus on professional practices and teaching, respondents described a growing research culture, with a particular increase in research activity in the last two to three years. One interviewee stated that *“in terms of the kind of university we are and the kind of sector and the kind of niche we occupy in that sector, we have done a lot over the course of the past five to six years to establish a research infrastructure where really there wasn't one.”* Interviewees agreed that research collaboration was better now than four to five years ago and that it was improving further.

The current culture was described as more lively and vibrant with research being recognised by many staff as an integral part of the university's success going forward. Respondents recognised the significant change but were also unanimous that the culture was still very much a work-in-progress with some problems under the surface.

### 3.3 A clash of cultures

As the staff cohort grew in size, several respondents described how less formal, face-to-face communication was increasingly replaced by email communication, leading them to feel less included in decision-making processes. Although interviewees felt that current communications around research (such as newsletters) were informative, communication around larger issues, such as new appointments and strategy, was more limited, and some did not feel involved in major decisions about research. Others felt able to contribute ideas, but felt their suggestions were disregarded, due to a lack of communication about the reasons decisions were made.

Existing staff who had not been involved in the recruitment process felt that some new staff members were selected for the wrong reasons, i.e. to improve the research ranking of the university rather than to fill the positions required (to meet teaching needs) within their school. In one school in particular, perceived special treatment of recently recruited 'research stars' (typically professors) had created a 'them-and-us' atmosphere between new and old staff, with top professors perceived to be working as 'one-man-bands' and not integrating into school life. One interviewee discussed the development of a *“two-tier system where the professors are achieving great things – they meet the [research] targets required by the Faculty and the University – but they aren't contributing at the school level in any way. This is creating a distance.”*

Staff that had not previously carried out research, or had taken a long break from it, felt side-lined from much of the new research activity and lacked confidence in this area. Training opportunities (e.g. workshops on how to write a paper etc.) were helping some to build confidence, but many still felt apprehensive about research. While some staff were happy with their allocated teaching and research time, others felt that their teaching prevented them from carrying out research. Research was still seen by many in the latter group as an 'add-on' to the day job. Although some respondents described this as gradually changing, this perception was not shared by many of their colleagues.

The clash of cultures was particularly evident between the management of the Faculty and individual schools. Respondents reported an increase in teaching bureaucracy at school level, and a conflict between school teaching priorities and Faculty research priorities, which often resulted in feelings of resentment between staff focussed primarily on research versus teaching. This was particularly evident in views around the recruitment of staff prior to a recent Government assessment of research excellence (the Research Excellence Framework, REF). These research-focussed appointments were driven by the Faculty, but placed within more teaching-focussed school management structures. One respondent described the general feeling that it had not been an 'honest' success because the Faculty *“brought in a load of new staff with their publications and then pretended we have a research culture that we didn't.”*

### 3.4 Drivers of culture change

Leadership was acknowledged as one of the main driving forces behind the growth of the Faculty's research culture. The appointment of an Associate Dean of Research was seen as key to the development of research activities, and the management style of the individual in this post was seen as particularly significant in the change process. One respondent referred to the current Associate Dean of Research as *“the driving force in changing how we saw research. [...] This individual has a passion for research and is very supportive of actions and proactive in driving things forward.”* Research support staff were also mentioned, often by name, for their assistance and work in creating an environment that fosters research. Respondents judged research to be better managed as a result of these staff roles. In

addition, they felt that, because of the research leadership, the majority of staff saw that research was now a vital ingredient for the future success of the University and, as a result, it now had more respect than five to six years ago.

The PhD community was argued to be a vital element of a successful research culture and there had been a significant increase in research students since 2010 across all schools. One interviewee voiced a concern about the strain on current resources of an ever increasing PhD community but overall respondents agreed that the research students worked well together and had many examples of collaborative working across the Faculty.

The organised events such as research seminars and research cafés were argued by interviewees to be key to the current research culture, allowing staff and research students to share experiences and explore collaborative opportunities. Both events for existing staff and for research students were discussed positively and seen as good confidence-building events for staff new to research.

External assessments of research excellence were seen as a significant factor in the research culture of the Faculty. Those involved and included in the process saw it as a positive learning experience and there was a general feeling of positivity that the Faculty had performed so well. Several of those not involved in it perceived it to be a “frantic” experience that they had not felt adequately involved in.

### **3.5 Barriers to culture change**

Physical space was consistently discussed by interviewees. Although one interviewee stated that the open plan office “has prevented the development of ‘ivory towers’”, the current office space was referred to as a ‘call-centre’ and respondents argued that it was not conducive to conducting research. As teaching was still seen as a priority within the University, there were no protected research spaces and staff did not feel they could guarantee that equipment will not be moved or borrowed when carrying out experiments. One respondent stated that “*lab space is not marked or allocated, room spaces are not respected, door keys are not issued and equipment is not labelled or kept track of.*” In contrast, two interviewees who worked in a research team that had its own space, stated that “*our room is not just an office – the PhD students get to build models and do their work in our room and we are all grouped together. They exist in a co-habiting environment with their supervisors. It is inclusive.*”

Interviewees agreed that communications around research remained a barrier to change. Research strategy needed to be better communicated at school level, and better feedback processes needed to be developed so that faculty research leaders could be better connected to the implementation of research strategy at a school level. More rapid communication of important decisions to relevant people, and some called for a clearer understanding of who the relevant people are, for what news and why. As well as continuing to build relationships with professional bodies and industry partners, respondents felt that it was time to start promoting some of the Faculty’s research success to external partners, with one interviewee stating that “*we are not promoting the [research successes] that we have.*”

### **3.6 Overcoming barriers to culture change**

Overall, the interviewees felt the Faculty was on right path to building a strong research culture but the changes since 2010 had resulted in some tensions, particularly at a school level, and they discussed possible solutions to some of the underlying problems. The need to stay true to the vocational foundations of the University was mentioned by the majority of interviewees. Although the changing market place for the University was recognised, with respondents arguing that research would be a vital ingredient for the University to offer in order to compete with other universities, it was also noted that the institution is a vocational University and should still play to those strengths and continue to work with industry. One respondent explained that the University was a “vocational institution dealing with undergraduates that, for example, want to be Quantity Surveyors. We need to be able to offer those professional qualifications - and continue to provide them.”

Respondents argued that practitioner, teaching and research staff members should all be treated and valued equally, with one interviewee commenting that we should “*equally value both [teaching and research] worlds. And just say – do you know what? We just value excellence*”. Furthermore, all levels of research should be valued and rewarded, not just those papers published in top ranking journals. As one respondent stated, “*it’s just about finding different avenues to express what staff members do and what they are good at. I would never want to get to a situation where everybody has to be, for example, REF returned because that is just clearly not suitable for the kind of staff base we have.*”

Respondents actively discussed the need to break down the barriers that have been formed between certain individuals and/or groups of staff (e.g. new and old staff members). Building trust was seen as a key goal in the move towards a stronger research culture. Staff development was a significant factor in suggestions of how to break down existing tensions. Interpersonal skills were seen as key to developing strong and effective working collaborations. Respondents suggested making more use of the Individual Performance Review process (a member of staff's annual evaluation of their performance) to set realistic goals and support staff with research ambitions as and when needed. In order to use this more effectively, managers may need further training and there needs to be more clarity of the power structure so staff feel they know who to report to and also that those structures are respected by all members of staff, including 'research stars'. Interviewees agreed that continued development of PhD students was a successful way to continue building the research culture, though PhD supervisors needed to be trained effectively.

A mentoring programme was suggested as another way to break down barriers between old staff and new research-focused staff. Having some of the research professors informally mentoring some staff that were less confident in research was seen by respondents as a positive step forward. However, it was emphasised that this should be done informally, e.g. by having a coffee and a catch-up rather than a formal process that could undermine the non-research active member of staff.

With changing priorities, time was identified as an important resource that needs to be protected for research activities. Flexibility was another factor raised by interviewees who all stated that in order to improve the research culture the teaching culture had also to be worked on. These two areas need to work in partnership rather than opposition. In addition, there needs to be some developments in administration processes so staff time can be used more effectively.

## 4 DISCUSSION

Based on the analysis of interviews in the preceding section it is possible to identify three key elements of a research culture: shared values, beliefs and norms; production of high quality outputs and impacts; and community and trust (see three circles in Fig. 1). To achieve this, it is possible to identify three key drivers of culture change: values based leadership, a clear sense of academic identity and long-term collaboration as part of a gradual change process (see overlaps between three circles in Fig. 1). The fact that the results of the research indicate that the planned transition to a research culture was perceived more as a clash of cultures by some staff indicates that shared values and a sense of community are difficult to establish.

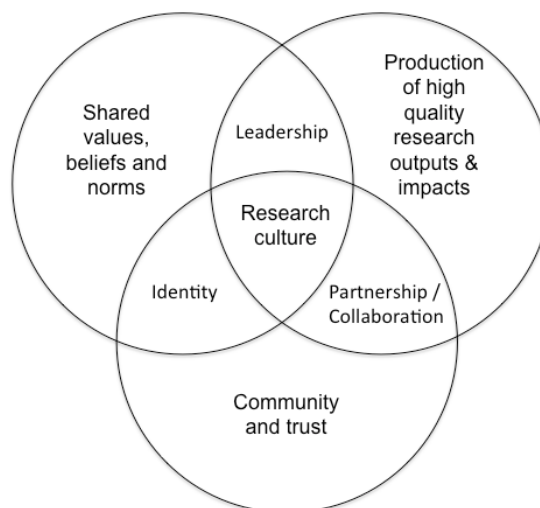


Figure 1. Conceptual framework explaining key factors that contribute towards research culture.

### 4.1 Identity as a driver of research culture

The move to an academic culture where research is more visible and higher profile will always cause some tensions, especially where a number of staff view themselves as 'practitioners who teach', an issue researched by Haigh (2012) who examined the move to a more research-focused culture in a former teacher training establishment. There are similarities with our case study, as a number of staff

were originally recruited as practitioners – whether it be in the built environment professions, engineering-based professions or those related to computing. Our results indicated the influence on this prevailing culture based on professional practice and teaching.

Overcoming barriers to culture change in order to create a strong research culture relies on the ‘agency, personal drive and motivation’ of the individual researchers and their sense that research is important (Holligan et al. 2011). Research, along with teaching is a key element of the identity of academics giving legitimacy and credibility (Sharp et al., 2015). Wilson & Holligan (2013) recognise the ‘tensions and fragmented identities’ that pose a challenge to a research culture. Current pressures in higher education have embroiled staff in the challenge of ‘renegotiating and reconstructing both their professional and research identities’ (Jindal-Snape, 2009). The organisation’s drive to building research capacity is contingent on its staff being ‘personally committed’ and ‘emotionally resilient’ given the risks of failure inherent in research (Holligan et al. 2011). Consequently individuals have different emotional responses in terms of how they experience research, ranging from feeling isolated to being fulfilled and this has implications for leadership (Holligan et al. 2011).

## **4.2 Values based leadership as a driver of research culture**

To move forward, effective leadership is needed, to drive priorities with a clear focus on a strong institutional research identity and culture (Sharp et al., 2013). This attention, which was consistently given to staff responsibilities, was used to identify opportunities for staff to have an appropriate balance of workload. This was combined with an audit of what staff were perceiving as barriers to research. As a result, it was possible to develop a strategy that prioritised limited resources and made decisions that explicitly recognised trade-offs between research and teaching, matters that have been identified by others as key elements of a strategy for developing research (Cheetham 2007, Billot, 2011).

Billot (2011) argues that leadership is an essential component in accelerating research productivity. Leaders in this research were focused on creating an identity for academic staff that covered knowledge discovery and knowledge dissemination. With the tension in tackling this being within an individual rather than between individuals. Faculty research leaders invested time in working with managers to create time and support for research for individual staff. These support staff were key in driving the change. Their very helpful attitude and approach signalled the importance placed on supporting staff in managing these tensions. Johnson & Louw (2014) note the importance of faculty leadership in supporting the changes required to build a research culture. Our study results also indicated that the style of leadership had been key in driving the culture change through establishing shared values, beliefs and norms combined with driving the production of high quality outputs.

If a shift towards a research culture is viewed as an episodic event, precipitated by radical reform, then change is affected primarily via the leader who initiates change. In contrast to this, if organizational change is viewed as a continuous, incremental concept, then the role of the leader is to make sense of and facilitate change through a wider group of influencers within the organization who attempt to inspire and attract people to change. Episodic change implies that the organisation has to reach new discreet equilibria in response to its external environment, rather than continually adjusting, with these small changes accumulating to create substantial change. Episodic change is dramatic and associated with radical innovation compared to continuous change, which attempts to inspire and attract people to change. Episodic change requires the manager to be the prime mover who creates change, but in the continuous model, the manager makes sense of and directs change.

This is summed up by Kotter (1996) as "is change something one manages or something one leads?" The issues identified during this research included a shift in culture towards a research culture that was an uncomfortable experience for some staff. This ‘unsettling’ change which was seen as a ‘clash of cultures’ is recognised by Billot (2011). This has significant implications for leadership, in particular the way in which academic staff are guided and mentored to achieve the research objectives of production of high quality research outputs and impact. Billot (2011) identifies the importance of a supportive research environment and that requires shared values, beliefs and norms and academic leadership plays a key role in this. Ramsden (1998) identifies the ‘growing sense of disillusionment among academic staff’ arising from the huge changes in higher education combined with the increased levels of scrutiny in terms of standards of teaching and research and emphasizes the role of academic leadership in helping staff to handle these changes.

The shift in norms that creates the pressure for all academics to be undertaking research requires much more partnership and collaboration than in the past. This in turn has to be built on developing a research community and engendering trust. Facilitating these collaborations is a key challenge for universities

(Billot 2011). Ng & Pemberton (2013) argues that collaborating to share knowledge and resources enables individual researchers to be more resilient to the changing environment for higher education. This partnership based approach can help individuals to establish their profiles, attract funding and improve visibility as a group, while also driving better quality research outputs.

### **4.3 Community and trust as drivers of research culture**

Working with existing staff who have latent research potential to overcome barriers, empower and equip staff with research related capabilities were seen as extremely important to the desired future culture. A number of mechanisms were created to enable regular conversations with them as individuals, groups and faculty community. Research leaders put effort into trying to understand the key issues for researchers in progressing their research. They were given individual advice, mentoring and guidance. At the same time their concerns were taken to other forums in the Faculty and University as appropriate in order to achieve broader organisational change and to secure resources for research. These leadership skills are essential to creating "...direction, alignment and commitment, to encourage working in teams and to develop community" (Townsend et al. 2015). Staff were consulted about training and development that might be put into place to help develop the research skills of themselves and others. Research active staff were encouraged to develop their research profiles and to apply for promotion based on their research track records, thereby engendering trust, relationships and shared ideas as this is critical to a research culture (Holligan et al. 2011).

In addition to the policy of developing and 'upskilling' existing members of staff, opportunities also arose to recruit staff who were research active or who had the potential to develop as researchers. Professorial staff who could provide research and academic leadership in existing and new areas were recruited. Natural turnover created an opportunity to replace non-researchers with research active staff and this was encouraged where possible, recognizing the Sharp et al. (2015) warning of the dangers of fast paced change being counter-productive. In addition to the recruitment of new members of staff, a significant amount of effort was put into developing and supporting existing academic staff in the Faculty. Achieving critical mass is important in developing a research community (Holligan et al. 2011). Senior faculty managers became much more actively involved in academic staff recruitment than might have been the case previously and were able to emphasise research track record and research potential of candidates. In addition, post-doctoral research and new PhD opportunities linked to existing research interests were created. Enabling research became important at the strategic level in the Faculty and attempts were made to engage operational leadership in the opportunities, issues and change required. The allocation of research time in individual workloads of research active staff was given importance and attempts made to embed this into workload planning activities of faculty managers.

Some existing staff felt 'left behind'. This may have been because of the perception of the quantity and pace of change that they perceived to be happening. On the other hand it may have been borne out of a sense of being undervalued by the new emphasis on research. This may have been heightened by where the Faculty was perceived to be in terms of its research in comparison to other faculties who had performed well in a recent research evaluation exercise. Attempts were made to address this sense of alienation through a focus on inclusive communication, valuing the strengths of existing staff through whom the research culture could be developed by providing them with support, promotion opportunities, and more broadly securing resources, priority and time for research at higher levels to demonstrate the value placed on research. Similar experiences have occurred elsewhere, with Henkel (1999) suggesting that the designation of "research passive" (as opposed to "research active") is seen as 'a vehicle of professional and personal humiliation.' Our suggested model (Figure 1) provides a more inclusive approach to avoid such a polarised environment.

## **5 CONCLUSIONS**

Holligan et al. (2011) studied the research culture in education faculties across the UK and emphasised the role of leadership and management (e.g. funding, time allocations to research and research centres), personal qualities (e.g. self-management, energy, enjoyment of writing), faculty support (e.g. an atmosphere of trust, mentoring and research students) and other factors (e.g. the University's reputation and links with practice). Our findings both echo and extend Holligan's work, putting emphasis on the role of values in leadership and the place of the individual as part of a community experiencing change. As a critical, in-depth examination of experience in a case study institution, we also emphasise the



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