

# Chapter 24

## Enhancing Teaching of an Educational Institution via Building up Its Research Capacity



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**Abstract** This chapter presents an institution-wide programme for building up its research capacity for a teaching university offering open and flexible programmes. The university is keen to excel in teaching through research which serves the strategic value of keeping its academics' scholarly active and informing their teaching. The programme began with a needs analysis to determine the specific factors that favour or discourage academics' involvement in research. The analysis involved a total of 17 academics, from diverse disciplines and having involved in different levels of research activities. In the three focus group interviews held, the participants were asked about their perceived barriers to research; their views on enhancing the research culture; and their needs of research support. Based on the findings of the needs analysis, the programme for research capacity-building was designed and implemented. It covers three major areas: (1) research promotion—develop institutional research culture and enhance knowledge of academics in research; (2) research facilitation—deliver efficient research administrative support and provide consultation services; and (3) research orientation—facilitate the University to position its research and to develop a sustainable research environment. Details of the programme include a broad range of academic events and activities such as seminars, workshops, and regular roundtable meetings; an e-newsletter on research; an online platform of research resources; and an enhanced research administration system. This chapter also discussed how the programme addresses academics' research support needs and challenges faced during its implementation.

**Keywords** Research capacity-building · Open and flexible education · Needs analysis

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## Introduction

It is commonly accepted that research benefits teaching. Griffiths (2004) suggested that teaching can be research-led, research-oriented, research-based and research-informed. For a teaching institution, this serves as a strong motive for developing its research capacity, which will in turn enhance its teaching quality (Frantz et al., 2014). However, building up a teaching institution's research capacity can be a highly demanding task. Some difficulties appear to be shared by many teaching institutions. For example, Sawyerr (2004) highlighted a number of challenges, such as heavy teaching loads, inadequate infrastructure and competitive funding, which may be applicable to institutions in virtually all parts of the world. Discussion and research in this area focused mainly on the research capacity enhancement of a specific discipline (e.g. Murray & Vanassche, 2019; Trytten, Wale, & Hayes, 2019; Twelvetree, Suckley, Booth, Thomas, & Stanford, 2019; Withington, Alcorn, Maybery, & Goodyear, 2020). Those focusing on an institution-wide level have been relatively scant.

This chapter presents the experience of a self-financed teaching university in Hong Kong offering open and flexible learning in developing its research capacity and overcoming such challenges. The university has encountered difficulties, as do other teaching institutions, when it planned to systematically build up its research capacity. For instance, its academics have been heavily engaged in teaching, and many of them are either junior academics without much research experience or experienced teachers who have not been involved in research for many years. Also, as a self-financed institution, its financial resources should be devoted primarily to teaching and research often lacks resources.

Given this context, an institution-wide programme has been implemented to prepare academics to gradually develop their research competence and to enhance research engagement as an integral part of their academic work. As the first phase of the programme, it endeavours to foster an environment conducive to research activities. There are three major areas of work in developing the research culture of the university, enhancing academic staff's research knowledge and skills; improving their capability to write research proposals and publish research papers; and identifying the orientations for long-term research development.

To ensure that the research capacity development programme can focus specifically on academics' needs in research, a needs analysis was first conducted to collect data from academics. It aimed to identify their research needs in order to design and offer proper research support for them within the limitation of tight resources and to facilitate the university's strategic positioning of its research. Based on the findings of the needs analysis, a series of initiatives for the research capacity development programme have been planned and are being implemented.

## Research for a Teaching Institution: Benefits and Challenges

The potential benefits of research to teaching have been well studied. For example, Elen, Lindblom-Ylänne and Clement (2007) reported a wide range of positive effects that research can bring to teaching. Academics would be more enthusiastic and dynamic in discussing their own research in teaching. There could be added value in their teaching, such as introducing research activities into teaching to develop students' research skills, thus enabling them to think independently and express their thoughts clearly. Also, they could teach more than textbook information and deliver up-to-date knowledge to enrich students' learning. Healey, Jordan, Pell and Short (2010) found that students regarded their teaching as more credible when they were taught by well-known researchers.

In particular, for academics involved in educational research, improved understandings of effective teaching and learning can be expected. An institution can develop informed and insightful policies and practices for teaching based on relevant research findings.

Despite some studies showing that the causal relationship between research and teaching is not always clear (DFES, 2003; Zamorski, 2002), Geraldo, Trevitt, Carter and Fazey (2010) stressed the need to nurture higher education students to be critical citizens, where

it is not only researchers who need these skills, but the skills are needed in all kinds of jobs where it is important to constantly follow new knowledge, understand phenomena with the aid of scientific thinking skills, and to be able to act as an active knowledge builder in society. (Murtonen, Olkinuora, Tynjälä, & Lehtinen, 2008, p. 609)

Engaging in research could also help in building up the academic profile of a university and promote constructive connections with society. For example, the efforts of the UK Open University to improve the quantity, quality and impact of research to benefit British society and the economy have been recognised (Open University, 2013a). Its research has provided students with opportunities to collaborate with experts to develop skills and competencies that empower lifelong learning (Open University, 2013b). Hassanin (2012) illustrated the utilisation of information and communication technology in research to connect the university with industry and the government to enhance regional development.

Research capacity-building is a long-term process which requires substantial and continuing effort to tackle various challenges. McIntyre and McIntyre (1999) summarised three factors – expertise, motivation and opportunities – for academics' research engagement to be transmitted into teaching and learning, and also outlined aspects of the major challenges to conducting research in a teaching institution.

Insufficient expertise would be a problem for academics without substantial research experience. Pollard (2007) noted that only about 40% of education staff in UK higher education were research-active, and the primary expertise of many lay in professional practice. Also, Fisher (2008) reported that nearly 50% of faculty members in Canadian colleges indicated that the lack of relevant training or experience was a barrier to research. Flower et al. (2009) pointed out the limited number of

researchers who are capable of leading the design, delivery and dissemination of quality research as a major challenge for institutional research development.

Also, limited research opportunities put a damper on academics' eagerness to conduct research. For example, Mugimu, Nakabugo and Katunguka (2013) reported factors, such as heavy teaching loads, inadequate funding and poor remuneration, that undermined academics' potential to engage actively in research, despite their high level of self-efficacy regarding research competence. Similarly, Karimian, Sabbaghian, Salehi and Sedghpour (2012) noted that financial issues, in particular the lack of funding for research activities, were widely agreed by academics as the key obstacle to involvement in research.

In addition, lack of motivation to conduct research could be caused by personal and contextual factors. Egwunyenga (2008) identified the lack of incentives to encourage academics in Nigerian universities to conduct research or source research funds, largely due to the unreliable research infrastructure, such as transport and energy. Murray (2010) commented that teaching staff who are practitioners may not have a strong reason for carrying out research.

Such literature reveals the common issues that have to be addressed in planning and implementing research capacity development for a teaching institution. The following sections now present the institutional research capacity development programme of the university and illustrate how it has taken into account the challenges and specific needs of academics.

## Needs Analysis

Research capacity development in the university starts with understanding the specific factors that favour or discourage academics' involvement in research (Fowler et al., 2009; Jenkins & Healey, 2005; Rees, Baron, Boyask & Taylor, 2007). A needs analysis was first conducted to identify academics' perceived barriers to research involvement and their research support needs, in order to design and provide proper support conducive to developing their research capability. It included three sessions of focus group interviews, with a total of 17 academics participating from different disciplines and with different levels of research activity. The participants were asked about their perceived barriers to research; their views on enhancing the research culture; and their need for research support. The areas of research support were structured following the Researcher Skill Development Framework (Willison & O'Regan, 2008) which covers various facets of research.

Table 24.1 shows the major perceived barriers to research and research support needs of the interviewees. The barriers they perceived revolve around administrative issues, research collaboration, and research infrastructure/resources. For example, the participants indicated their limited familiarity with research funding opportunities and the relevant policies. They expressed the need for further support, such as the provision of research software tools with relevant training, and physical space for a repository for their research data. They also wished to have activities for

**Table 24.1** Barriers to research and research support needs

<b>Perceived barriers to research</b>	
Administrative support	Heavy teaching load Time involved in handling administrative procedures Insufficient familiarity with research funding policies
Collaboration	Difficulties in forming research teams Difficulties in research collaboration
Infrastructure and resources	Lack of work space Lack of physical storage space Insufficient licences for research software tools
<b>Research support needs</b>	
Embark and clarify	Notifications of updates of the library databases Sharing research ideas in various disciplines Provision of, and training on, software tools for referencing
Find and generate	Information and training on data collection methods
Evaluate and reflect	Information and training on software tools for qualitative and quantitative data analysis
Organise and manage	Consultation for research project management Platform for research collaboration Identification of potential research partners
Analyse and synthesise	Consultation on statistical modelling Experience-sharing of conducting research in various disciplines
Communicate and apply ethically	Training on proposal writing Experience-sharing on research funding applications

brainstorming research ideas and facilitating research collaboration and a consultancy service on research methodology. The interviewees showed their preferences for activities for experience sharing about proposal writing, funding applications, and conducting research in specific fields. These views have been taken into consideration in devising a programme for research capacity development.

## **Institutional Research Capacity Development**

As noted earlier, the university's plan to systematically develop its research capability is intended to gradually establish a culture for active engagement in research; build up academics' capacity to conduct effectively quality research and publish their findings; and identify the orientations for long-term research development. This initiative aims to foster an environment conducive to research activities, and in the long-run, substantially strengthen the research profile of academics.

To cater for the various needs of academics, the institutional research capacity development programme is composed of three major areas:

*Research promotion:*

Develop institutional research culture and enhance knowledge of academics in research;

*Research facilitation:*

Deliver efficient research administrative support and provide a consultation services;

*Research orientation:*

Facilitate the university to identify positioning in research and to develop a sustainable research environment.

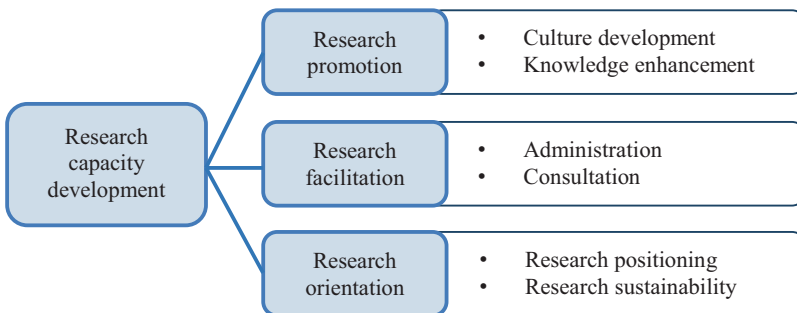
Figure 24.1 outlines the framework of the programme. The aims, strategies and major work in each of these areas are introduced below.

## ***Research Promotion***

For research promotion, a series of seminars and workshops are being organised. The seminars and workshops serve two objectives: (1) to share and exchange research ideas, experience and results and (2) to enhance research skills in specific areas, such as research budgeting, knowledge of statistical tests and use of software tools for research. Seminars on research trends in individual disciplines or on research projects, which have been completed are also being held. In the seminars, academic staff are invited to share the findings and insights of their research work, as well as their views on the research trends in the related disciplines.

Regular roundtable meetings are also being held for academics to share and discuss research-related issues. They serve as a resourceful platform to generate research ideas; gain insights on improving research plans; discuss ways of overcoming difficulties encountered in research activities; obtain suggestions for publication strategy and identify possible partners for research collaboration.

An e-newsletter has been created as a channel to share research news, research ideas, past and upcoming events and activities, and staff's research achievements.



**Fig. 24.1** Framework of the Research Capacity Development Programme

An online platform has also been set up to disseminate research-related information and resources, such as the details of different research funding schemes, online tutorials related to research skills and open onsite resources for research.

Aim	Strategy
<i>Culture development</i>	
Develop and strengthen the research culture of the university. Facilitate research collaboration between the university and other institutions.	Share research-related news and funding opportunities. Develop research networks to promote research-sharing and collaboration.
<i>Knowledge enhancement</i>	
Enhance academics' research knowledge and skills, and capability to write research proposals, conduct research and publish research papers. Enhance academics' knowledge and skills for using software tools for research.	Provide research-related resources. Organise professional development activities to enhance academics' research capacity. Develop training materials on research methodology and skills.

## ***Research Facilitation***

To promote research, enhanced administrative procedures have been formalised and provided for processing funding applications, coordinating project implementation, and facilitating publications. In particular, these involve (1) clearly specifying relevant procedures; (2) developing well-illustrated administrative processes by flow charts/process maps with timelines and checklist items; (3) using information technology effectively to promote the implementation of the management system and administrative procedures and (4) reviewing the system and procedures periodically to seek improvements.

Consultation services have been provided for academics to cater for their diverse individual needs at various stages of the research cycle. They cover aspects from the identification of suitable funding to proposal writing and presentation, data analysis and communication of research outputs.

Aim	Strategy
<i>Administration</i>	
Facilitate and coordinate applications for internal and external research funding. Oversee and coordinate the implementation of funded research projects. Facilitate staff's production of publications.	Build an efficient and effective management system for processing proposals and applications. Offer assistance in completing applications and reports.
<i>Consultation</i>	
Offer assistance to cater for individual needs in the research cycle.	Provide consultation services on research-related issues and the use of research tools.

## ***Research Orientation***

For research orientation, an advisory committee has been formed as an internal communication platform between the university and academics for (1) sharing information and exchanging views on research development matters and (2) collecting views from academic units for improving or fine-tuning their plans or services. This helps the university to oversee its research development and to formalise its positioning on research. A research assessment framework is being developed for evaluating the quality of academics' research, in areas such as productivity, practicability and social impact. Needs assessment is planned to be conducted periodically to review any changes in academics' research needs and adjust the provision of research support accordingly.

Aim	Strategy
<i>Research positioning</i>	
Position the university's research and identify strategic research areas.	Develop an effective communication channel between the university and academics for research-related issues.
<i>Research sustainability</i>	
Build up a sustainable research environment.	Develop a research assessment framework for ensuring the quality of research work and outputs. Conduct needs assessment periodically to capture changes in academics' research needs.

## **Addressing Academics' Research Support Needs**

The research capacity development programme has been devised to address academics' research support needs. The three areas of work are interrelated and support research in various ways. For example, the roundtable meetings, in addition to simulating an active research culture, also serve to deliver consultancy services to resolve academics' enquiries and indirectly collect their feedback on the support services provided. The e-newsletter is an informal channel to make academics aware of the university's latest research development, future plans and relevant expectations.

While the university endeavours to build up its research capacity, it acknowledges its primary role as a self-financed teaching institution. As most of its resources should be devoted to teaching, the financial cost for research development needs to be kept minimal. Some barriers to research for academics, such as their heavy teaching loads, cannot be overcome in the short term. The programme therefore focuses on minimising academics' burden in research administrative work through providing centralised support on research administration and coordination. Academics are encouraged and helped to engage in research collaboration, so that mutual support



can be obtained in research work and research resources can be better utilised (Huang, 2014). The university also strives to capitalise on opportunities for external research funding, with academics being given substantial support in applying for external funds for their research projects.

The long-term research development of the university is also taken into consideration in the programme. Mechanisms such as the advisory committee and periodic needs assessment enable the university to keep abreast of academics' research needs and to make informed planning for further research development. As capacity-building is a process (DFID, 2010), it is anticipated that academics' needs will change when they have gradually built up their research competence, and that the corresponding research support will have to be periodically reviewed and enhanced.

## Conclusion

This chapter has documented the experience of a teaching university in developing its research capacity. As the first phase of the research capacity development programme, a needs analysis was conducted for identifying academics' needs in research. With a thorough understanding of their needs, appropriate research support has been developed and provided to gradually enhance academics' research capability. The programme has been devised to cater for the specific research needs of academics from diverse backgrounds and competence levels.

This experience could be applicable to other teaching institutions, as research has been seen as an essential component in the higher education sector. Students have to acquire research skills as an integral part of their higher education, and academics have to build up their research profile for professional development. For a teaching institution, this implies an increasingly pressing need to establish an environment conducive to research and to build up its academic reputation through research excellence. This chapter has illustrated how institutional research capacity could be developed to address this pressing need.

**Acknowledgement** The work described in this chapter was substantially supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (UGC/IDS16/14).

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