New researchers and new research communities: an exploration of strategies for the development of research capability and capacity in continuing education and training in Singapore.

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Abstract

In recent years, Singapore has invested heavily, and successfully, in Continuing Education and Training, (CET). There has to date, however, been little research in this area carried out in Singapore. One part of the mission of the Institute for Adult Learning (IAL), set up by the Singapore Workforce Development Agency (WDA) in 2008, is to develop the capability and capacity for research-informed practice in CET. This involves not only the production of a sound infrastructure for the conduct and dissemination of research, but also the development of a community of active CET researchers. To this end, the IAL has developed, in consultation with key stakeholders, a research strategy, which combines the development of research specific research studies in the areas of learning, work and the impact of CET, with a programme of infrastructure and capability building activities. These include the development of strong national and international partnerships, support for practitioner researchers, research-led workshops and seminars, sponsorship and hosting of higher degree programmes and a range of research grant schemes to support new and experienced researchers. In this paper we will map out the strategies we have developed to build this research capability, and explore the ways in which this is impacting on the development of research communities for production of and engagement with new knowledge in CET and adult education.

Introduction

This paper traces the path followed by the Institute for Adult Learning (IAL), Singapore in formulating and implementing a research strategy. As a publicly funded agency, the IAL is committed to the establishment an active community of researchers in adult and continuing education and training (CET) and the implementation of a programme of policy and practice relevant research. Through this it aims to shape local CET policies and practices with the view to enhancing the quality of provision. It also has to demonstrate that its research programme is been effective in meeting the public goals of the CET Masterplan (Ministry of Manpower, 2008), which in turn entails highlighting the practical relevance of the research conducted, and its potential to improve workforce development and build a vibrant and strong CET system.

The IAL is a part of the Singapore Workforce Development Agency (WDA). In the establishment of the WDA in 2003 it was intended that WDA incorporate a research directorate, an aspiration that was not realized until the IAL was formed (WDA, 2010). Set up in August 2008, the IAL was constituted as an institution to facilitate the professionalization of the CET sector, which in turn supports the building of a world-class CET system. The Research Division of the IAL was created to conduct and support research on adult learning and CET policy and practice, provide a publication and dissemination service and offer consultancy and advisory services.

The Research Division of the IAL is one of three core divisions that constitute the IAL, the other two divisions being concerned with the training and professional development of adult educators. As such, the research conducted has to feed into and support these aspects of IAL activity, as do its research capability and capacity building activities. As part of the Singapore WDA, a government statutory board, the research produced also has to be relevant to and inform policy and be accessible and relevant to policy makers. The central aim of the formulation of a research strategy is to provide IAL with a coherent plan to guide the development of research informed policy and practice at all levels within the Singapore CET system. This entails the raising of awareness of relevant research across the system, which in turn requires not only that research is made accessible, but also that practitioners and policy makers are able to interpret and evaluate research evidence. A key requirement, then, is the development, amongst policy makers, employers and adult educators, of 'research literacy' or a 'research sensibility', in the sense that across the sector people have a broad knowledge of a range of approaches to research and the capability and confidence both to draw justifiable conclusions from the research and to evaluate the quality of the research. These judgments have to be made in a timely and efficient manner, which requires appropriate support and scaffolding to be provided in the development of the necessary understanding and gaining access to relevant research in a comprehensible format.

In the process of meeting with stakeholders to determine their interests and priorities, it became clear to us that there is a huge commitment to the development of a world-leading CET system in Singapore, and that the quality of training and adult education is widely considered to be a key component in realization of this aspiration. Stakeholders have shown great enthusiasm for the development of a research programme that would support and inform this aspiration, and it was apt that the proposed programme should be sufficiently broad, rigorous and demanding to achieve these ambitions. Furthermore, this engagement with stakeholders reinforced our sense that a major strand in the IAL research strategy should be the development of research capacity and capability. Indeed the development of meaningful and productive research informed practice requires the development of a critical mass of people with the motivation, knowledge and skills to conduct policy and practice relevant research in Singapore. Therefore it was critical that this be addressed from the onset, and the development of research capability and creation of an active and diverse research community has become a key element in much of the CET research work that we have consequently conducted and supported in Singapore.

Background

After independence in 1965, Singapore was faced with a lack of physical resources and a small domestic market. In response to this, the Singapore Government adopted a pro-business, pro-foreign investment, export-oriented economic policy framework, combined with state-directed investments in strategic government-owned corporations. Singapore's largely corruption-free government, skilled work force, and advanced and efficient infrastructure have attracted investments from more than 7,000 multinational corporations from the United States, Japan, and Europe. Currently there are 1,500 companies from China and another 1,500 from India. Foreign firms are found in almost all sectors of the economy. Multinational corporations account for

more than two-thirds of manufacturing output and direct export sales, although certain services sectors remain dominated by government-linked companies.

With a population of 5.08 million (Singstat, 2010), Singapore is one of the more densely populated countries in the world. Its strategic location on major sea-lanes and its industrious population have given the country substantial economic importance in Southeast Asia. With a high literacy rate of 94.6%, Singapore has enjoyed high employment for a number of years. Amid slower economic growth in 2003, unemployment rose to 4.6%. As of the end of June 2008, the unemployment rate was 2.3%. Much of the unemployment is structural, as low-skill manufacturing operations have increasingly moved overseas. Since 1990, the number of foreign workers in Singapore has increased substantially to deal with labour shortages. Foreign workers comprise 27.5% of the labour force with the great majority of these being unskilled. As of end-2007, Singapore had a total labor force of about 2.75 million with the median age of the labour force being 35.7 years (Singstat, 2010). The recent 2009 economic downturn had a marked effect on unemployment, with rising levels of unemployment particularly being evident amongst professional, managerial, executive and technical workers (PMET). Economic growth since the recession has been remarkable.

The development of CET in this context is driven by the Continuing Education and Training Masterplan (MOM, 2008), a comprehensive plan to prepare Singaporean workers for the future and to develop a source of competitive advantage for Singapore. For employers, the Singapore CET system aims to enhance quality and productivity by helping their workers acquire industry relevant skills to stay ahead of industry developments; for all Singaporeans, the education and CET systems form a lifelong learning system to help workers find their place in the labour market, seize opportunities in new growth areas and develop and maintain a relevant skill-set. CET is designed to be accessible, affordable and to add value to the careers of Singaporeans, at all levels of skill, including PMET workers (WDA, 2010).

The training of the labour force is thus one of the Government's top priorities in equipping Singapore's workers for the nation's future. To support this initiative, the Government increased the Lifelong Leaning Endowment Fund by $800 million to $3 billion in FY2008. And in time, there are plans to top up the fund to $5 billion (MOM, 2008). The Government is investing substantially in labour development because it wishes to bring about change in two significant areas: (i) build the workforce of the future (nearly 60% of our resident workforce will have at least a polytechnic diploma qualification by 2020, compared to 36% in 2007); (ii) support emerging and growth industries and equip Singaporeans with the skills for job opportunities in new growth industries, whether they are preparing for new jobs, switching careers or acquiring new skills for their current jobs (MOM, 2008).

Underpinning the form of CET adopted is the belief that every worker regardless of education or skills level must continually upgrade and update their skills in order to stay relevant and perform better in their job. The CET Masterplan builds on the strong foundation laid by the WDA, which has developed a nationally accredited skills framework – the Workforce Skills Qualification (WSQ) system. The development of the WSQ is industry-driven and guided by industry-led skills councils. To date, WDA has set up councils for the tourism, food and beverage, information and

communication technology, finance, precision engineering, process engineering, retail security, landscape, social services and healthcare industries (IAL, 2010). These councils have developed national skills standards at all working levels and for all major occupations in these sectors. The WDA's mission to enhance the employability and competitiveness of employees and jobseekers, and build a workforce that meets the changing needs of the Singapore economy, brings with it the need to engage in CET research to inform policy and practice (WDA, 2010).

Strategy development process

The IAL is an institution with a clear mission to support and develop high quality adult education and training, whilst recognizing the importance of research in informing the development of practice. As such, the IAL has a wide range of 'stakeholders', individuals and groups, who have an interest in its work and the outcomes of this work. In developing a research strategy, then, it was a priority to engage with these stakeholders and ensure that their interests are represented in the research programmes and other activities that emerge from the development of this strategy. These stakeholders are a diverse group, ranging from participants in training on the one hand to senior policy makers on the other. Not only do they have diverse interests and concerns (and, of course, many shared areas of interest and concern), these concerns are not necessarily stable, coherent or consistent with each other. Indeed, conducting consultation with stakeholders in a time of economic turbulence (January to March, 2009, during a period of economic recession) highlights contingent nature of some of these concerns (relating, for instance, to specific training interventions directly addressing current economic circumstances, such as the retraining of retrenched workers), which transform rapidly. In contrast, some concerns are enduring (such as concern about the process of, and extent of, transfer of learning from training to workplace practice), and consistently appear as, seemingly, age old problems. In formulating our strategy, we tried to encompass this diversity as best we could, and to incorporate both immediate and enduring concerns, spanning the highly pragmatic and the deeply conceptual (and, of course, any particular concern may well encompass both—a trainer can at the same moment be concerned about the most effective way to teach a particular skill and the extent to which Western learning theories are appropriate in Asian settings).

In order to understand the needs of the stakeholders, a sequence of focus group discussions with key interest groups were held. These discussions were designed to gain insight into the interests and perspectives of participants. They also sought to explore with them the process of doing research and ways in which research might be of benefit to them and how it might help enhance the quality of adult education and training in Singapore. We also worked with each group to identify key issues for research and begin to work these into researchable questions. These discussions thus both helped to explain what can be gained through the development of an active research community and set realistic expectations. In this way we began to establish a dialogue with our stakeholders whilst establishing a clear research agenda and fostering the engagement of diverse groups with this. The focus groups were thus much more than a means of gathering information and perspectives; they had an educative function, in that they presented an emerging vision of what we understand by research and engaged stakeholders in defining our future research programme. In the implementation of the resulting research strategy, we have maintained and built on

this stakeholder engagement. The groups with which we met included the Manpower and Skills Training Council (MSTC), Institutes of Higher Learning (Institute of Technical Education, Polytechnics and Universities), Singapore Workforce Development Agency (WDA), Ministry of Manpower (MOM), National Trade Union Congress' Employment and Employability Institute (E2i), Continuing Education and Training Providers and the Singapore Training And Development Association (STADA).

In addition to these focus groups, a number of discussions were held with individuals and small groups from particular organizations with an interest in CET related research, such as the Singapore Armed Forces Training Institute (SAFTI) and the National Institute of Education (NIE). The strategy has also been informed by participation in associated activities at IAL, such as the development of the Diploma in Adult and Continuing Education, and the development of hosted higher degree programmes, as well as discussions with Advanced Certificate in Training and Assessment (ACTA) trainers and graduates. At the point of production of a full first draft of the strategy document, a two-day international research seminar was held to discuss the research strategy and possible initial projects and activities with experts in the field. This process of consultation and engagement has strongly influenced the form and content of the proposals made in this strategy document, and is reflected in the structures and processes proposed and the form and focus of the proposed research.

Outcomes and discussion

The consultations highlighted the need to involve people as widely as possible in the production of and engagement with research, and the importance of not creating too firm a distinction between researchers and practitioners. It was also apparent that there is a need for the creation of a repository that enables access to, and evaluation of, existing and emerging CET related research in a form that is meaningful to the wide range of stakeholders. The strategy adopts the position that it is desirable, if practice is to be appropriately, effectively and intelligently informed by research, to support the development of a community of practitioner researchers and research aware policy makers, whilst appreciating that each area of practice has its own specialized knowledge. Sensitivity to the perspectives of stakeholders is particularly important for the IAL, as an organization that is not formally part of a higher education institution, in the development of an infrastructure that supports the production of high quality, cutting-edge research that relates distinctively to the Singaporean and regional context, but that has potential global significance. For the IAL to thrive as a practically and academically credible entity outside higher education, a strong relationship with stakeholders, and strong partnerships nationally and internationally with similar organizations and with higher education institutions is necessary. This has strongly influenced the proposals made in our strategy document, both in the structures and processes proposed and the form and focus of the proposed research.

The consultations with stakeholders and participants in the fields of workforce development, CET and adult learning, alongside a review of relevant policy, practice and research, have generated a list of key contemporary research issues in the field. From this, three broad research clusters were identified and proposed. Given that relatively little research has been conducted in these areas in Singapore, this breadth

of interests has been necessary in order to establish this particular field of research here. Within each of the clusters a number of key themes, and within these some indicative questions and issues, were identified.

The proposed clusters of research are: (i) learning, (ii) work and (iii) impact. There is, of course substantial overlap between the clusters (it is not possible to consider, for instance, the development of more effective training practices in a particular sector, without understanding both the characteristics of the trainees and the dynamics of the contexts within which they are working). The organization of projects into these three areas is principally to ensure that a balance is achieved across the research being carried out and to ensure that the interests of all stakeholders, from trainees and trainers through to industrialists and policy makers, are met across the research programme as a whole. In the selection of projects, the identification of synergies between the clusters and themes will be encouraged to ensure the greatest added value from the projects.

This *learning* research cluster is concerned with understanding the processes of adult learning, teaching and assessment in a range of contexts (for example, training courses, workplace-based learning, formal and informal settings). Amongst the themes identified were:

- *Adult learning,* including questions relating to what is distinctive about adult learning, the extent to which learning varies according to age or generation, how we identify the learning styles of adults, understanding of the motivation of adult learners in relation to training programmes.
- *Culture and learning,* a recurring concern being that the dominant theories, and related empirical work, which shape contemporary understanding of adult learning, are Western in origin, and that there is a need to develop an understanding of learning that is appropriate to social and cultural circumstances in Singapore and the region.
- *Pedagogy,* including how best to structure experiential learning, the value of incidental learning and in what contexts adults best develop work related skills and understandings.
- *Transferability and forms of knowledge,* particularly the extent to which learning outside the workplace transforms practice and performance at work, and the relationship between systems of qualifications and training.
- *Quality and relevance of training,* including assessment of variability in quality of courses, providers and trainers.
- *Assessment,* including exploration of different modes of assessment and evaluation of performance in the workplace, how we assess tacit knowledge and informal and workplace learning.
- *Transitions,* in particular the investigation of the similarities and differences in the form, content and relationship between pre-employment training (PET) and CET.
- *Trainers and training,* including the relative importance of expert knowledge, expertise and experience in training for the quality of teaching, and the impact of a predominantly freelance and mobile training workforce on training.

The *work* cluster concerns work and the workplace, and encompasses the interface between work and training, changes that are taking place in both the labour market

and the workforce and specific aspects of work-related knowledge and skill development (for instance, workplace literacy and generic and life skills). It also includes questions relating to individual and group occupational and career trajectories and the relationship between their lives in and out of work (including the wider benefits of training for individuals and groups).

- *Learning organizations,* including investigation of how expert knowledge passes from one generation to the next in the workplace and how the transition from threshold practice to best practice achieved.
- *The value of CET,* encompassing questions relating to the status of CET in the workplace, and what value is ascribed to CET and vocational qualifications by employers and employees.
- *Changing labour market,* including investigation of what skills sets might be necessary in the future and how will they be acquired, mapping national, regional and global changes in the labour market.
- *Changing workforce,* encompassing investigation of the consequences of increasing retrenchment and occupational mobility of PMET workers and how to meet the changing literacy demands produced by changing economic and labour market demands.
- *Generic and life skills,* including how CET might enhance life beyond work, the possible wider social benefits of training (such as increased social cohesion and civic responsibility) and the convertible and transportable skills that are necessary for adapting to economic changes.
- *Workplace literacy,* for example consideration of how a low literacy level might inhibit progression and mobility with and between sectors, and appropriateness of adult literacy teaching methods and materials.
- *Sector and organizational differences*, including investigation of the extent to which the WSQ framework is appropriate across all sectors, and, how different occupational structures of sectors might affect career trajectories of people who move between sectors.
- *Individual and group trajectories*, including the profiling of learners to enhance the relevance and effectiveness of training provision.

The *impact* cluster is directly concerned with evaluating and understanding the impact of training, at all levels from the national through sectors, organizations and specific initiatives, to the individual. This area, more than the others, is concerned with the measurement of outcomes and with the relationship between policy and practice.

These clusters, themes and questions are intended to guide, but not constrain. It was not proposed from this to have three tightly defined research programmes, nor, at the point of production of the strategy, to specify a small range of key questions to address over the three year period to be covered by the strategy. These themes have, however, guided proposals for the specification of the first phase of projects for the IAL Research Division. The emphases of the questions and concerns have, of course, changed over time and thus need to be kept under review, making sustained stakeholder engagement important both in guiding the IAL research agenda and in interpreting and acting on the outcomes of the research. There are some notable absences from the questions and concerns raised by stakeholders. For instance, investigation of the use, and potential, of digital and new technologies in learning was not identified as a priority, nor was the possibility of more flexible forms of learning.

Both these, however, have over the past year, become major concerns. This is particularly marked in relation to the CET Innovation Fund, launched by the IAL in 2010. All successful applications for these funds had a digital technology component (e.g. one project is developing a serious game, to run on mobile devices, for in-house retail training), with associated research and evaluation projects seeking to explore, understand and assess the potential and impact of these technologies.

Having identified the main strands of the research programme, and gained high levels of stakeholder commitment through the consultation process, the major practical challenge in the establishment of the IAL Research Division has been to build *research capacity and capability*. As we have stated, relatively little research on CET has been conducted to date in Singapore. Most educational research focuses principally on schooling and pre-employment training, as the funding for educational research has come largely through the Ministry of Education, which has responsibility for these areas. This affects not only the volume of research relating to CET but also the distribution of the capacity to conduct educational research, which is concentrated at the National Institute of Education. Whilst there are individuals and groups with experience and interest in conducting research that is of relevance to adult, continuing and vocational education, until now there has not been a clearly defined institutional base for this work.

We have adopted a number of strategies to build capability and capacity. One has been to draw on the expertise of experienced researchers in the field, through our *Visiting Fellows* scheme, in both the conduct of research and mentoring and training researchers. For example, Stephen Billett's project for IAL *Promoting and Supporting Lifelong Employability* involved local practitioners in the planning and conduct of the research, including the training of a group of local researchers to conduct and analyse interviews and surveys. We have also sought to enlarge capability for CET research in Singapore by conducting research that engages practitioners directly in conducting research in their own workplace, focusing on questions of direct relevance to their practice. Helen Bound's *Reflexive Practitioner Research* project has engaged trainers from retail and tourism sectors in conducting there own research, and has incorporated series of workshops helping practitioners carry out workplace-based studies.

The research carried out needs to be widely disseminated in order to be of maximum benefit to stakeholders, partners and the wider CET community. This entails not just deploying a wide range of modes of dissemination of, and engagement with, research but also ensuring that research is presented in a form that is appropriate for and accessible to its intended audience. Each project thus, from the outset, has a clearly defined dissemination strategy.

Being part of a government organization brings the benefit of linking the outcomes of our research closely with policy and practice, and enables us to demonstrate the impact of what we do in very tangible terms, through, for instance, changes in national policy relating to the results of our research. It also brings challenges, such as the limit placed on 'headcount', that is the number of our established staff. Having to work with a strictly enforced staffing allocation means that to meet expectations in terms of volume, scope and reach of our research, we have to develop a 'cloud' of associated researchers. Within our projects we encourage participation of practitioners and others interested in gaining research skills and conducting research. We offer *Research Associate* status to active researchers in CET, such as graduates from the

Institute of Education University of London MA in Lifelong Learning, which we host at the IAL. In addition to formal accredited programmes with a research component hosted and run at the IAL, we run series of workshops for practitioner researchers, leading them through the stages of a small scale research project and assisting them in the development and conduct of their own research. For wider engagement, we run research seminars on our completed and on-going research projects. We are currently working on a potential doctoral programme with local and international partners. These strategies link with our programme of visiting researchers (from *Visiting Research Fellows*, at professorial level, through to postdoctoral schemes, postgraduate research placements and internships) to enlarge our community of CET researchers.

Conclusion

This paper has served, we hope, to describe the process we have followed in the establishment of a research unit focusing on policy and practice relevant research in adult and continuing education. The strategy we have adopted has attempted to gain maximum commitment of the diverse stakeholders, from trainees to policy makers.

As we have stressed, capability building is a major issue for us. The value of clustering projects and researchers in order to maximize mutual support and learning has become clear. To maximise this we have recently formed three research centres, each led by an experienced researcher. Helen Bound leads the *Centre for Research in Learning*, Johnny Sung leads the *Centre for Skills, Performance and Productivity Research*, and Andrew Brown leads the *Centre for Evaluation and Innovation Research*. Whilst each centre has a distinct focus and approach, some projects span centres, and, with only a small team, our researchers need to work across the centres. Wherever possible, researchers work collaboratively on projects, and every researcher works on more than one project. We have a small research admin team, and responsibilities for infrastructure development are also shared across the research team (so, for instance, one member of the team has a particular interest in and responsibility for publication, and will work with the admin team to develop new means for the dissemination of our work). A delicate balance has to be maintained between core research work and participation in the development of our research infrastructure.

With our research infrastructure in place, we are now in a position to advance our research programme and seek more extensive partnerships, all of which will be designed to support our planned increase in CET research capability and capacity, as well as to foster research-informed practice and contribute the wider international adult and vocational education knowledge base. Our research collaborations have enabled the IAL to leverage on overseas research expertise and networks. Over the past 18 months, IAL has hosted 11 international *Visiting Research Fellows* and conducted 16 research projects. Of these, eight are now completed. A high priority has been placed on dissemination of research to practitioners and policy makers, as well as researchers in CET. To date, 15 public research seminars and workshops have been held to foster research informed practice. In addition four doctoral and 13 masters scholarships have been provided to support the development of local CET research expertise.

We recognize that, however wide we draw our partnership and collaboration net, we pragmatically have to limit the range of forms of research that we conduct, and thus the approaches to research in which we will reasonably be able to claim expertise. To this end, we have focused our own internal research training on particular ways of doing research, which relate to the projects on which we are working. We have been fortunate that there is a strong appetite amongst our stakeholders for qualitative and mixed methods research, as well as quantitative work (as discussed by Fielding, 2010, in relation to applied social research) and have built on this in the development of our programmes of training and research.

There is a strong element of 'bootstrapping', of having to move forward with our research programme whilst developing our own capabilities and those of the wider CET community in Singapore. In this we have had to be acutely aware that, as we are not located in or associated directly with a university or other institute of higher learning, we have to give careful attention to the academic support and career development that we can offer our researchers. It is to our advantage to attract researchers from academic institutions, but to do so, we must facilitate movement back into these settings, which means that, apart from the experience of designing and conducting research, we have to provide opportunities to teach (through, for instance, our practitioner research workshops and our hosted higher degree programmes) and to publish and present research in academic settings (though, for instance, conferences such as this, and publication in respected international journals). Whilst academic publication cannot be a primary objective for us (priority has to be given to dissemination to stakeholders groups and the influencing of policy and practice), it has a vital secondary role in raising the profile of our research centres internationally, and attracting both high quality research staff and partnerships with international leaders in the field of adult and vocational education. As we consider these key characteristics of our Research Division, we have come to see that it an unusual, if not unique, kind of institution, particularly in our mission to develop research capability and capacity in the wider adult and vocational education field alongside the conduct of policy and practice relevant research which can, by virtue of our position, have direct impact in these areas.

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