

2003

# Career development and the supply chain management professional: an explorative case study from Singapore

Michelle Wallace  
*Southern Cross University*

Lee Dunn  
*Southern Cross University*

---

## Publication details

Post-print of Wallace, M & Dunn, L 2003, 'Career development and the supply chain management professional: an explorative case study from Singapore', *Australasian Journal of Business and Social Inquiry*, vol. 2, no. 3, pp. 1-9.

ePublications@SCU is an electronic repository administered by Southern Cross University Library. Its goal is to capture and preserve the intellectual output of Southern Cross University authors and researchers, and to increase visibility and impact through open access to researchers around the world. For further information please contact [epubs@scu.edu.au](mailto:epubs@scu.edu.au).

# **Career Development and the Supply Chain Management Professional: An explorative case study from Singapore**

## **Michelle Wallace PhD**

Associate Professor and Head, School of Social Sciences  
Southern Cross University  
PO Box 157, Lismore 2480. Australia  
Ph: 61 2 66203609  
Fax: 61 2 66224171  
[mwallace@scu.edu.au](mailto:mwallace@scu.edu.au)

Michelle Wallace has worked as a practitioner and academic in the field of learning and development for a number of years and is currently the Head of the School of Social Sciences at Southern Cross University. Michelle teaches, researches and consults in the area of human resource development, professional learning, the management of organizational change and power relations in organizations. She has a particular interest in HRD in Asian economies and in the gender dimensions of HR practices.

## **Lee Dunn MEd**

Lecturer, Teaching and Learning Centre  
Southern Cross University  
PO Box 157, Lismore 2480. Australia  
Ph: 61 2 66203609  
Fax: 61 2 6622 4171  
[ldunn3@scu.edu.au](mailto:ldunn3@scu.edu.au)

Lee Dunn is currently a lecturer in academic development at Southern Cross University. She has a strong background in the teaching of human resource development and vocational education and training while a lecturer in the School of Social and Workplace Development. Prior to coming to Southern Cross she worked as a professional development officer and TAFE teacher educator in the Queensland Public sector, and recently she worked as a staff developer at Oxford Brookes University in the United Kingdom where she spent the calendar year 2000.

**All Correspondence should be addressed to  
Associate Professor Michelle Wallace.**

## **Abstract**

This case study explores the career development of some Singaporean supply chain management professionals within the context of Singapore's people development policy framework and the human resource development (HRD) practices in their own organizations. The study contributes knowledge about the HRD and career development of a specific group of workers thus offering a qualitative dimension to the broad statistical data provided by the Singapore Ministry of Manpower. It also contributes to the body of scholarship relating to HRD in Singapore and to the broader debate regarding skills development of supply chain management practitioners.

Participants in this qualitative study were 'earner-learners' (Spender 2000) as they were both full-time supply chain practitioners drawn from a wide range of industrial settings and also part-time students or alumni of a bachelor's degree in supply chain management. Their accounts of their educational backgrounds, formal learning and workplace learning experiences offer a detailed account of the relationship between HRD and career development for this group of workers. This study has identified specific HRD practices that have most contributed to the professional learning and career development of these practitioners. The paper does not presume to generalize from this study but offers a tentative model for the professional learning of supply chain professionals in Singapore that can be tested in a wider study and in different contexts.

## **Keywords**

Human Resource Development (HRD), professional education, supply chain management, Singapore, workplace learning.

# PROFESSIONAL EDUCATION AND CAREER DEVELOPMENT FOR SUPPLY CHAIN MANAGEMENT PRACTITIONERS: AN EXPLORATIVE CASE STUDY FOR SINGAPORE

## Introduction

Singapore may be said to be a major gateway in supply chain management with a large number of people employed in supply chain activities. It is also an economy where there has been long-term, consistent, strategic planning in the development of the country's human resources. While there is a robust body of knowledge regarding people development policy and practices in Singapore from the government perspective (Ashton & Green 1996; Ashton et al 1999; Ashton & Sung 2001; Ashton et al 2002; Dolven 2000; Harrison 1995; Lee 2000; Osman-Gani & Tan 1998, 2000; Osman-Gani 2004) and it is surmised that government initiatives have a profound effect on HRD practices in organizations, it is also acknowledged that there is less specific information regarding corporate training in Singapore (Osman-Gani and Tan 2000, p. 319).

There is a high level of government intervention in education and training policy in Singapore, seen to be a meritocracy where education is taken to be a key to better jobs and prosperity and where, since the 1960s, the Singapore government has had planned processes for the education of its people and skills development of the workforce (Ashton 1999; Ashton and Sung 2001; Dolven 2000; Osman-Gani and Tan 1998, 2000; Osman-Gani 2004). Government policy has supported post-school education in the technical skills; hence the development of a large number of Certificate and Diploma courses at Polytechnics (Ashton, Green, Sung, & James 2002). There has also been a proliferation of diploma courses run by professional associations and private colleges. A number of these certificates and diplomas are relevant to the field of purchasing, materials management and logistics and have been undertaken by participants in the study reported here.

## Context

Singapore Government strategies include the Skills Development Levy, government sponsored Workforce Development Programs for lifelong learning and financial support for employers to train their employees (Ministry of Manpower 2000; Osman-Gani and Tan 1998, 2000). The Singaporean government has also looked to human resource development strategies that:

*... ensure a smooth transition toward a knowledge economy...it is also important for our workforce to possess the ability to innovate and create. We must encourage a change in the mindset of our workforce'. (Ministry of Manpower 2001a, p. 3)*

Most recent documentation from the Ministry focuses on the economic downturn and the need to re-train retrenched workers (Ministry of Manpower 2002, 2003) in a restructured economy. The economic downturn, it appears, has also had an impact on the decisions of Singaporean 'earner-learners' (Spender 2000) to enrol in higher education programs because 'insecurity and unpredictability ... is likely to have a debilitating effect on the traditional concept of the secure and stable career' (Baruch 1999 in Kelly et al 2003).

The incidence of workforce training has been reasonably uniform in the three major sectors of private industry identified by the Ministry of Manpower in 2000 (Ministry of Manpower, 2001a) with Manufacturing evidencing training activity at 67%, Construction at 70% and Services at 68% although there has been variations within those broad categories, particularly depending on the size of the company. As supply chain management workers are represented

across these industries, it is difficult to ascertain from the statistical categories how much learning and development these practitioners generally access. The study reported here offers some finer grained details that 'flesh out' the broad statistics.

The Ministry of Manpower identifies several qualifications as relevant to the Transport and Logistics area, namely diplomas in Logistics Management, Marine and Nautical Studies and Supply Chain Management (Ministry of Manpower 2001a, p. 8). The Ministry also identifies specialised skills in this field such as technical skills, warehouse management and supply chain management and generic skills such as information technology, communication and marketing skills (Ministry of Manpower 2001a, p. 10). These broadly conform to Guinipero and Percy's (2000) identification of seven skills sets for supply chain practitioners, namely strategic, process management, team, decision making, behavioural, negotiation and quantitative skills. Although the Ministry of Manpower report refers to supply chain management as related to the Transport industry, many of the skills noted are applicable to other industries where the purchasing, materials management and logistics occupations are found.

The body of literature on the Singaporean organizational human resources (HR) context is mainly informed by survey methodology (Chew & Goh 1997; Dolven 2000). Lee (2000) offers a view that there is a lack of preparedness of Singaporean organizations to compete because of a lack of HRD interventions and Osman-Gani and Tan (2000) suggest that there is a dearth of information regarding what actually happens in organizations in relation to HRD. The survey data and literature discussed above is important in offering a broad understanding of the HRD context in Singaporean organizations and indicates that HRD is considered of importance. It is difficult, however, to glean from such data detail regarding the types of training received, which workers were involved and whether any other HRD interventions have been used in organizations. Furthermore, there appear to be no models of good practice HRD other than those relating to the fiscal bottom line. While levels of expenditure are an important indicator, the Australian experience indicates that the types of learning and development experiences offered and to whom they are offered are at least equally important (Anderson 1996; Australian National Training Authority 1998; Wallace 1995, 2000). This case study offers important details generally lacking from the broader studies as it describes the educational background and experiences that led to a career in purchasing, materials management or logistics, and then derives a tentative career development model for this profession.

## **Methodology**

This case study is explorative in nature as it is conducted with the expectation that subsequent research will provide more conclusive evidence (Zikmund 2003). Explorative research is useful to clarify the nature of the issue and narrow the scope for further investigation and is especially useful when there is little, current research on the topic (Zikmund 2003). As it has been established that there is a small amount of qualitative data on HR practices in Singaporean organizations (in contrast to quite a large amount of statistical and survey data on Singaporean HRD) and little information on the career development of Singaporean supply chain management professionals, this approach is well suited.

The study may also be said to be post-positivist (the researchers accepted the real 'reality' of the context albeit imperfectly apprehendable) utilizing qualitative methods (Guba & Lincoln 1994). Within this paradigm the researchers utilized Naturalistic Enquiry (Lincoln & Guba 1985) in which they interviewed Singaporean purchasing, materials management and logistics professionals in their workplaces or at the place where they undertake further study. These participants were thus part of a purposive sample. Each was a student in, or a graduate of, a

Bachelor of Business Administration (Purchasing and Logistics) program run jointly in Singapore by a Singaporean private provider and an Australian university. While this lack of randomness may be seen as a limitation, it is also a strength as these people could be presumed to have a strong commitment to their learning and development, would thus be more sensitized to HRD practices and be willing to share their experiences in an unselfconscious way. It is acknowledged that generalizations cannot be made from this study and the model of HRD suggested is a tentative one that needs further investigation.

Twenty-three alumni and current students of the program were interviewed in Singapore. All were volunteers from different class cohort groups. The study did not aim at a statistically representative sample of these students but rather strove for a spread across cohorts and a balance between the genders. Alumni, who had had time to reflect, were included as well as current students, whose perceptions were more current and spontaneous. The majority of participants were Chinese (Singaporean nationals and Chinese Malay nationals working in Singapore) with one ethnically Indian and one Malay Singaporean participant. This reflects the composition of the overall student/alumni body. All parties, including the principal of the partner organization gave informed consent to participate and the authors obtained university ethics clearance for the study.

Semi-structured interviews canvassed views on alumni and students' experiences of learning and development as their careers progressed. Questions included job title and job description, type and size of organization, description of formal and informal learning since leaving high school, entry to the field of supply chain management, career development opportunities, HRD practices in organization and suggestions for the ideal HRD program for a person starting work in the supply chain management field. Analysis of students' responses was conducted through Nud\*st. The researchers also engaged in an iterative 'conversation' about our impressions of the interviews as we came to understand 'patterns that existed in the empirical world under study' (Patton 1990, p. 44).

## **Findings**

The participants in this study are educationally in the top 25% of Singaporeans as they have diploma or degree qualifications (Ministry of Manpower 2000). They are ambitious and strategic in their choice of learning and development to benefit their careers, but they have not always been this way. All said that they did not know about supply chain management careers when initially studying or in early employment. However, around half observed this type of work while in organizations and made a conscious decision to move to the area of purchasing, materials management or logistics because of interest. Others 'fell into' the work because other roles in the organization had given them knowledge of the supply chain. Just over half had supervisory roles, while a number worked in organizations with flattened hierarchies either in teams or autonomously. These findings support those of Kelly et al (2003) who found that Singapore was less likely than some other countries to have structured career patterns.

## **Jobs and roles**

Purchasing, materials management and logistics work is hard to relate to statistical occupational categories possibly because there are many levels of participation in the field. It would seem that, depending on the employee's status within an organization, the work could fall within any of the following three Ministry of Manpower's (2000) categories of: 'managers/administrators', 'professional' or 'technical/associate professional'. We use the term 'professional' throughout this paper to describe the participants in this study because they had graduated from or are currently studying for the professionally oriented business degree and

they have admission to a professional institute. Participants were employed in manufacturing companies (14), shipping companies (3), petrol/chemical companies (2), trading (import and export) companies (2), a prestige hotel chain (1) and a security company (1).

Twelve of the organizations that employed participants in this study were large foreign-owned multinational companies with employee numbers up to several thousand, four were large local companies with 500 or more employees and seven were small to medium, mostly local, enterprises with under 500 employees.

When asked to describe their jobs, the majority of respondents spoke in terms that exhibited their understanding of supply chain issues and where they fitted in the chain. They also exhibited a deep intellectual engagement with their work. Some jobs included: buying or procurement, sourcing and evaluating products/suppliers, analyzing quotes, recommending new and managing existing suppliers. Others processed orders or dealt with logistics warehousing or stores. Some dealt with master planning and scheduling, some with facility maintenance while others were involved in freight forwarding. A number also dealt with contract disputes, appeals and the majority were involved in negotiation in some form.

### ***Educational backgrounds and experience***

There appeared to be two pathways to working in purchasing, materials management and logistics. Several participants had taken 'O' or 'A' Level examinations at school and joined the workforce directly (for males after the National Service). This group may have worked in different jobs in one or several organizations and then started as, say, a shipping clerk and worked their way up in one or more organizations. Most of these people had recognised the need for further education in their field and had undertaken appropriate Certificate or Diploma courses as 'earner learners' often with the financial support of their employers. This was made possible through government subsidies to employers for such support.

The other group had a variety of post-school Polytechnic Diplomas gained through full-time pre-workforce entry study. These diplomas ranged from Business Administration to Electronics Engineering, Production Engineering and Mechanical Engineering. Several of the women had gained their Electronics Engineering Diploma during the mid-1990s when there was a government push for women to gain technical qualifications.

### ***Experiences of learning and development while at work: Workplace learning***

The construction of knowledge is often considered to be mediated by social processes (in a work context, for example access to guidance, observation and interaction with experienced co-workers) with individual learners being actively engaged in how and what they learn (Billett 2001). Billett found that when employees are supported while learning during their normal work routines the outcomes are higher than when there is less support. The findings of this study would confirm this view.

Around two-thirds of participants in the study reported coaching and mentoring to be the greatest help to start their career in purchasing, materials management or logistics. Most saw the experience as giving them between 60% and 80% of their learning for the first few years in the job. This type of supported development is important in this field of work because, as participants said, every industry is different and supply chain professionals need to know their industry. As one person said: 'It is a different scenario every day – vendors from many

companies.’ Coaching, mentoring, encouragement that allowed trial and error under supervision and round table brainstorming of ideas were all cited as offering practical learning support. Another workplace learning strategy that was favoured by participants was job rotation as this is a way of getting to know the whole organization, thus confirming a finding by Kelly et al (2003) who found that Singaporean companies favour job rotation as a professional development technique. As one participant said ‘initial courses help you get a job, in actuality you learn from your colleagues.’ Another, who works for a Japanese multinational company, discussed being taught Japanese by their boss for two hours a week: ‘My boss came and taught me’.

This culture of structured workplace learning and development was far more apparent for those working in larger organizations and this accords with the Ministry of Manpower survey results reported earlier (Ministry of Manpower 2000, p. 7). One participant, who had moved on from a smaller company, said: ‘I worked for a family run business and they were not very interested in training, just making money.’ Another commented: ‘When I worked for small companies, they weren’t into training, not even on-the-job.’

### **Formal Certificate, Diploma and Degree courses**

After structured workplace learning, participants found formally accredited courses such as a range of specific certificates and diplomas that are on offer in Singapore and the acquisition of a specialized degree to be the most useful for learning and development in their jobs. Since the economic downturns of 1998 and 2001, increased qualifications are seen to offer another type of competitive advantage as more globalised skills, ‘knowledge worker’ skills are increasingly marketable (Ashton & Sung 2001). The Singaporean Ministry of Manpower has recognized the need to re-train retrenched workers in a restructured economy (Ministry of Manpower 2002, 2003) and participants in this study saw the need to pre-empt retrenchment. As one participant remarked: ‘I discussed it (*studying the degree*) with my wife and she said to go for it, otherwise I’d be first on the retrenchment lists.’

The timing of gaining a degree also seems to be important for career development. One participant said: ‘Had I done it (*the degree*) earlier I would have achieved more. I missed a promotion for lack of a higher qualification. They took someone with a degree and no experience – I trained him in the job that I should have been doing.’

Formal degree courses designed for purchasing, materials management and logistics professionals were found to be worthwhile because they go ‘hand in hand with work experience’, they ‘pushed me to find out what is going on around me’ and ‘I can apply (what I learn) to my job.’ Formal courses and degree level education were seen to add a strong theory base, give focus, offer a holistic picture of the field, confirm or disconfirm practice and offer alternatives while preparing the professional for higher level strategic and managerial level roles. This was not a matter of simple credentialism but part of a genuine desire for continuous professional and personal development.

Participants considered that supply chain management professionals should pace themselves through their early careers by choosing the right time to do relevant accredited courses. Most considered that structured workplace learning and development as described above is beneficial initially (for one or two years) with specific certificate, diploma and/or degree courses taken once the individual has become familiar with their company and the job after one or two years working in the field.



### **Short courses**

All participants reported attending short courses. These may be grouped into those that focused on skills required for purchasing, materials management or logistics specifically, people or self-management skills. The people skills involved leadership, management, negotiation and team skills. Self-management skills involved business writing, creativity at work, problem solving, self-improvement and for those in Japanese owned companies, Japanese language. The most commonly mentioned beneficial short courses were those relating to people skills such as leadership, negotiation skills or team building, although computer and other technical skill-building courses were seen as important. The skills identified by Giunipero and Percy (2000) as crucial for 'world-class' purchasing professionals are confirmed by this case study, many of them gained through short courses.

In some companies, particularly larger ones, training was very structured with a training plan and menu of courses in place for which participants could self-nominate, negotiate to attend, or be nominated by supervisors. In some organizations there was a smorgasbord approach with seemingly little analysis, and around one-quarter of the organizations had no specific approach to training or development.

### **Support for learning and development from employers**

Organizations appear to offer staff support to study to Advanced Diploma level and there are government subsidies to do so as noted earlier. Nine participants reported previous sponsorship for Certificate, Diploma and Advanced Diploma studies. Seven of the participants are supported through their degree studies (ranging from 100% to 45% of the fees – one had a five year interest-free loan. Around half of those who are supported through their studies are bonded to their employer from periods of six months to two years. Twelve participants received no financial support and one blamed this on the economic downturn in Singapore as her organization had previously covered 50% of degree level costs. It should be noted that the number of students financially supported in their studies by their employers was lower than the 69.7% reported by the Ministry of Manpower (Ministry of Manpower 2001b, p. 15). Three reported being given time off for study and exam preparation while nine were not. Again this is less than the 72% of workers reported to have been given paid time off to attend classes or exams (Ministry of Manpower, 2001b, p. 15).

The vast majority of respondents noted that there had been a cut back in organizational support for training and education in the form of in-house short courses and sponsored education since the most recent economic downturn in Singapore. This was lamented as the needs, particularly for dealing with an increasingly globalised marketplace, were great. As one participant stated: 'In bad times they want to cut training costs. That happened in the recession of '97 and it's happening again now.'

### **A tentative model for the career development of supply chain professionals**

Based on a synthesis and analysis of the findings in this study, Table 1 below suggests a tentative good practice prescription for structured human resource development interventions that could support a career path in supply chain management from entry into a workplace through to a management role.

Table 1. A Tentative Good Practice Model for the Education and Development of Supply Chain Management Practitioners

## Suggested HRD interventions\*

Career stage	Structured workplace learning and development	Short courses (in-house or external)	Formal qualifications
Entry to employment (probably with A or O Levels and/or a Polytechnic Diploma; employed in a general clerical/technical role)	Induction to the organization and its business; supervised workplace learning to gain a deep knowledge of the industry and the supply chain. Job rotation if appropriate	Relevant short courses and/or structured OJT training (policies etc. of organization, job-related skill building)	
After moving into PMMorL role, consider possibilities for career development in current organization – or whether to move to a different organization with further PMM or L opportunities	Coaching, mentoring, guidance, observation, job rotation and practice to gain job skills, with supervision and support. Guidance gradually reduced as confidence increases	Relevant short courses and/or structured OJT training (policies, legislation etc. of organization – plus interpersonal skills such as negotiation, conflict resolution, goal setting)	Relevant certificate, diploma or advanced diploma (choose relevant program applicable to current or desired position.)
After acquiring some expertise in PMM or L. Possibly on gaining first promotion and/or when seeking first promotion	Structured workplace development (observation and practice) with guidance, to develop supervision and leadership skills	Relevant short courses (particularly leadership and management)	Complete certificate, diploma, or advanced diploma within 1 or 2 years
One or two years after entering the PMMorL field (flexible, but no later than two years after entering the field)	Structured workplace guidance as negotiated between manager and employee	Relevant short courses (employee chooses as relevant to career path)	Degree level program, relevant to PMMorL
After further promotion	Career path planning and job rotation as negotiated	Relevant short courses (directed to career development)	Complete degree Consider postgraduate study

While the suggested Career Development pathways and HRD interventions for each career stage in PMM or L appear in a linear fashion here, it is recommended that they be followed flexibly as appropriate for individual professionals and their employer organizations.

### **Concluding Comments**

The suggestions in the tentative good practice model shown in Table 1 then beg some questions. How can this suggested model be more widely tested on others in the purchasing and materials management field? If it is proven that structured workplace development as well as the range of HRD interventions suggested are important, how can these strategies to facilitate this type of learning be integrated into the human resource practices of organizations in Singapore? Following from this, how can managers of developing supply chain professionals be prepared for their roles of coaching and mentoring? And, more broadly, should there be professional accreditation for supply chain management professionals and if so, how should this influence the curriculum of formal courses?

### ***Testing of the tentative model***

Clearly, the model presented here will benefit from testing more widely in Singapore and other similar economies. It is suggested that an online or paper-based survey of supply chain management professional associations, HR managers and those working in the field of supply chain management would be one way to obtain broader data. Further studies could also be undertaken on the affiliation of supply chain professionals to the field and their career paths and further professional learning as they attain more senior managerial positions.

### ***Integration of human resource development within human resource practices***

It would seem that human resource development practices in Singapore are aligned with economic imperatives and are therefore trending towards the implementation of human resource development strategies that go well beyond training. The tentative findings of this study indicate that a wide range of strategies is beneficial for the career development of professionals in supply chain management and support the argument that:

*People management practices are the main differentiating factors in organizational performance.* (Institute of Personnel Development (IPD) 1999, p. 3)

There is thus a need to build links between learning and performance improvement. The emphasis on structured workplace learning throughout the career development of the professionals, alongside relevant short courses and formal professional qualifications, points to the need for human resource development strategies and practices to be fully integrated within an organization's human resource strategy. It is possible that workplace learning may not be shown in the statistics or HR planning documents although it has been suggested (e.g. Kelly et al 2000) that Singaporean companies plan some on-the-job career development. Managers, supervisors and others who take on the role of workplace mentor and guide need to have that role recognised and valued as an integral part of their people management role. Planning needs analyses to identify appropriate HRD interventions should be integrated with other HR planning processes.

### ***Managers need to be prepared for mentoring and coaching roles***

As noted earlier, mentoring (and coaching alongside other forms of individualised guidance) was seen by participants to be important at all stages of their career development as noted earlier. Lee (2000), in a study of managerial perceptions of Singaporean firms' HR practices, suggested that employee satisfaction is one indicator of the effectiveness of human resource management practices and that career development was important for job satisfaction. Lee also notes employees who had mentors were more satisfied with their jobs than those who did not. Those who were mentored received more career development and social support.

Many supervisors, managers and other senior employees are intuitively effective mentors and coaches to new or inexperienced employees. However, the quality of this type of workplace guidance as experienced by participants in this study was somewhat patchy. For some, the mentoring and coaching provided by their supervisor gave them a sound grounding in the performance of their job, and in one or two cases the term 'babysitting' was used to signify an unequal but supportive relationship as a new person learned their job and the business of their organization. However, for others their supervisor did not provide the necessary support during the (sometimes lengthy) orientation period with the result that the experience was a negative one. In these instances it was fairly common for the employee to move to another organization. It would seem, then, that managers, supervisors and others who provide mentoring, coaching and guidance for new recruits require some training in this role.

### ***Professional accreditation***

It is difficult to occupationally categorise the administrative and management roles that occur along the supply chain. People who work in these fields could be in one of three categories of occupation: Managers and Administration, Professionals, Technical or Associate Professionals. It was noted earlier that there were more than twenty different job titles among the twenty-three participants in this study. However, once people have chosen their field and gained professional qualifications (Advanced Diploma, Degree, Postgraduate award) it is suggested that they should be accorded the status of 'professional' and that there should be a formal accreditation process to recognise this status.

This explorative study has also highlighted a number of areas for further research pertaining to HRD in Singapore and possibly other contexts. These include more comprehensive studies of HRD practices in large, medium and small enterprises, particularly in private sector organizations. Such studies could examine training plans and practice relating to type and frequency of HRD initiatives and offer an analysis of those groups who are able to access them. HRD level and type of activity in times of economic downturn could be also examined. It would also be generative to analyse in depth, on-the-job training practices and the professional development engaged in by managers that equips them to be coaches and mentors within formal and informal on-the-job training.

Most importantly, there is a need for further studies that examine how HRD practices can develop people with high level management and human resource skills as well as technical skills thus engaging with the goal of the Ministry of Manpower (2001a p. 3) for a change in mindset of the workforce to one with an ability to 'innovate and create'.

## References

Anderson, D. 1996, *Reading the Market: A Review of Literature on the Vocational Education and Training Market in Australia*, Melbourne: Clayton Centre for the Economics of Education and Training, Monash University, Melbourne.

Ashton, D., and Green, F. 1996, *Education, Training and the Global Economy*, Edward Elgar Publishing Ltd., Cheltenham, UK.

Ashton, D. and Sung, J. 2001, *Lessons Learned from Overseas* (Final Report), Centre for Labour Market Studies, University of Leicester, Leicester, UK.

Ashton, D, Green, F, James, D. and Sung, J. 1999, *Education and Training for Development in East Asia: The political economy of skill formation in East Asian newly industrialized economies*, Sage, New York.

Ashton, D, Green, F, Sung, J. and James, D. 2002, 'The evolution of education and training strategies in Singapore, Taiwan and S. Korea: a development model of skill formation', *Education and Work*, vol. 15, no. 1, pp. 6-29.

Australian National Training Authority 1998, 'A Training Culture is a National Imperative', *Australian Training*, no. 2, p. 8.

Billett, S. 2001, 'Learning through work: workplace affordances and individual engagement', *Journal of Workplace Learning*, vol. 13, no. 5, pp. 208-214.

Chew, I., and Goh, M. 1997, 'Some future directions of human resource practices in Singapore', *Career Development International*, vol. 2, no. 5, pp. 1-13.

Dolven, B. 2000, 'Old dogs, new tricks', *Far Eastern Economic Review*, vol. 163, no. 4, pp. 68-69.

Dunn, L. and Wallace, M. 2004, 'Teaching an Australian degree to Singaporean students in Singapore: Rewards and Challenges', *Higher Education Research and Development*, vol. 41, no. 3, pp. 291-304

Guba, E. & Lincoln, Y. 1994, *Competing Paradigms in Qualitative Research*, in N. Denzin and Y. Lincoln (Eds.), *Handbook of Qualitative Research*, Sage, London, pp. 105-117.

Giunipero, L. & Percy, D. 2000, 'World-Class Purchasing Skills: An Empirical Investigation', *Journal of Supply Chain Management*, vol. 34, p. 4, pp. 4-19.

Harrison, G. 1995, 'Satisfaction, tensions and interpersonal relations: a cross-cultural comparison of managers in Singapore and Australia', *Journal of Managerial Psychology*, vol. 10, no. 8, pp. 1-9.

Institute of Personnel Development (IPD) 1999, *Workplace Learning, Culture and Performance* [Online], 5 November 2002, Available at:

<http://www.theglobalregistry.com/IPD/prelims.cfm#executive>

Kelly, A, Brannick, T, Hulpke, J, Levine, J. & To, M. 2003, 'Linking organisational training and development practices with new forms of career structure: a cross-national exploration, *Journal of European Industrial Training*, vol. 27, nos. 2, 3, 4, pp. 160-168.

Lee, H. S. 2000, 'A managerial perspective of the objectives of HRM practices in Singapore: an exploratory study', *Singapore Management Review*, vol. 22, no. 1, pp. 65-82.

Lincoln, Y., and Guba, E. 1985, *Naturalistic Enquiry*, Sage, California.

Ministry of Manpower 2000, *Adult Training*, Ministry of Manpower, Singapore.

Ministry of Manpower 2001a, *Employment Trends and Outlook, 2001*, Ministry of Manpower, Singapore.

Ministry of Manpower 2001b, *Employer Supported Training*. Ministry of Manpower, Singapore.

Ministry of Manpower 2002, *Human Capital* [Online], 15 October 2003, Available at: [http://www.mom.gov.sg/MOM/AnnualReports/pdf/annualreport\\_humancapital.pdf](http://www.mom.gov.sg/MOM/AnnualReports/pdf/annualreport_humancapital.pdf)

Ministry of Manpower 2003, *Labour Market, Second Quarter 2003 Report* [Online], 15 October 2003, Available at: [http://www.mom.gov.sg/MOM/MRSD/Publications/2387\\_qtlnr032.pdf](http://www.mom.gov.sg/MOM/MRSD/Publications/2387_qtlnr032.pdf)

Osman-Gani, A. M. 2004, 'Human Capital Development in Singapore', *Advances in Developing Human Resources*, vol. 6. no. 3, pp. 276-287.

Osman-Gani, A. M. & Tan, W. L. 1998, *Human resource development: the key to sustainable growth and competitiveness of Singapore*, *Human Resource Development International*, vol. 1, no. 4, pp. 417-432.

Osman-Gani, A. M. & Tan, W. L. 2000, *International briefing: training and development in Singapore*, *International Journal of Training and Development*, vol. 4, no. 4, pp. 305-323.

Patton, M. Q. 1990, *Qualitative Evaluation and Research Methods - 2nd edition*, Sage, New York.

Spender, D. 2000, *Online Learning: Implications for Public Education Institutions*, paper presented at the IDP Conference, Brisbane.

Wallace, M. 1995, *What the Numbers Say*, *Converse*, no. 1, pp. 7-9.

Wallace, M. 2000, 'Workplace Training Initiatives: implications for Women in the Australian workforce', *Journal of European Industrial Training*, vol. 24, no. 5, pp. 268-274.

Zikmund, W. G. 2003, *Business Research Methods*, 7<sup>th</sup> edition, Thomson/South-Western, Mason, Ohio.