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Pedagogic Practices and Vocational Education and Training: A Study of Growing Small Firms

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Abstract: To examine pedagogic practices and vocational education and training (VET) in three categories of growing small firms. The panel data used in the study are drawn from the Australian Bureau of Statistics' Business Longitudinal Surveys. The results indicate on-the-job training provided by owner/managers is the most prevalent training method regardless of growth category. The results also show the proportion of firms adopting formal pedagogic practices increases with enterprise growth. Although there is an increase in the proportion of firms using the widely recognised providers of accredited VET with firm growth, only the minority of lower growth firms use these providers. Again, there is a positive association between firm growth and the implementation of VET; however, less than half of the firms in the three growth categories provide apprenticeship training and traineeships. Taken together, the results demonstrate small business engagement in structured VET, particularly at the lower end of the growth continuum, is, at best, minimal.

Keywords: Human Resource Management, Pedagogic practices, Vocational Education and Training, Small Business

Introduction

J IN AUSTRALIA, AS elsewhere, small firms constitute a significant proportion of the Australian economy, accounting for nearly 97 per cent of all private sector businesses, and employing over 3 million workers (Australian Bureau of Statistics (ABS) 2001).

Notwithstanding their economic contribution, the academic literature has accorded little attention to pedagogic practices (defined as the activities which a firm sponsors that facilitates learning), and vocational education and training (VET) in growing small firms. Extant studies that have examined training in small firms have tended to employ broad definitions of smaller firms, adopt a cross-sectional research design and with few exceptions, use small sample sizes. As a result, very little empirical data exists from which to identify the types of pedagogic practices and VET used in growing small firms. This is surprising given that training is widely seen as central to creating a more highly skilled national labour force upon which organisations can draw to increase their competitiveness.

The aim of this study is to fill this gap by means of a study of pedagogic practices and VET in three categories of growing small firms. The paper proceeds as follows: after briefly reviewing prior research on VET and the nature of training and development activities which a firm sponsors that facilitates learning, the current research method is outlined. Thereafter, the findings of the research are presented and discussed. This is followed by conclusions arising from this study.

Prior Research

In Australia, many commentators and policy-makers argue that Australian employers do not spend enough on training their staff (e.g., Billett, 2001). Billett (2001, p. 419) cogently summarises this position:

in terms of small business participation in structured courses, the current level of participation is reported as being low and the future prospects seem limited by entrenched perceptions of the worth of such courses.

However Smith (2003) challenges this view, arguing that it is based on data from the early to mid-1990s. Using more recent data, Smith (2003) finds that training has, in fact, increased, not declined, and concludes that Australians now receive more and better training from employers than in the past. However, Smith (2003) also acknowledges that important size-related differences exist, with smaller firms less likely to provide training vis-à-vis larger firms, particularly at the micro-end of the continuum of firm size, with only 20 per cent of micro-firms providing structured training compared with 60 per cent of small firms provide training. As stated above, given Australia is predominately a country of small firms, accounting for 97 per cent of all private sector businesses, and employing over 3 million workers (ABS, 2001) this is problematic, since it has adverse implications for the creation of a national skill base upon which enterprises can draw to increase their competitiveness. From the perspective of employees, they are at risk, both socially and economically, if they do not participate in skill development (Billett, 2001; Billett, Hernon-Tinning and Ehrich 2003).

Although some research has examined small firms' reluctance to participate in or subsidize structured (or 'taught') VET (e.g., Billett 2001), little empirical work has explicitly examined the incidence and nature of pedagogic practices and VET in different categories of small firms.

In the general training and development literature, Smith, Oczkowski, Noble and Macklin (2003) found that much training at the enterprise level is carried out internally, using non-dedicated and part-time workplace trainers. As a result, it carries no national recognition.¹ This led Smith *et al.* (2003) to question the quality of training provided at the firm level. The incidence of Technical and Further Education (TAFE) colleges, the principal public provider of accredited training in Australia, is also low, perceived to be inflexible and unresponsive to firm needs (Smith *et al.*, 2003). However, in an extensive qualitative study, Smith and Hayton (1999) found technical colleges do provide technical skills training, although firm size impacted upon training provision, with smaller firms experiencing particular problems accessing training providers.

Weisner and McDonald (2001) also found a high incidence of technical or vocational training, with 71 and 78 per cent of small and medium-sized firms respectively, implementing formal training in apprenticeships. While 80 per cent of small, and 90 per cent of medium-sized firms use external training provided by a training body/institution, all firms are most

¹ As elsewhere, in Australia, the VET system is entrusted with responsibility for developing the skills of the nation's workforce (Smith 2003). The system has undergone substantial reform (collective known as the National Training Reform Agenda), with all training curricula in the VET sector now competency-based and carrying national recognition. These national competencies are the basis for much accredited training, provided by a variety of public (e.g., Technical and Further Education (TAFE) colleges) and private training providers.

likely to provide training using their own staff. Further, as much Australian (e.g., Kotey and Sheridan 2004) and international research shows (e.g., Matlay 2002), although important size-related differences exist in training provision and methods, training remains predominantly informal and on-the-job.

Thus while the literature suggests that pedagogic practices and VET in small business are largely informal, important size-related differences are also expected to exist. However given the mixed results regarding the extent of taught training in prior research, it is difficult to arrive at a definitive conclusion regarding the extent of VET in growing small firms. Nonetheless, two preliminary propositions are constructed to guide this exploratory empirical study.

Proposition 1: Differences in the incidence and nature of pedagogic practices in the three business growth categories will exist, with lower growth firms less likely to adopt formal pedagogic practices relative to moderate or high growth firms.

Proposition 2: Low growth firms are unlikely to invest in structured VET.

In the next, the methodology for addressing these issues is introduced.

Method

The data employed to address the research question are drawn from the Business Longitudinal Survey (BLS) conducted by the ABS on behalf of the Australian federal government. The BLS was designed to provide information on the growth and performance of Australian employing businesses, and to identify selected economic and structural characteristics of these businesses. Restricted industrial classification detail, no geographical indicators, presentation of enterprise age in ranges, and omission of certain data items obtained in the BLS all help to maintain the confidentiality of unit records. The questionnaires were piloted prior to their first use, and were then progressively refined in the light of experience after each collection. As well as on-going questions, each questionnaire included once-off questions dealing with certain matters of policy interest to the federal government at the time of the collections. In the current study, such questions relate to training and development activities which a firm sponsors that facilitates learning.

Data collection in the BLS was achieved through self-administered, structured questionnaires containing essentially closed questions. Response rates were very high by conventional research standards – typically exceeding 90 per cent. The specific BLS data used in this study involves business units employing fewer than 200 persons – broadly representing small to medium-sized firms in the Australian context. For the purposes of this study, small and medium-sized firms are defined using the size categories employed by the ABS. Small businesses are businesses employing fewer than 20 workers, and medium-sized enterprises are those comprising between 20 and less than 200 employees.

Definition of Three Categories of Growing Small Firms

Business growth is denoted by McMahon's (2001)² three growth development pathways - low, moderate and high growth. The size of the final data set identified by McMahon (2001)

² In McMahon's (2001) research, exploratory cluster analysis was used with key enterprise age, size and growth variables to discover if there were any stable development pathways evident in the BLS panel data. Using the

and used in the current study is 871 firms, of which 629, 203 and 39 firms are low, moderate and high growth firms respectively.

Definition of VET

In Australia, VET programs are defined as

those course/qualifications with vocational intent and those module/unit of competency enrolments not associated with a course/qualification with vocational intent (DEST 2005).

In practice, participation in VET is normally assessed "in terms of enrolment in nationally endorsed, certified and accredited vocational education courses" (Billett 2001, p. 418). Thus the first item available in the BLS relevant to examining VET in small business is the provision of trade and apprenticeship training and traineeships.

As stated above, in Australia, VET "is underpinned by a well developed system of TAFE colleges" (Smith *et al.*, 2003, 46). However, Smith (1999) makes the point that, while the majority of VET is provided by TAFE, there is an increasing number of private and community-based VET providers. Thus the provision of training by TAFE, industry associations and private training organizations are also used to indicate the possible existence of VET in small business³.

Analytical Method

Variables used in this research are either categorical in nature or, if metric, have irregular distributional properties. Thus, non-parametric/distribution free techniques of statistical analysis are employed exclusively.

Discussion of Results

Before presenting the results to the two research propositions, it is useful to obtain an overview of the nature of pedagogic practices in the three categories of growing small firms. Table 1 shows OTJ training is the most prevalent training method, with the overwhelming majority of small firms in all three growth categories using the more informal learning method. Table 2 shows that owner-managers or employees are the predominate provider of OTJ training in small firms (Table 2) - regardless of growth category - as has been the case in prior research (e.g., Kotey and Sheridan 2004, Weisner and MacDonald, 2001).

Table 1 also shows that, over half of low growth firms do not use structured learning methods (i.e., structured training, seminars, workshops or conferences or job rotations/ex-

clusters as markers or signposts, three relatively stable SME development pathways were discernible in the longitudinal panel results - low, moderate and high growth. Refer to McMahon (2001) for further details.

³ While it is possible for organizations to deliver VET in the workplace using their own staff, organizations must be Registered Training Organizations. Given the nature of training in small business, it is unlikely that small businesses are registered training organizations. However, it is not possible to ascertain from the BLS whether or not businesses are registered organisations. Training provided by the organization is therefore treated as non-VET. Similarly, it is possible for VET to be delivered by operations of some universities. Again, however, it is not possible to disaggregate VET from non-VET education provided by universities. Thus education and training provided by universities is considered non-VET.

changes⁴). In contrast, the overwhelming majority of moderate and high growth enterprises use formal learning methods, with three quarters or more of moderate and high growth SMEs using structured training and seminars/workshops/conferences; and two thirds of moderate and high growth businesses using the less formal job rotation. A series of Mann Whitney tests indicate that these differences are statistically significant, with the most significant differences occurring between low and moderate, and low and high growth firms. This suggests that it is indeed at the low growth end of the spectrum that employer-provided training is unlikely to occur (Smith 2003).

Table 1: Training Methods: SME Growth Development Pathway Differences

	Structured Training	Seminar/ Workshop/ Conference	Job Rotation	OTJ
Low growth (n=629) SMEs	43.1 ^{a,c***}	42.4 ^{a,c***}	42.5 ^{a,c***}	74.4 ^{c**}
Moderate growth (n=203) SMEs	75.7	79.3 ^{b*}	69.2	93.5
High Growth (n=39) SMEs	81.1	86.4	64.9	94.6

Table 1 Notes:

^a Indicates significant differences between low- and moderate growth SMEs.

^b Indicates significant differences between moderate and high growth SMEs.

^c Indicates significant differences between low and high growth manufacturing SMEs.

*** p <.001

** p<.01

*P<.05

Bold indicates formal training methods

[#] Following Smith and Hayton (1999), this study categorizes job rotations/exchanges as formal training as respondents were asked to include only when planned in advance.

Table 2 reveals that, only the minority of low and moderate growth firms use business owners/employees to provide structured training, professional or industry associations, equipment suppliers, private training providers TAFE, universities or other external training providers. In contrast, the majority of high growth firms use professional and industry associations, equipment suppliers and TAFE. Table 2 also shows, as firms grow, overall, there is a significant increase in the use of external training providers.

Table 2: Training Providers: SME Growth Development Pathway Differences

	Business Owner/employee provide OTJ (%)	Business Owner/employee provide structured training (%)	Professional Assoc'n (%)	<i>In-dustry Assoc'n (%)</i>	Equipment Supplier (%)	<i>Private Training Provider (%)</i>	<i>TAFE</i>	<i>Uni</i>	Other Training Provider
Low growth (n=629) SMEs	59.6	18.1	16.4	21.2	25.4	13.8	24.8	4.9	2.4
Moderate growth (n=203) SMEs	68.5	35	38.9	39.9	42.9	31.5	47.8	15.3	2
High Growth (n=39) SMEs	76.9^a	48.7 ^a	69.2 ^a	61.5 ^a	51.3 ^a	43.6 ^a	61.5 ^a	33.3	2.6

Table 2 Notes:
^a Indicates significant differences between low-, moderate and high growth growth SMEs.
 ***p <.001 (unless otherwise stated), chi square tests.
 ** p <.01
 *p<.05
 Bolded figures denote predominate training provider
Italic indicates accredited VET trainer

Table 3 indicates that there is also an increase in training in the various fields as firms grow. However only the minority of low growth firms provide training in any of the 6 fields. In contrast, the majority of moderate and high growth firms provide management, computer, health and safety and other training. The majority of high growth firms also provide training for professionals.

Table 3: Training Fields: SME Growth Development Pathway Differences

	Management	Professional	Computers	<i>Apprenticeships</i>	Health & Safety	Other
Low growth (n=629)	24.4 ^{a,c***}	14.4 ^{a,c***}	25.1 ^{a,c***}	27.9 ^{a,c***}	38.2 ^{a,c***}	45.9 ^{a,c***}
Moderate growth (n=203)	57.4	46.7 ^{b**}	52.7 ^{b**}	47.3	82.2 ^{b*}	70.4 ^{b*}
High Growth (n=39)	62.2	64.9	67.6	48.6	89.2	86.5

Table 3 Notes:

^a Indicates significant differences between low- and moderate growth SMEs.

^b Indicates significant differences between moderate and high growth SMEs.

^c Indicates significant differences between low and high growth manufacturing SMEs.

*** p <.001

** p <.01

*p<.05

Bolded figures denote predominate learning field

Italic indicates accredited VET training

Taken together, these findings provide support for the first proposition that differences exist in pedagogic practices between the three categories of growing small firms: overall, low growth firms are significantly less likely to adopt formal learning methods and use external training providers relative to moderate and high growth firms.

The results also provide some support for the second proposition that, low, moderate, and to a lesser extent, high growth firms are unlikely to invest in structured or taught VET, with less than half of firms in each of the three growth categories providing trade and apprenticeship training and traineeships. Although 47 and 49 per cent of moderate and high growth firms respectively, provide apprenticeship training (Table 3) this is well below the 70 per cent or more reported by Weisner and McDonald (2001).

Further support for the proposition that low and moderate growth firms in particular, are unlikely to invest in structured VET can be seen in Table 2, where again, less than half of low and moderate growth SMEs utilise TAFE, the predominate accredited provider of VET in Australia. In contrast, almost two thirds of high growth firms use TAFE⁴. The majority of high growth firms also use industry associations (Table 2). Low and moderate growth firms on the other hand, are unlikely to use industry associations. Only the minority of firms in all three categories use private training providers, although there is a significant increase in their use as firms grow.

⁴ Following Smith and Hayton (1999) this study categorizes job rotations/exchanges as formal training as respondents were asked to include only when planned in advance.

Conclusions

The purpose of this study was to empirically examine the incidence and nature of pedagogic practices in general, and more specifically, VET in three categories of growing small firms, adding to the very few large-scale studies conducted to date that have focused exclusively on the incidence and nature of pedagogic practices and VET in growing small firms.

The results show OTJ training provided by owner-managers or employees is the predominate pedagogic practice in small firms, regardless of growth category. However, the results also indicate that significant differences exist in training methods, providers and fields between the three categories of small firms, with the proportion of firms adopting formal pedagogic practices increasing with firm growth. Although there is an increase in the proportion of firms using recognised providers of accredited VET with firm growth, only the minority of lower growth firms use these providers. There is also a positive association between firm growth and the implementation of VET; however, less than half of the firms in the three growth categories provide apprenticeship training and traineeships. Taken together, the results demonstrate small business engagement in structured VET, particularly at the lower end of the growth continuum, is, at best, minimal.

The results may be of interest to policy-makers. To date, there has been a paucity of research examining the pedagogic practices and VET in small firms. Yet if appropriate policies and incentives are to be designed to influence the demand side of training in firms (Smith and Hayton 1999) including in small firms, a better understanding of the current pedagogic practices and VET is needed, including the extent to which similarities or differences exist between growing small firms.

Some limitations of the research deserve mention so that the findings can be interpreted within its constraints. A limitation of the use of a secondary data source such as the BLS used in this study is that the present author was not involved in the collection and organization of the data, and is limited to research choices made by the ABS. In particular, this investigation relied upon training and related variables available in the BLS, with multi-dimensional measures of the dependent unavailable. Future research should seek to address this limitation. Further research might also investigate the extent to which similarities or differences exist in the drivers of training provision between sub-sectors within the broad industrial classifications employed in this research.

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