In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge

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The paper argues for a new approach to the study of entrepreneurship and a new paradigm as a basis for entrepreneurship education. It also argues that such an approach is unlikely to come from university business schools. It needs an organisational revolution which, however, can be managed within a university as a whole. The paper is divided into two parts. The first explores the political imperative in Europe for development of the 'enterprise culture' and attributes this mainly to pressures for greater international competitiveness. The educational response is then examined and, with the help of a number of recent surveys, some of the key issues pertaining to the development of entrepreneurship education in higher education institutions in the UK and Europe are reviewed. The second part attempts to address the imperative at a more conceptual level. The pursuit of entrepreneurial behaviour is seen as a function of the

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degree of uncertainty and complexity in the task and broader environment and/or the desire of an individual, in pursuit of an opportunity or problem solution, to create it. It is argued that the key trigger for the growing interest in entrepreneurship is globalization. The way in which this has impacted on the role of the state, the organization of business activity and public services and on individuals to create greater uncertainty and complexity in the environment is explored. This leads to a conclusion that a wide range of stakeholders are being confronted with the need for entrepreneurial behaviour, for example, priests, doctors, teachers, policemen, pensioners and community workers and, indeed, potentially everyone in the community. Entrepreneurship is therefore not solely the prerogative of business.

It follows that the traditional focus of entrepreneurship education on business, and new venture management in particular, provides an inadequate basis for response to societal needs. Moreover, the pervasive ideology of the 'heroic' entrepreneur can be seen as a dysfunctional when viewed against the needs of a wider community. The wider notion of 'enterprise' is therefore introduced as a means of moving away from the hitherto narrow paradigm. How this relates to the development of the individual and the design of enterprising organizations is explored. The paper explores the challenge of this broader context by reference to a number of issues central to the globalization debate including: culture, market liberalization, forms of governance and democracy. It then links these with the ontological and epistemological challenge to education. It concludes with discussion as to how this relates to the traditional concept of a university and argues that universities as a whole are in a much better position to respond to the challenge than are business schools.

Introduction

It will be argued in this paper that the time has come to discard the traditional business school model as a vehicle for the research, development and teaching of entrepreneurship. A case will also be made for the creation of a new institutional context, on a number of grounds: first, the centrality of the entrepreneurial paradigm to most of the current 'great debates' in politics, business and society, yet the narrowness and inadequacy of the existing business oriented approach; secondly, by exploring the nature of the ontological and epistemological template needed to provide a more adequate response; thirdly, by demonstrating that existing business school cultures and 'ways of doing things' are likely to emasculate their capacity to take up the challenge.

The paper is divided into two parts. The first briefly reviews the political, economic and social imperative to action and the education response. In so doing, it takes a mainly European perspective but also draws from American and Canadian experience. It notes the relatively slow progress made in entrepreneurship teaching and research in certain respects in North America over the past two decades (Louckes *et al.* 2000; McMullan and Gillin 2001). There then follows a critical synthesis of the major perceived problems in responding to the challenge of entrepreneurship education in Europe. The second part of the paper seeks to address these problems within a broader conceptual framework. The need for entrepreneurial behaviour and organization design is posited as a function of the level of uncertainty and complexity in the task environment. The paper argues that a search for the source of uncertainty and complexity should begin within a globalization framework which will provide a major context for the teaching of entrepreneurship. A number of challenges related to this view are then set out. Acceptance of these challenges in a global context, it is argued, demands a dramatic rethink of the concept of entrepreneurship in an educational context because of the wide

range of stakeholders affected. It is argued that, to address adequately the needs of these stakeholders, there is an imperative to remove entrepreneurship from the constraining business context and, to assist with this process, the notion of enterprising behaviours and enterprising organizations is introduced. Exploration of this wider paradigm will dictate the target groups, organization of knowledge, pedagogy and institutional arrangements for research and teaching. Finally, the paper concludes as to why the university and not the business school is the place to take advantage of the entrepreneurial opportunity. It is argued that there is a need to apply the Schumpeterian notion (Schumpeter 1934) of creative destruction to the higher education sector itself, in order to find innovation (new ways of doing things) and new combinations of knowledge, if there is to be an adequate response.

Part 1: The Pressures and Problems of Entrepreneurship Education

The Political Imperative

In Europe, the 'enterprise culture' has become the *sine qua non* of political response to globalization. Most of the official economic, industrial and employment reports of the European Commission (EC) and related organizations in the second half of the 1990s have it as a central theme (BEST Report 1998c; EC 1996, 1998; OECD 1998). The same theme has dominated European policy towards support of change in the transition economies (Buck 2000; European Training Foundation (ETF) 1996; OECD 1998). It has been argued that enterprise has therefore become the dominant European discourse in the context of enhancing competitiveness in a global economy (du Gay 2000). It has also taken a central place in the 'third world' development agenda debate (see, for example, Department for International Development 2000).

Entrepreneurship has been at the heart of the UK Government's 'Competitiveness Initiative' for several years (Blair 1998;

Department of Trade and Industry (DTI) 1998). The current (2002) Labour Government's version is somewhat different from that extolled by Mrs Thatcher in the 1980s and 1990s and, currently, in the US (National Commission on Entrepreneurship 2000a, b). Yet it constitutes an important component of the 'Third Way' (Giddens 1998, 124), which purportedly still represents the ideological and philosophical backbone of the government's programme. The doctrine of enterprise has also been variously endorsed and discussed by other major members of the European Community (Beranger *et al.* 1998; ETF 1996; German Social Market Foundation 1999; Obrecht 1998). The deemed importance of entrepreneurship has been underpinned by the annual publication of the Global Entrepreneurship Monitor (GEM 2000). Benchmarking, using this instrument, has become common (EC 1998a).

Despite the growing rhetoric, there would appear to be no common agreement as to what pursuit of entrepreneurship and the enterprise culture means. It can only be inferred from public policy 'initiatives' that it means: the emergence of more small businesses; associated higher rates of small business creation; more fast-growth firms and technology-based businesses; social entrepreneurship, enterprise in public organizations and, increasingly, a basis for tackling social exclusion.

The Educational Imperative and the Response

A major part of the enterprise culture discourse has been focused on education at all levels (Brown 1994; Buck 2000; Council for Industry and Higher Education (CIHE) 1997; Department for Education and Employment (DfEE) 1998; EC 1996; ETF 1996; OECD 1989, 1998; Seltzer and Bevitly 1999). It is in this context that the notion of 'enterprise' in the sense of the development of the 'enterprising child' has spilled over from the entrepreneurship debate. There is, however, no substantive measure of agreement as to the

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meaning of the concept in education and therefore the appropriate content for education programmes (Gibb and Cotton 1998; van der Kulip and Verheul 2002). Activity promulgated under the 'enterprise' banner currently embraces a spectrum ranging from business and financial education through to industry awareness, transferable personal skills, work experience and job shadowing, to various forms of small business and new venture simulations (Gibb and Cotton 1998; Horne 2000).

In recent years in Europe, the universities have moved to the centre of the enterprise education debate (Association of Graduate Recruiters 1995; Brown *et al.* 1999; Université-Enterprise Europe 1998; several of the papers in Brockhaus *et al.* 2001). As befits the government's 'competitiveness' agenda in the UK, the role of the universities in technology transfer and innovation has been a major focus of attention, in particular their poor performance in this respect compared with counterpart North American Institutions (CVCP 1999; Schuetze 1996). This is a perception shared widely across Europe (EC 1999). In 2000, the UK Government funded a number of Centres of Enterprise across the country, with the aim of not only widening the capacity for provision of entrepreneurship education in the science curricula but also shaping institutional arrangements in favour of greater engagement of universities with the entrepreneurial business community and regional stakeholders. In Scotland, where there is a measure of policy independence, a major focus for some time has been upon improving the birth rate of indigenous enterprises (Scottish Enterprise 1993). This has led, in turn, to the funding of major entrepreneurship programmes in key universities with models borrowed in particular from Babson College in the US (Hayward 2000). In this context, much attention has also been given to the engagement of universities with small business and the pursuit by graduates of careers in small business creation or employment (Association of Graduate Recruiters 1995; NCIHE 1997; DfEE 2000).

The UK trend is reflected across Europe with a growth of university chairs in entrepreneurship. In France, there has been particular concern for creating entrepreneurship within engineering schools (Beranger *et al.* 1998). In Germany, the chairs in business schools and universities have largely been created with support from banks and foundations (Klandt 1998).

There are a growing number of European entrepreneurship education networks. There are those associated with the Global Entrepreneurship Monitor, a number stimulated by the EC (BENE and FIT) and some bilateral entrepreneurship networks (such as the Franco British Club for Higher Education and Training in Entrepreneurship) as well as others of a more independent nature (ERDC Centre 2000). The most mature network is that facilitated by the European Business School in Frankfurt, which organizes an international conference each year (IntEnt). There are also networks in Transition Economies fostered by the EC (Buck 2000; ETF 1996). A major output from the growth of the networks has been the publication of cases of 'good practice' across Europe (see for example EC Enterprise Directorate General 2000).

Notwithstanding the growth of activities, the status of entrepreneurship in higher education remains fragile. The European Foundation for Entrepreneurship Research (EFER), with some support from the networks of the European Forum for Management Development (EFMD), has explored the relatively unfavourable funding status of entrepreneurship in Business Schools in Europe compared with the US (Prats and Suen 2000).

In the UK, there have been two major studies of provision of entrepreneurship education in the past two years, one conducted by the London Business School (Levie 1999) and one, focused on undergraduates, by Southampton University (Mason 2000). These explore common themes. They indicate a very substantial growth in courses of entrepreneurship at the graduate and post-graduate level in the UK. Of 133 Higher Education institutions 50 had

courses in entrepreneurship and the numbers of students rose by 27% between 1997/8 and 1998/9. As in the US, however, most programmes are targeted upon business students, although there is growing attention being given to students in other departments and faculties (Brown 1999; Gartner and Vesper 1999; Levie 1999). There have been few detailed evaluations (Hayward 2000).

A major common theme in programmes seems to be a focus on new venture creation backed up by options on growing business, financing entrepreneurial businesses, law, networks, family business and social enterprise. The business plan plays a major role and is usually the vehicle for real or simulated project-based activity. Projects, as in North America (McMullan and Boberg 1991), seem to be the major manifestation of enterprise pedagogy, along with cases, and engagement with entrepreneurs and related stakeholders. Many programmes seem to be supported by more traditional inputs on accounting, finance, strategy, decision-making under uncertainty, and marketing (for Canada, see Menzies and Gasse 1999). Reflecting the 'competitiveness and innovation' political imperative, there is growing interest in European experience of support programmes for new technology-based firms (Jones-Evans and Klofsten 1998; Klofsten 2000; Klofsten and Jones-Evans 2000).

In many of the 'models' a key aim is stated to be the development of entrepreneurial attributes and behaviours (see, for example, Bates 1998).[1] Lists are sometime given, but it is not clear how the programmes are targeted in detail upon achieving these or what measures of success or failure are taken in this respect.[2] Even in the US, it is difficult to gauge progress in this respect over time. In 1985, for example, Ronstadt claimed that a new school of entrepreneurship was emerging with a focus upon improved pedagogical processes (Ronstadt 1985) and suggested 14 sets of skills for development. It is difficult to monitor what has since been achieved in this respect. His focus was, however, limited to

enterprise creation and he warned against the inclusion of 'small business'.

In the UK, Levie's study reflects on how courses are taught and places emphasis upon the importance of learning from: real situations; interactions by role-playing and use of projects; and business plan development and presentations. The FIT Report, referred to above, also sets out a model for effective programme delivery with recommendations for: self-directed learning; flexibility; emphasis on the way of life of the entrepreneur; the need to know and know who; and a holistic view of management. These recommendations seem to be derived from a review of the work of 'experts' (see, for example, Klandt 1994). It is not clear how deeply they are embedded in the cases offered by FIT.

No detailed comparison of objectives seems to be available. In general, most European courses provide background modules focused on the importance of entrepreneurship and on why people become entrepreneurs. Thereafter, there is often an emphasis upon what needs to be done to become an entrepreneur, how to go ahead and do it and, indeed, develop the business. A range of objectives are suggested by Garavan and Cinneide (1994, b) in their earlier review of entrepreneurship programmes which include:

- to acquire knowledge relevant to entrepreneurship
- to acquire skills in the use of techniques
- to identify and stimulate entrepreneurial drive and talent
- to undo the risk of and balance of many analytical techniques
- to develop, enjoy and support enterprise
- to develop attitudes to change
- to encourage start-ups and new ventures

They do not provide any systematic evaluation of programmes against this list. In general, evaluation and assessment of entrepreneurship education appears to be via projects, with reliance also upon classroom assessment. In the UK, however, a substantial number of

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institutions still use the written examination as the main form of assessment.

A Critical Synthesis of Provision

From the reports referred to above, a number of common issues of concern can be drawn. It is evident from the North American literature that many similar concerns have been discussed for some time, whereas in Europe much of the debate is just beginning. These major concerns can broadly be summarized under a number of headings:

- the entrepreneurial concept
- academic acceptability
- client segmentation and needs
- organization of knowledge and pedagogy
- teacher supply and competency
- evaluation and assessment
- location and capacity of delivery vehicles
- funding

The Entrepreneurial Concept

As might be anticipated from the academic literature, there is no absolute agreement among providers as to the basic concept of entrepreneurship to be taught. While the central focus is on new venture creation, there does not appear to be a high degree of conceptual agreement as to what should 'surround' this, and how what is drawn from the established disciplines should be prioritized and ordered.

The link between small independent business and the broader concept of entrepreneurship still seems to be a central problem. At the root of this seems to be: the carry-over of the notion from economics of the entrepreneur as a heroic figure with all its underpinning ideology (Kyro 2000; Ogbor 2000); the suggestion that ownership is not important to entrepreneurship (Stevenson and Jarillo 1990); and a consequent focus on entrepreneurs being associated with growing business (Young and Sexton 1997) and technology development (EC Enterprise Directorate General 2000; Klofsten, and Jones-Evans 2000) where external capital is involved.

To justify this stance, some writers seek to distinguish between creative and dynamic problem-solving and more mundane versions, the former to be associated with growth firms and the latter with 'stagnant' businesses (Young and Sexton 1997). This argument does not seem to have full empirical or conceptual underpinning. There are some major problems here, in particular the seemingly pervasive notion that firms that do not grow are in more stable environments and face less uncertainty and complexity and therefore fewer pressures or incentives for entrepreneurial behaviour and creative problem-solving. The challengeable nature of this implicit hypothesis is easily exposed. There are many self-employed persons operating as 'networkers' and 'fixers', who face very uncertain and complex environments, and as such have to behave very entrepreneurially, but do not wish to grow the business. Moreover, many businesses facing decline, or fighting to retain market positions (and therefore not growing in turnover), need high degrees of enterprise and entrepreneurship to survive. The inference that high rates of change and associated uncertainty and complexity are solely connected with high rates of growth in turnover or employment is, arguably, loose thinking (Gibb and Scott 1985). It can be argued that many firms growing rapidly in more certain and simple environments need sound management rather than entrepreneurship. What seems to be missing from much of this thinking is consideration of the degree of uncertainty and complexity in the context and task environment in which the entrepreneur operates (Laukkanen 1997) and therefore the contingent need for entrepreneurial behaviour (Gibb and Scott 1985; Naman and Slevin 1993).

There seems a need for a stronger conceptual approach to exploring the relationship between an owner-managed business and entrepreneurship. This author has, for example, argued that some of the key conditions under which owner-managed businesses operate provide the basic stimuli for pursuit of entrepreneurial behaviour. Such conditions

include psychological as well as financial ownership, strong customer dependence, total final responsibility, personal assets at risk and necessity for holistic management, among others (Gibb 2000a). From these conditions can be drawn guidelines for entrepreneurial organization design in corporate and other forms of organization. This view challenges the somewhat over-simplistic dichotomy made between the growing business and the 'lifestyle' family business and the sometimes explicit and sometimes implicit view that entrepreneurship is essentially the domain of the private business which leads to a somewhat emotive dichotomy being made between entrepreneurship and public management. Such notions need to be carefully unpicked.

The failure of academe to take stronger conceptual stances on issues such as the above and thus provide clearer guidance to practitioners and policy-makers arguably leads to the misdirection of resources. It has been demonstrated elsewhere in the broader context of schools education and curriculum (Gibb and Cotton 1998) that conceptual confusions lead to misdirection of resources via pursuit of corporate business models under the umbrella of 'enterprise'. The somewhat traditional Young Enterprise Model, offspring of Junior Achievement in North America, is one such confusion. It is essentially a simulation of a corporate business approach to new venturing: yet it is being disseminated in UK universities currently as a lead model for independent graduate enterprise.

In the context of university entrepreneurship programmes, there is a clear need for stronger conceptual frames to underpin programmes. In the work reviewed, there seems to be a confusion as to the difference between a concept frame and a model. There are numerous models/frameworks offered as back-up to entrepreneurship programmes, but many are loosely constructed, a point made by Laukkanen (1997a). They seem often to be no more than groupings of areas or topics without conceptual foundation. A conceptual frame offers the opportunity for exploration of relationships and meaning and opens up a debate. Without adequate conceptual frames, the balance of what is taught cannot be easily defended.

There is no shortage of debaters at hand. Faltin (1999), for example, would argue that there is too little emphasis on the notion of idea and of culture in most offers. Laukkanen argues that there is neglect of the development of the necessary 'mind sets' (1997b).

Academic Rigour and Respectability

Much attention was given to this issue in the several reviews considered (Fiet 2000a, b; Hayward 2000; Levie 1999). There are a number of aspects of this problem. A major issue in Europe seems to be the simplistic divide between entrepreneurship as an 'activity' and as an academic subject (Beranger 1998). This is sometimes encapsulated as the balance of programmes between whether they are 'for' entrepreneurship as opposed to 'about' entrepreneurship (Levie 1999). This dichotomy leads on to a view – to be challenged later in this paper – that activity-based learning focused on an output cannot be academic, whereas traditional teaching with its focus on the 'about' and with its use of cases and simulations is acceptable. Project-based learning in some cases can indeed be criticized for the looseness of its link with an 'entrepreneurial' approach (Laukkanen 1997b), and projects can certainly be pursued in a way that is not at all entrepreneurial. This point aside, however, there is no evidence that traditional case teaching is any more 'conceptual' than project work or other aspects of action learning. Indeed, the use of cases as a dominant entrepreneurial teaching tool can be fundamentally criticized as potentially overemphasizing formal rational, reductionist and somewhat pragmatic problem-solving approaches (Gibb 1994).

The charge of a lack of academic rigour is also underpinned by the introduction into academe of entrepreneurs as teachers and counsellors and their use as role models (Hayward 2000). Even if trained as per the

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Babson model (reviewed in Hayward), they are not seen to be *bona fide* members of staff. There is evidence to support the view that involvement of entrepreneurs leads to high risks of knowledge offered as 'anecdotes' or 'war stories' (Hayward 2000).

More fundamentally, Fiet (2000a, b) has drawn attention to the lack of theory underpinning the large numbers of 'models' and cases and the excessive reliance upon the views of 'gurus' which are not soundly underpinned by academic concept. He convincingly argues the case against pragmatism and dependence upon, and use of, loosely constructed models. He also notes, along with several other writers, that teachers are biased by leading disciplines as to what they teach (see below). He claims too much, in the author's view, for the use of theory as a means of helping potential entrepreneurs in 'understanding the future and the consequences of their action' (see below). His argument elevates theory to the status of providing the 'ought' in entrepreneurial action. Examples given in the articles, however, do not really explain how theories provide normative rules (as opposed to insight) and leave aside the many arguments about the limited ability of the social sciences to build predictive models as opposed to explanatory and exploratory frameworks (Gibb 1992). The notion of exploratory research is, indeed, arbitrarily dismissed by Fiet as the basis for loose thinking. While interesting and challenging, his argument does not really explore the issue of what questions really ought to be asked and why and what we expect students to become as a result of exploring them. Nevertheless the issues raised by Fiet need to be faced, but, in the author's view, by a fundamentally different approach (see below).

Client Segmentation and Needs Focus

Overall, in the current debates in Europe, there is little emphasis placed upon the need for analysis of the different 'client' groups for entrepreneurship programmes and their distinctive needs.[3] The issue is not, however, altogether neglected. The point made in most reports (see Beranger *et al.* 1998; EC Enterprise Directorate General 2000; Hayward 2000; Levie 1999) is that entrepreneurship programmes in higher education are focused mainly upon business students as opposed to being more broadly spread across the universities. This is indicative of the lack of attention given to the learning needs of different groups even within the student population. There is a reported lack of careful selection and segmentation of participants in entrepreneurship programmes in the US and Canada (Hills 1998; Hills and Morris 1998; Gasse 1993).

It is argued by some that lack of attention to needs may lead to the teaching of corporate competencies that are not relevant (Crossley and Pittaway 2000) and which may therefore be dysfunctional to entrepreneurship (Bhide 2000; Chandler and Hanks 1994). Indeed, in general, there is a lack of detailed consideration of how entrepreneurs learn (Garavan and Cinneide 1994a; Young and Sexton 1997) and therefore knowledge of how we may wish to influence the learning styles of students (Salleh 1992). Whereas there are some attempts at breakdowns of needs (EC Enterprise Directorate General 2000) in respect of new technology-based firm creation for example, little attention overall is given to this issue. Mason (2000) does argue the importance of relating the 'offer' more broadly to the need for entrepreneurship in the economy. At the level of the firm, however, there is little call for careful attention to be paid to linking learning needs to the development processes of the business, although from the US literature it appears that there are some broad cycle 'models' in use (Hills and Morris 1998).

Overall, therefore, needs arising outside a new venture or small business context seem to be somewhat neglected. There are modules in some programmes on corporate entrepreneurship and social entrepreneurship, but in the 'reviews' there is little indication of how 'core' needs are distinguished from the

specific needs of these different groups. Obviously more evaluation work needs to be done.

Organization of Knowledge and Pedagogy

In the US and in Europe, the basic framework for exploration of the new venture process is the business plan (EC 2000; Gartner and Vesper 1998; Hills and Morris 1998). It can be questioned as to whether the notion of a plan is an adequate metaphor for the entrepreneurial act (Gibb 1996). It can be argued that it is more a reflection of the attempt by the providers of banking, accounting and commercial consulting services to the entrepreneur and owner-manager to reduce the world and make sense of things in their terms. It seems almost certain that the concept of the business plan was not invented by the entrepreneur!

A second issue that emerges is the lack of holistic management focus in much of the supply offer and the over-dependency on delivering functional skills in the business school tradition (Crossley and Pittaway 2000; Laukkanen 1997a). It has been pointed out above that there is no clear focus on what should be taught (Garavan and Cinneide 1994), but this is particularly so with respect to the environment. The strongest attempts, observed by the author, to provide a more holistic knowledge concept frame are those of Young and Sexton (1997) in the US with their focus on 'entrepreneurial learning' and the Entrepreneurs by Design Programme in Canada (Centre for Enterprise Education and Development 1998). The wider relevance of the former work is, however, limited by the defining of entrepreneurs as those who 'identify and pursue opportunities to increase the size of their growing business' and by the attempt to distinguish between entrepreneurial learning and conventional small business learning by a mechanism of suggesting 'novel problems' as opposed to 'routine problems'. There is no strong conceptual base offered for this dichotomy.

There seems to be no clear agreement as to the kinds of behaviours to be addressed by programmes. Little mention can be found of the way that entrepreneurs learn and the need for simulation of this, and there seems very little debate about the nature of learning and its relationship to theory and practice. There is little related evidence on teacher competencies and experiences (Jones-Evans 1996). Only one mention was found of the notion of the use of tacit learning (Polanyi 1997) and its relationship to the explicit learning forms favoured by business schools.

Teacher Supply and Competency

In general, the European studies point to a shortage of entrepreneurship teachers. This also seems to be a major problem in North America, as evidenced, for example, by the large number of unfilled entrepreneurship chairs in the USA (Brown 1999). Casual empiricism would indicate that a growing number of chairs in Western Europe attract individuals from traditional disciplines, with the result that there are a large number of incumbents without long experience in the field. In general, it is argued there is a need for training and development to improve the supply (Beranger *et al.* 1998; EC Enterprise Directorate General 2000). There is little evidence, however, as to the competency 'profile' of entrepreneurial teachers, although work has been done on the competency of small business management development educators and trainers (CEDEFOP 1991; Gibb 1990). It is clear, therefore, that, while there is a recruitment problem in Europe, and perhaps in North America, there is also an absence of research as to the appropriate competencies of those to be recruited.

Evaluation and Assessment

This seems to be an acknowledged area of weakness. In Europe, there are tensions in the academic system relating to the need to pursue new forms of assessments at the expense of

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the traditional examination system, and there is arguably a need for more research into the 'validity', for example, of classroom teacher assessments. A root problem, yet unresolved, is the measurement of entrepreneurial behaviours. In this respect there is too little research (Harris 1996) and a problem of shared meaning among teachers (Ma 2000). Finally, there is little evidence of long-term evaluation and assessment of the impact of programmes. Hills and Morris (1998), for example, list a number of potential outcomes of entrepreneurship teaching but do not indicate how these might be measured over time. Within the conventional evaluation hierarchy of reaction, learning, behaviour, intermediate action and ultimate outcome (Hamblin 1976), the evidence on impact is mainly at the 'reaction' and 'learning' levels (the latter as defined by conventional approaches to examination and project assessment in the higher education field). There is altogether an absence of longitudinal research. Where entrepreneurship programmes have been funded substantially by public authorities as in the case of Scottish Enterprise as part of its Birth Rate Strategy, there is some imperative to take measures at the 'ultimate' level (McVie 1998), although the timescale for these needs to be long.

Delivery Organizations

Most of the initiatives in entrepreneurship education in Europe emerge from the business school sector. There is also an argument, which seems to be supported in Canada (Menzies and Gasse 1999), that delivery is strengthened where there is a strong and independent centre in partnership with the school. In the UK study by Mason (2000), six of the universities investigated had specialist entrepreneurship centres, but these had little interaction with the business school. Mason argues for 'partnership': but there is another argument that independent centres can reach out better to the broader university community (Gibb 1996). Other writers (Klofsten and

Jones-Evans 2000) argue that to formalize the organizational approach too much within the university may lead to killing the entrepreneurial spirit and that looser structures may be preferable. Laukkanen (1997a) and Johannisson (1991) argue that Business Schools may represent sterile environments for entrepreneurship with their emphasis upon analytical problem-solving and risk-averse approaches and their focus upon large and medium-sized firms.

The issue of optimum organization design for delivery of entrepreneurship therefore goes beyond the 'organization of the classroom' and is substantially affected by the overall culture of the organization (Gibb 1993; Harris 1996). The present author has argued that there is strong need for organizations pursuing entrepreneurial education to be deeply embedded in the stakeholder community in their regions, to participate in joint ventures and incubator activities with other key stakeholders and indeed to judge their own excellence through stakeholder eyes (Gibb 1996, 2002).

Funding

In Europe, many of the new entrepreneurial and enterprise initiatives in universities and business schools are publicly funded with limited time horizons. It is therefore too early to judge the long-term impact, although the creation of Chairs should lead to some temporal underpinning of activity. There are, however, few departments of entrepreneurship and therefore no clearly designated long-term career paths in this area.

There is obviously much less engagement of entrepreneurs in the funding of entrepreneurship education in Europe compared with North America. The EFER study (2000), referred to above, highlighted the major funding problems in Europe. It is by no means certain in the UK, for example, that once the current round of funding for university enterprise initiatives is exhausted they will be sustained. Certainly, the experience from

the former Enterprise in Higher Education Initiative (whereby the government placed £1m in each of the UK's Higher Education Institutions to facilitate Enterprise Learning) would indicate that the long-term impact could be difficult to trace (Brooks 1991; Sommerlad 1991).

A Pragmatic Conclusion

Overall, therefore, there are considerable challenges posed to the higher education sector and to business schools in particular by the growth of interest in entrepreneurship. The review above indicates that it is by no means clear that these are widely recognized and will be speedily addressed. There is little evidence of entrepreneurship becoming mainstream within the existing business school curriculum (Gibb 1996). The track record of the US is also not altogether convincing in this respect. It can, for example, be questioned as to whether the entrepreneurship challenge thrown down to the US business schools by the definitive Porter and McKibben report on US management education (in 1988) has been met. Welsch (1989) made a convincing case for entrepreneurship being the key to many of the issues raised in that report, including those of faculty preparation, attitudes to lifelong learning, integration of disciplines and knowledge and adaptation of 'stages' and 'process' approaches. The ability of schools to plan strategically, look for niches, link closely with their local environment and yet still pursue an international dimension in their work and embrace a broader view of society and of related people skills may be beyond the capacity of the traditional school. It will be argued below that, in view of the nature and pressures of change and of the difficulties as well as opportunities identified above, there is a need for a more fundamental shift in institutional arrangements, of Schumpeterian proportions.

Part 2: Repositioning the Concept: Creative Destruction, New Combinations of Knowledge and Ways of Learning Things

Introduction

In this section of the paper, the entrepreneurship debate is moved into a wider context. The aim is to provide a broader conceptual framework for exploration of the value of the entrepreneurial paradigm to society and academe. This will provide the base for examining the wider intellectual challenge in responding to the political rhetoric and the apparent economic, social and business imperative. In so doing, it will be necessary to release the paradigm from its present narrow focus upon new venture creation and business and to do this by placing it centrally within the debate on globalization and competitiveness. By this means, many of the issues raised above can be explored in a broader context and hopefully given new direction.

The aim in exploring the relevance of the entrepreneurial paradigm to the debate on the impact of globalization upon cultures, institutions, democracy and government and the use of the market 'approach' in all kinds of public and social services will be to clarify the nature of the challenge to universities and institutes of higher learning. This in turn will necessitate some ontological and epistemological discussion. It will be argued that, in order to place entrepreneurship in a much wider context than that of business, it is necessary to focus upon the nature of 'enterprise' in individuals and upon the ways that effective enterprising behaviour can be encouraged in all kinds of organizational, social and economic circumstances.

To pursue this line of argument, the author will posit that there is a substantial synonymity between entrepreneurial and enterprising behaviour (Gibb 1993). The only major distinction to be made is that the entrepreneur actor in higher education is traditionally associated with business activity.[4] In a recent

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review of Entrepreneurship Education in the USA in *BizEd* (May 2002), the magazine of the Association of American Collegiate Schools of Business, the emphasis is wholly upon the business context. Yet it has been shown elsewhere (Gibb 2000c) that complexities and uncertainties necessitating an entrepreneurial response affect all kinds of people in many different aspects of life, not just in the business environment. Potential individual and organizational customers for enterprise education therefore include: priests and the church; doctors in their practices; consultants and nurses in the health service; head teachers and staff of schools; social and community workers; bankers; actors and musicians and the arts; scientists in universities; consultants, the unemployed and researchers; and people of all abilities leaving school.

What do they need to know, why do they need to know it and how do they need to be able to adapt and develop themselves to cope with, create and perhaps enjoy uncertainty and complexity are key questions to be addressed? By answering them, it should be possible to conclude as to what the broader 'enterprise' paradigm can offer. By beginning with the globalization debate, it is possible to demonstrate what should be taught and how it should be taught to different stakeholders.

In exploring the above issues, the author will necessarily be brief, making reference to other papers by the author and other major contributors to the debate.
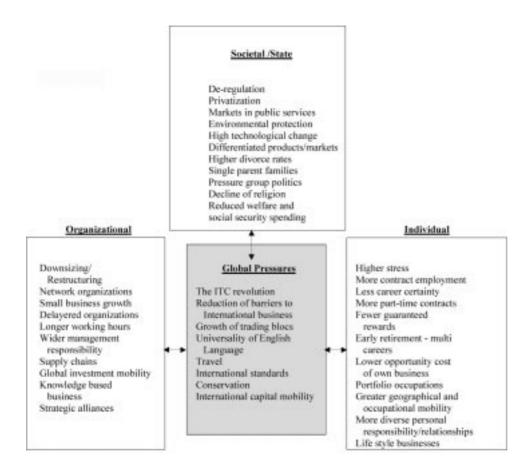
The Global Context: Uncertainty and Complexity

The globalization debate is becoming increasingly frantic, complex and controversial. (Hertz 2001; International Affairs Special Issue 1999; Klein 2000). It raises questions not only about the nature of its reality but also about its impact upon democracy and government, business (particularly large corporate business) behaviour and upon the individual in society as a consumer, worker, family member

and community actor. There is no space in this paper to explore fully the nature of the impact upon the entrepreneurial paradigm. Some aspects of this have been explored by the author elsewhere (Gibb 1999, 2000b, d). Figure 1, however, sets out the major parameters for debate, beginning with a number of 'global pressures' and the responses to, and the shaping of, these by government/societal institutions, corporate and independent business and the individual actors. This figure, arguably, helps us to explore the world for which entrepreneurship education is seeking to prepare individuals and organizations. It thus provides a guide to potential content and context for an entrepreneurship programme.

At the political level, European governmental responses to the globalization and competitiveness agenda have, in general, been to accept the dominance of the 'market paradigm', resulting in their pursuit of deregulation, privatization, the creation of markets in public services and the pursuit of a stronger 'culture' of self-help in society. This in turn has impacted upon individuals, families, marital and partner relationships, religion, education, welfare, social security and the way in which a wide range of public services are managed. There has been a movement from governments setting and establishing rules for the regulation of society towards notions of governance involving the withdrawal of the boundaries of the state and the creation of quangos and intermediary NGOs designed to 'support' and encourage self-regulation (Kooiman 1993). A major, and controversial, area of debate relates to the impact of globalization on democracy itself (Hertz 2001; Klein 2000; Monbiot 2000).

At the organizational level, the impact of restructuring, downsizing, strategic partnership and supply chain development, the growth of network organizations, the delayering of management and the notional widening of responsibility of managers has been well documented (Ascari *et al.*1995; Ashkenas 1990; Berggren 1988). There has been a

Societal /State

De-regulation
Privatization
Markets in public services
Environmental protection
High technological change
Differentiated products/markets
Higher divorce rates
Single parent families
Pressure group politics
Decline of religion
Reduced welfare and
social security spending

Organizational

Downsizing/
Restructuring
Network organizations
Small business growth
Delayered organizations
Longer working hours
Wider management
responsibility
Supply chains
Global investment mobility
Knowledge based
business
Strategic alliances

Global Pressures

The ITC revolution
Reduction of barriers to
International business
Growth of trading blocs
Universality of English
Language
Travel
International standards
Conservation
International capital mobility

Individual

Higher stress
More contract employment
Less career certainty
More part-time contracts
Fewer guaranteed
rewards
Early retirement - multi
careers
Lower opportunity cost
of own business
Portfolio occupations
Greater geographical and
occupational mobility
More diverse personal
responsibility/relationships
Life style businesses

Figure 1. Pressures moulding the 'Entrepreneurial Society'.

growth of knowledge-based business and a commensurate change in the relevant importance of tangible assets as opposed to physical ownership with its associated emphasis upon access to knowledge as opposed to property (Rifkin 2000).

There is a great deal of research demonstrating that the individual as a worker is facing greater complexity and uncertainty (see below). At the personal/family level, there is evidence of individuals moving into and out of a wider range of personal relationships and the growth of one-parent or multi-parent family relationships (Alfred Herrhausen Society 2000). As consumers, individuals are confronted with an increasing range of choice, wider ownership and management of a variety of forms of credit (Rifkin 2000).

It is possible to explore fruitfully the detailed impact of these changes on a wide variety of individuals in society. Appendix 1 sets out frameworks within which, for example, the effect of globalization on UK headteachers of schools and general practitioners (doctors) might be explored. It is possible to examine within these frameworks the uncertainties and complexities confronted and the contingent need for entrepreneurial behaviour. It is also possible to trace the different meanings given to the global context by different stakeholders. There is the potential to explore conceptually the response of individuals and organizations to the impact on their own stakeholders of global pressures. For example, the impact on the behaviour of doctors and medical service practitioners of

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the way in which the market paradigm is being used by providers of resource and managers in the UK Health Service can be examined.

This also provides the basis for examination of whether, for example, the use of such market paradigms in education, health and police services, developed under the 'enterprise' umbrella, do in fact create an environment conducive to effective enterprising behaviour or whether they constrain it (see below and Gibb l999). There is a growing body of evidence in the UK demonstrating that public policy attempts at decentralization designed to 'empower', using the market paradigm in public service organizations, have in practice been heavily impregnated by bureaucratic Taylorist management principles (Halliwell 1999). Changes in the 'culture' of governance do not therefore seem to have been altogether matched by changes in the tools of management. In the words of Chia (1996), the preoccupation has been with changing the shape of the menu but not the food. Rather than facilitating entrepreneurship, there is increasing evidence of mounting frustration of individuals in public services in the UK at the growth of layers of management, divorced from direct provision of service (Boyle 2000).

In the corporate sector, managers and workers are confronted with all the manifestations of the internal and external flexible labour market (Grimshaw *et al.* 2000; Rajan *et al.* 1997; Westwood 2000; Worrell *et al.* 2000). Internally in the company, they face greater uncertainty in respect of: clarity of promotion lines; stability of operations and job descriptions; rewards and responsibilities in geographical locations. Outside the company, they are faced with a job market which relies more extensively than hitherto on short-term contract forms of employment and part-time status. Many of the former internal 'service' jobs available have been 'externalized' into small and medium businesses which offer a different form of management challenge (DfEE 1996; Westwood 2000). This opens up the wider possibility of using

managerial and technical skills in a self-employment situation with its different and wider demands.

The evidence from a large number of studies demonstrates that many of those 'left behind' as a result of corporate restructuring and disaggregation by and large are highly stressed and uncomfortable (Grimshaw *et al.* 2000; Sahdev and Vinnicombe 1997; Westwood 2000). The break-up of the old 'internal labour market' within companies does not seem to have led to the type of organizational redesign needed truly to empower workers and managers and help them cope with greater degrees of uncertainty and complexity (Gibb 2000a). Several of the 'gurus', while arguing that large organizations now have to behave like small ones (Kanter 1983; Quinn 1985), have not explored the conceptual detail. It is argued elsewhere by this author that 'models' can be drawn from the 'life world' of the owner-manager and the managerial and organizational design of the small business that would help address this problem (Gibb 2000a).

The above issues, and others related to global change, provide a considerable challenge to the design of entrepreneurship programmes. They demonstrate the need to research and reflect upon diverse aspects of the impact of uncertainty and complexity on a wide range of individuals and certainly outside the conventional business context. To design an approach to entrepreneurship and an appropriate curriculum within this framework presents a number of important challenges which are dealt with below.

The Challenge of the Enterprise and Entrepreneurship Concept

It has been noted above, in the examination of the 'supply' offers, that there was no common definition of entrepreneurship. It was also noted (Gibb and Cotton 1998) that conceptual confusion has substantially affected the approach to entrepreneurship education in the UK. For those working in the management development field, the diversity of definitions

of entrepreneurship and the controversies that surround them limit their value in practice: and their relationship to entrepreneurial behaviour – the 'know how to' of education is not always clear. The author has addressed this issue in a number of papers (Gibb 1987, 1993, 1996, 2001). In general, he has argued that entrepreneurship can be most usefully defined, in an educational context, in terms of a number of enterprising behaviours underpinned by certain skills and attributes (Gibb 1993, 2001). Such behaviours can be exhibited in a variety of contexts and organizations. The relevant behaviours are expanded upon below (p. 254). In the remainder of this paper, entrepreneurial behaviours and organizations may be taken as synonymous with enterprising behaviours and organizations.

The author has argued elsewhere the importance of knowing 'how to' design organizations to stimulate and support enterprising behaviour in different contexts (Gibb 2000a). It has been shown that it is possible to design an organization to constrain or exclude such behaviour or, alternatively, to maximize it. It is also possible to design the organization in such a way that enterprising behaviour becomes ineffective (in terms of undermining organizational goals) or deviant. It is also important in this process to recognize that an enterprisingly designed organization might be dysfunctional if the task environment does not demand entrepreneurial behaviour (Gibb and Scott 1985).

The conceptual challenge in clarifying the entrepreneurial paradigm, however, goes beyond the individual and organizational context. The wider context is that of concern for the development of 'entrepreneurial cultures' in society and for the creation of the entrepreneurial playing field in support of organization and individual development (Gibb 1997). In a learning context, this places emphasis upon developing capacities for creation of new structures, networks and alliances to manage increasingly complex stakeholder relationships. The author, in pursuing this line of argument, has introduced the concept of 'entrepreneurial capacities' as:

> Those capacities that the constitute the basic, necessary sufficient conditions for the pursuit of effective entrepreneurial behaviour individually, organisationally and societally in an increasingly turbulent and global environment. (Gibb 1999)

This is in recognition of the notion that the pursuit of individual enterprising behaviour *per se* is insufficient unless there are various supportive contextual circumstances. These include the ability to 'regulate' such behaviour, reward it, ensure that it meets broader community, organizational and societal goals and help link it at a macro level with the dynamics of the changing environment. To meet this challenge in a learning context, the author has drawn down from the globalization features in Figure 1 a number of entrepreneurial capacities which provide the focus for curriculum development (Gibb 1999). These include the capacities to: manage the entrepreneurial life world; design and cope with entrepreneurial governance systems (the ethical and moral dimension); develop global sensitivity in the organization; design and develop entrepreneurial organizations; design, introduce and manage business development processes; actively pursue stakeholder relationship management learning; pursue flexible strategic orientation; develop personal enterprising capacities; pursue entrepreneurial learning; and personalize global information sources.

This approach provides a vehicle for exploring the relevance of the entrepreneurship paradigm to a wide range of stakeholders and organizations. It releases a broader context and content potential for entrepreneurship programme design. It also provides a means of linking conceptually the small business/owner-managed paradigm into the mainstream of entrepreneurial organization design in that it can be seen to be one important context for the pursuit of enterprising behaviour (Gibb 2000a). By focusing on behaviours, open to all, it de-emphasizes the pervasive and confusing 'heroic' ideology of the entrepreneur which colours education (Stronach 1990). It

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leads to the acceptance that all kinds of different organizations and different contexts are open to entrepreneurial exploration, including micro enterprises, small businesses, medium businesses, corporate business, public authorities, NGOs, schools, medical and social services, and social and community enterprises as well as individuals in a wide range of non-business contexts. The emphasis upon the enterprising individual and enterprising organization offers a context arguably more appropriate for holistic exploration of the need for enterprise in the flexible labour market and the means of pursuit of the enterprise culture in society.

The Challenge of Culture

As noted above, there has been much political rhetoric surrounding the notion of 'enterprise culture'. Some argue that it has become a dominant Western paradigm (Chia 1996). There is a substantial debate, particularly between sociologists, as to the pervasiveness of the enterprise ideology and its contrast with notions of bureaucracy (du Gay 2000; Fournier and Grey 1999). There are some strong arguments as to why academic programmes of 'entrepreneurship' should explore this issue of culture. First, it is evident from the pragmatic 'models' offered by a number of business schools (Hay 2000, for example), that issues such as 'inequality of incomes', 'attitudes to taxation' and 'appropriate regulation' are deemed to be important components of enterprise structure. Secondly, the pervasiveness of the ideology of the individual entrepreneurial hero referred to above demands its contestation against a broader social view of entrepreneurial diffusion (Minkes and Foxall 2000). Thirdly, there is the issue of the meaning of major concepts used in entrepreneurship education (Ma 2000) and the importance of context to such meanings. Ma has, for example, shown that primary school teachers will interpret 'enterprise' differently from university lecturers. Finally, there is the importance of

developing understanding of the above issues in the context of the transfer of 'programmes', 'institutions' and 'ways of doing things' from one society to another (Gibb 2000b).

Overall, a number of writers (Faltin 1999; Laukkanen 1997, for example) have lamented the absence of debates concerning culture within the academic entrepreneurship curriculum.

There are therefore several major components of culture that can be incorporated into an educational approach. The first involves recognition of the values of the entrepreneur as dictated by the 'way of life' (see also Gasse 1988). It has been argued that the key components of 'this way of life', as set out in Table 1, dictate the need for enterprising behaviour (Gibb 2000a). They also provide the key to the design of entrepreneurial organizations (see Appendix 2). The 'way of life' concept shapes the understanding of how knowledge is perceived and absorbed by entrepreneurs (see below) and, importantly for academics, the way that entrepreneurs respond to research approaches (Gibb 2000d). For example, the close association of the

Table 1. Key aspects of coping with and enjoying the entrepreneurial 'Way of Life'

1. Greater freedom
2. Greater control over what goes on
3. Greater responsibility – more of the 'buck' stops with you
4. More autonomy to make things happen
5. Doing everything – coping with wider range of management tasks
6. Rewards linked more directly/immediately to the customer
7. Personal assets and security more at risk
8. The ego more widely exposed
9. Living day to day with greater uncertainty
10. Greater vulnerability to the environment
11. Wider interdependence on a range of stakeholders
12. 'Know who' becomes more important – to build trust
13. Working longer and more variable hours
14. Social, family and business life more highly integrated
15. Social status tied more to business status
16. More learning by doing, under pressure (more tacit than explicit)
17. Loneliness

entrepreneurial ego with the business through financial and psychological ownership leads entrepreneurs to 'externalize' the causes of business problems (regulation, banks, etc.) when reporting to third parties rather than admit to any internal deficiency in the management of the business. High levels of autonomy, combined with vulnerability to the environment create an atmosphere for hostile responses relating to the government and external publicly supported agencies.

Concern for culture and awareness of the subjectivity of knowledge moves us therefore towards a 'social constructionist' approach to the understanding of meanings (see below and Crossley and Pittaway 2000; Chell and Pittaway 1998), which has major implications for entrepreneurship research and teaching. Researchers, for example, when seeking to compare owner-managers with corporate executives often fail to find differences in so-called entrepreneurial behaviours and attributes such as: commitment; responsibility for seeing things through; initiative taking; risk taking; holistic management; and attitudes to learning. Yet it is clear that meanings in response to questionnaires and interviews may be substantially different in different contexts. Risk taking, for example, in the owner-managed firm frequently involves the owner in putting on the line his/her home and family assets and wealth directly as well as the egotistical investment in the total business concept and the associated social status in society. Such risk is arguably very different from that experienced by professional managers. Commitment may similarly be driven and associated with very different factors in an owner-managed business than in corporate management. The words and concepts used therefore carry different weight and meaning in different contexts. The same things are not being compared in research responses, although the words used are the same. As noted above, recent doctoral work at Durham has, for example, shown that the word 'enterprise' in an educational context can have very different connotations for a primary school teacher compared with a university lecturer (Ma 2000). The above points have major implications for teaching. Teaching risk management in an entrepreneurial context will be radically different from a corporate approach.

A second key issue in the culture debate, arguably highly relevant to the business school approach to learning but also to the political rhetoric noted above, is the notion of a cultural divide (different ways of seeing things) between the corporate/bureaucratic organization and the small entrepreneurial business. In Table 2 (Gibb 2000c), a number of distinctions are deliberately polarized. This polarization can be useful as a basis for learning, for example, in exploring how bankers see small businesses and how entrepreneurs see bankers and how different perspectives flavour the discourse and nature of relationships. In the education institution context, it can be used to debate the degree to which the information-focused (Boyle 2000), analytical and rationale problem-solving models of business schools reflect a value system that perpetuates a certain kind of approach to business and organization development which is largely unsympathetic to the 'ways of doing things' of many owner-managers of small and medium businesses.

Table 2. Cultural divide? The Bureacratic–Corporate–Entrepreneurial Dilemma

Government/coporate (looking for)	Entrpreneurial small business (as being)
Order	Untidy
Formality	informal
Accountability	Trusting
Information	Personally observing
Clear demarcation	Overlapping
Planning	Intuitive
Corporate strategy	Tactically strategic
Control measures	Persolly led
Formal standards	Personally observed
Transparency	Ambiguous
Functional expertise	Holistic
Systems	Reliant on 'feel'
Positional authority	Owner managed
Formal performance appraisal	Customer/network exposed

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A central issue raised by the polarization is the role of trust in building relationships between different forms of organization and indeed in developing the enterprising society (Fukuyama 1995). It allows the exploration of some of the problems, noted above, encountered in attempts by public services to decentralize, liberalize and transfer assets into the private sector while retaining control by the setting of standards, targets and benchmarks and why this may lead to tensions and the inhibiting of enterprise in organizations such as schools, the health service and the police (Halliwell 1999). Such issues are important to explore in the enterprise curriculum. It can be argued that a business school's focus on the left-hand side of the table may undermine one of the essential prerequisites for the effective pursuit of entrepreneurial behaviour.

Finally, as noted earlier, there is a heroic ideology surrounding the entrepreneur underpinned by the Schumpeterian (1934) concepts of 'creative destruction', bold innovation and new combinations of products and processes (du Gay 2000; Ogbor 2000). It has been argued that it builds a value system that associates entrepreneurship with high growth and technology-based businesses. It facilitates a loose and somewhat misleading distinction made between 'lifestyle' family businesses and entrepreneurial businesses. Such an association creates a barrier to exploration of the wider contexts in which highly entrepreneurial behaviour might be explored and underpins the misleading (in the author's view) notion that innovation is the domain of growing business and of scale businesses. The looseness of the association of growth with uncertainty and complexity has already been noted above.

Overall, a review of the importance of culture raises the issue as to what degree, in developing students' understanding of entrepreneurship, there is a need to create empathy with entrepreneurial: ways of seeing; ways of feeling; ways of doing; ways of thinking; and ways of learning. These can be key targets for the learning process and used to develop an understanding of how tasks are undertaken and things understood in different organizational and management contexts.

Challenging the Market Liberalization Paradigm

Focusing upon wider contexts for the pursuit of personal and organizational enterprise and the influence of culture leads to a view that entrepreneurial behaviour should not be seen to be the preserve of market economies and market liberalization policies. Somewhat controversial models of 'enterprise' being associated with privatization, marketization of health, education, police and social services, the creation of internal markets in public service organizations, regulatory reform, and, in the developing economy context, Structural Adjustment Programmes can be reassessed. Most of the above notions are underpinned by a view that releasing market forces is the key to entrepreneurial behaviour and, in turn, better decision-making and organization in public and private services. Yet, as hinted in Table 2, the introduction of corporate business ways of doing things under a market-making paradigm may well dramatically constrain entrepreneurial behaviour.

The association of market liberalization with entrepreneurship may limit the contexts within which entrepreneurship is taught, for example, in transition or socialist countries. The confusion of market ideology with entrepreneurial behaviour can be seen in the attempts of Western governments to help former Soviet Union countries with their process of transition (often with less than impressive results). Releasing public assets into private hands has not ensured 'effective' entrepreneurial behaviour as defined above, rather the opposite. At the root of the problem is a failure to recognize sufficiently the cultural nature of markets and their dependence upon institutional and organizational structures (see North 1990). Without such

recognition, the transference from the West to transition and developing countries of institutional (in the Northian sense) and organizational ways of doing things can substantially inhibit entrepreneurship and development. In the developing world context, it can be argued that it has created a major problem for those wishing to develop entrepreneurial businesses out of the informal micro sector, thus contributing to what has become known as the 'missing middle' (Ferrand 1998).

Arguably therefore, there is a major need to take entrepreneurship out of the locker room of economics, remove it from the meta-theoretical models of Schumpeter *et al.* and place it in a wider inter-disciplinary context built upon a more pluralistic and diffused view of society and of the cultural nature of markets. Closer understanding of notions of trust, ethics, morality and values and the way they shape institutions and organizations and lead to informal 'ways of doing things' is the key to recognition that needs can be articulated, and supply response developed, without the notion of price being dominant. Moving enterprise and entrepreneurship away from their equivalence with market liberalization (du Gay 2000; Fournier and Grey 1999) allows the entrepreneurial concept to engage more effectively with wider issues of sustainable enterprise development within the context of cultures, social issues and environment. It is, for example, the experience of the author that entrepreneurial value chain development in an African context involves examination of cultural, social, health, environment, education as well as commercial transactional issues all the way up the chain (Foundation for Small and Medium Enterprise Development 2002). Such an approach moves the responsibilities of members of the chain away from simple dependence upon the price of the product as the arbiter of efficiency and effectiveness and profit as the motivator. Such notions lead us well beyond pure market liberalization thinking. Embracing concepts of ethics, morals and trust, leads to an understanding of why markets and market

operations can be amoral and at times immoral (Hodgson 1999; Soros 1998).

The Challenge of Governance

A review of the market liberalization notion and its association with entrepreneurship leads naturally into the consideration of a further potential dimension of the entrepreneurship curriculum, namely the changing role of governments in society (Kooiman 1993). The majority of Western Governments and indeed those in transition economies embracing the 'enterprise culture' associate it strongly with the 'marketization' concept of withdrawing the boundaries of the state and releasing assets into private hands (Chang 2002; Sen 1999). In developing countries, it is this belief that underpins the Structural Adjustment Programme approach. State assets such as power, water, communication services are opened up for privatization, yet with little or no indigenous resource available for them to pass into local hands and therefore potentially empower the local community. The impact of such transfers on local entrepreneurial potential can be quite the opposite. There would appear to be an underpinning ideology, influencing the governance debate, that public is bad and private is good with little broader conceptual consideration of the scope for design of entrepreneurial organizations, empowerment to self-help and the encouragement of entrepreneurial initiatives in the public sector (Metcalfe 1993).

At a more fundamental level, there is a need to explore the link between entrepreneurship and the changing nature of democracy (and ways of measuring it), the distribution of power in society and the empowerment of communities and individuals. A key aspect of this concerns the role of the owner-managed business community in creating economic and social stability and contributing to 'bottom up' concepts of development rather than rely upon 'trickle down' momentum (Diochon 1997). In this context, it is of interest to note how enterprise development policies can become a

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major political tool for shaping social change. In Germany, the emergence of the much lauded 'Mittelstand' (middle business community) is a reflection of the strategy pursued by Finance Minister Erhard in the German post-war recovery programme, who saw independent business as a key means of preventing the polarization of communism and fascism and unions and business which led to rise of Hitler (Sauer 1984). The creation of the powerful Small Business Administration in the USA in the 1950s has been claimed to be as much a response to the need to ensure pluralism and differentiation in US society as upon pure grounds of economic policy (Achs 2001). The creation of a black entrepreneurial and property-holding class in Africa is seen as a major means of creating future social and economic stability (see, for example, DTI 1995). Concern for the design of appropriate institutions and of modes of governance to encourage effective entrepreneurial behaviour and the release of entrepreneurial energies (Gibb 2000b) therefore brings issues of politics and governance into the entrepreneurship curriculum debate.

The Ontological Challenge

Several writers (for example, Chia 1996; Kyro 2000) have argued that the entrepreneurial paradigm is central to the postmodernist world. Kyro has posited in this context that entrepreneurial learning demands: a holistic attention to the world; an approach to a holistic human being (taking into account emotions, values and interests); and a move away from the human being viewed as an objective rational thinking decision-maker. She poses the question not of how well entrepreneurship can be taught but what it can bring to education as a whole. In an educationalist context, this challenges the notion (see below) that one can separate 'for' entrepreneurship from 'about' entrepreneurship in an academic sense. Chia approaching this more from a business school/management school angle is inde-

pendently supportive of this view, arguing for the importance of imagination and a shift from analytical problem-solving to 'intellectual entrepreneurship' and the 'crafting of relationships between sets of ideas'. These views challenge the 'positivist' scientific view of management which, they argue, remains the dominant paradigm influencing the tradition of business school academic rigour. Chia, for example, in his argument for a mind-shift in management education quotes Karl Popper:

> We are prisoners in the framework of our theories, our expectations, past experience and our language. (Popper 1970, 86)

These views, to a substantial degree, also confront those of Fiet (2000a, b) and his call for the infusion of greater theory into entrepreneurship teaching pedagogy. They, for example, would deny the role of theory in social science as a 'predictor of true outcomes'.

> Entrepreneurship theory as a set of empirical generalizations about the world economy and how entrepreneurs should behave that allows for prediction of true outcomes. (Fiet 2000, 404)

They would also lead one to oppose Fiet's condemnation of exploratory research and his pursuit of 'answers' as well as (to some degree) his attempt to call down 'relevant' theories from the prevailing business literature. In general, Fiet's views fail to build a comprehensive link between teaching, learning theory and pedagogy. Nor do they help to bridge the gap between 'about' and 'for'. Moreover, they bypass discussion of the importance of cognitive maps, concept frames and connative and affective aspects of learning to be discussed below. Fiet's view is somewhat narrowly based upon the business management context for entrepreneurship.

The Epistemological and Learning Challenge

The ontological debate leads us into an exploration of broader views of learning than

commonly found in business school contexts in a number of respects. First, it demands consideration of the social, contextual and cultural aspects of learning. Secondly, it asks questions about the organization of knowledge. Thirdly, it raises issues relating to the sources of learning and the creation of the capacity to learn how to learn in different ways and from different sources. Fourthly, it begs exploration of the relationship of pedagogy to behaviours and feelings linked with the 'way of life' described above. Fifthly, it broadens the knowledge base to be drawn upon but begs questions about its integration. And finally, it focuses attention upon the importance of connative, affective as well as cognitive influences on learning and the link with emotional intelligence

Learning as a social and developmental process. Given the perceived importance of the 'for' and 'about' approach to entrepreneurship and the academic views towards this and given the pragmatic recommendations of key reports that entrepreneurship teaching should involve working with and through entrepreneurs, the issue of learning as a social construct becomes of prime importance. A key text in this respect is the work of Love and Wenger (1998; see also Wenger 2000), whose views are drawn in part from the writings of Vygotsky (Van der Veer and Valsiner 1991). The case they make is for learning emerging as a result of participation in communities of practice and evolving over time as a set of relationships. Thus 'learning things' and 'knowing things' are embedded in relations between people and activity.

Their philosophy is in line with Bourdieu's theory of practice (Shusterman 1999). It denies the convention that knowledge gained in 'schooling' in any organization or at any level is de-contextualized (the school or the university is a context in itself). Most importantly, Love and Wenger's approach helps to dissolve the distinction between cerebral and 'practical' learning and bridges the gap between tacit and explicit approaches

to learning. It rejects the notion that learning needs to be 'decontextualized' from practice for it to become 'academic'. There is clear recognition that learning can take place outside intentional instruction. This view is important to all approaches to management development and is arguably central to the concept of a Learning Society (EC 1996). In the context of entrepreneurship, it underlines the importance of involving students in a 'community of practice' (Mullen 1997). It also demands of 'learning organizations' that they build a community of learning with relevant stakeholders leading to the formation of identity, access to wider knowledge, to social practice and familiarization with relevant values and feelings.

The organization of knowledge. It has been argued elsewhere by the author (Gibb 1997, 2002) and by several of the organizations undertaking reviews on entrepreneurship in Europe, noted above, that entrepreneurial learning involves emphasis upon 'how to' and 'who with' and that some knowledge should be offered on a 'need to know' basis. Such an approach demands the organization of knowledge around personal and organization developmental processes. It also requires the appropriate integration of knowledge and thus moves away from the functionalist paradigms of business schools. An example of the organization of knowledge in this way in the context of a business start up process is given in Appendix 3. The aim in such an approach is to enable the learner to 'bring forward the future' by becoming aware of future tasks and anticipating problems and opportunities. This approach has much in common with that used in some medical schools where the starting point for much learning is the diagnosis of a patient's problem leading to the exploration of all possible causes, of underpinning knowledge, concepts and theories but always returning ultimately to the diagnosis. A problem/opportunity-centred approach does not therefore deny the value of theory and concept but provides the bridge between

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theory, concept and practice, arguably the key task of business schools and universities (Gibb 1996).

If the above argument is accepted, a key role of the 'teacher' is to develop students' ability to give wider meaning to their experience and allow exploration of personal 'theories' that underpin their behaviour and understanding of certain situations. Such an approach to learning in an organizational context will also help to capture the accumulation of 'intangible' (knowledge) assets embodied in an organization over time. The growth of such assets from one year to the next represents the capacity of the organization to do new things or do old things better.

Capacity to learn from different sources. This epistemological view opens up the opportunity to facilitate learning from a variety of approaches matching the entrepreneurial capacity to learn from mistakes, by doing, by copying, by experiment, by problem-solving/opportunity grasping, by making things up as well as from more explicit formal sources (Gibb 1993). It has been argued elsewhere (Gibb 1997) that, for the independent entrepreneur, the capacity to learn from the stakeholder network and indeed to educate the stakeholder network with a view to lowering transaction costs by greater trust is the key to successful business development. Learning to learn from suppliers, customers, bankers, accountants, competitors, regulatory authorities, staff, family and being aware of the way that they need to learn from you is not conventionally taught in business schools. Yet learning to learn effectively and independently, and to conceptualize experience is at the heart of the philosophies of both effective management development and the learning society/ organization. It demands of the 'teaching' organization, however, that it places itself on the boundary of these relationships, and fully understands the way that relationship learning takes place before it seeks to add value.

Reinforcing enterprising behaviour through pedagogy. The encouragement and reinforcement of entrepreneurial behaviours was a declared major objective of many of the programmes reviewed earlier. Criticism was then made, however, that it was not clear how precisely such behaviours were to be developed. It seems to be assumed that taking project-based approaches in particular (McMullan and Boberg 1991; Preshing 1991), combined with other forms of action learning and presentations will systematically underpin enterprising behaviour. It was also noted that there is no absolute measure of agreement as to the list of behaviours to be developed or indication of how they were drawn from the literature. Such lists often combine *behaviours* which can be observed, *attributes* which are deemed to be part of the personality but arguably open to influence from the environment, and *skills* which can be developed.

Among those behaviours commonly cited are finding opportunities, grasping opportunities, fixing things and bringing networks together effectively; taking initiatives; being able to take risks under conditions of uncertainty and through judgement; persevering to achieve a goal and strategic thinking (thinking on one's feet, not just tactically). Related to these are a number of supporting attributes around which there is a considerable 'trait' literature. These include: motivation to achievement; self-confidence and self-belief; creativity; autonomy and high locus of control; hard work; commitment; and determination. In turn related to these are skills which include among others negotiation, persuasion, selling, proposing, project management, time management, strategizing and creative problem-solving. While there may be disputes about the above list, overlaps within it and absences from it (for example planning), what is most important is that their inclusion can be clearly defended from the literature (see for example, Caird 1988, 1990; Filion 1997; Shaver and Scott 1991).

In the Appendix an indicative template is shown of how a range of pedagogical

techniques might be used and linked to certain recognized entrepreneurial behaviours and attributes. In operationalizing this matrix, there will, however, be a need to give meaning to each component so that its pursuit or otherwise in the curriculum and pedagogy can be clearly traced. For example, opportunity-seeking behaviours may embrace: creative problem-solving; harvesting ideas from peers and competitors; undertaking detailed customer reviews; internal brainstorming; R&D; attendance at exhibitions and travel abroad. A detailed concept frame for pedagogical development is therefore necessary if the claims of programmes to be able to develop behaviours and attributes are to be defended adequately and they are ultimately to be measured. At present, the only means of measurement of results seems to be psychometric tests, although evidence from research at Durham (Ma 2000) suggests that teachers in the classroom may be able to monitor the development over time of such behaviours. In Finland, methods are being designed to benchmark progress in the development of entrepreneurial behaviours in response to education (Alasaarela *et al.* 2002).

Breadth of knowledge. It has been argued above that addressing the issue of personal enterprise and enterprising organizational development in the context of global, societal, governmental business and individual and familial change creates a broad agenda for curriculum development. Added to this are the learning needs of different stakeholder groups as listed earlier. Yet there is also a case for a wider intellectual approach (Chia 1996). The concept of culture, for example, cannot be fully embraced without an exploration of the arts and even literary theory (Eagleton 1996). Insights into the Russian views of entrepreneurship might be obtained via the reading of Gogol's 'Dead Souls', into UK small business by reading David Lodge or into Chinese Micro Enterprise by reading Hue's *A Small Town called Hibiscus*! Thornton Wilder's *Eighth Day* provides a thought-provoking metaphor for exploring the impact of major adversity upon family entrepreneurial endeavour.

Arguably, philosophy itself should be the basis of the programme, particularly that relating to the theory of practice (Bourdieu 1972; Shusterman 1999). Debates in science will have their place (Deutsch 1997; Penrose 1995). Theory relating to chaos and complexity within and without the scientific context is an obvious example (Fuller and Moran 2001).

Feelings and motivations in learning. A final and fundamental epistemological challenge is to recognize the importance of moving away from simple cognitive notions of learning towards recognition of the importance of emotions, feelings and motivation in the learning process. Ruohotie and Karanen (2000) have convincingly argued the importance of affective and connative aspects of the learning process in entrepreneurship. Cognitive development is concerned with reception, recognition, judgement and remembering. Affective development relates to the response to the subject, the likes and dislikes and the feelings, emotions and moods. Connative development embraces the active drive to make sense of something (notions of motivation, commitment, impulse and striving). Each of these is an important key to the learning process and somewhat neglected in the conventional business school approach. This view is supported by Kyro (2000) in her model and links in with the growing interest in the concept of emotional intelligence (Dulewicz 2000; George 2000; Goleman.1996). Emotional intelligence as it will impact on learning is ''the ability to perceive emotions, to access and generate emotion so as to assist thought to understand emotions and emotional actions and to reflectively regulate emotions so as to promote emotional and intellectual 'growth'' (George 2000). In this respect, empathy is a key skill. George argues that

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Feelings have been shown to influence judgment that people make, recall, attribution of success or failure, creation and inductive and deductive reasoning.

Such notions stand alongside a social constructionist view and against the stereotype of rational, decontextualized education and decision-making.

Empathy with these views can lead to major reconsideration of approaches to research as well as teaching. For example, students can be reminded of just how much their 'objective' interviews with individuals or groups as part of their research or project development represent a process of reductionism and not just in the data sense. In general, academics seek to 'make sense of things' as 'objectively' as possible, but usually without checking whether the sense that they make coincides with that of the 'actors' interviewed or observed. There is little encouragement in the conventional empirical research process to develop emotional empathy with the 'objects' of research and thus be in a position to judge the 'emotional context' within which the information is provided. Moreover, for the student, there is little pressure to 'project' the results of research imaginatively maximizing the use of insight and empathy or to see the interviewee through the eyes of other relevant stakeholders in the community. Yet, for example, in literature, understanding of the characters in a novel or play is built up via perspectives from, and discourse with, other characters in the plot. Acceptance of this point opens up considerable potential to use drama in the teaching of entrepreneurship.[5]

Introducing drama into research and teaching approaches means that interviewers must seek to understand more widely the strength, depth and nature of interviewee feelings about the issue involved, to note the environment and relevant individual body movements and mannerisms as well as physical attributes that can be built into the drama. This exercise is in recognition of Kyro's (2000) arguments as to the complexity

and diversity of the learning process and for 'teaching' to be as 'holistic' in its approaches as possible.

The Challenge to the University

There has, in the view of the author, been enough in this text to challenge the conventional business school as to whether it can adequately embrace a wider enterprise and entrepreneurship paradigm. There would need to be considerable organizational and cultural change and a substantial epistemological 'advance' for this to be possible. Yet in Europe, it is the universities, not directly the business schools, that are being challenged by governments. It is therefore of value to place the earlier arguments in the context of a university and its philosophical foundation. By this means, it might be demonstrated that there is a wider and sounder prospect for the acceptance of the entrepreneurial paradigm outside the business school context.

Critics of universities have long attacked the notion of there being vehicles for 'acquisition of sterile facts' (Newman 1852). Even today, in the UK, Cardinal Newman's mid-nineteenth-century views of the concept of a university are regarded as among the most definitive. His concerns at that time seem highly relevant to today's debate. The following statement might have been written yesterday:

> The practical error of the past twenty years is not to load the memory of the student with a massive and digested knowledge or to force upon him so much that he has repeated it all ... leading to 'enfeebling the mind by a profusion of subjects'. (Newman 1852, 431)

His argument is that 'the true and adequate end of intellectual training of the university is not learning or acquisition of knowledge but rather thought or reason exercised upon knowledge or what may be called 'philosophy'. Chia (1996) quotes another philosopher (Whitehead), to add a further dimension to Newman's view – 'that the proper function

of the university is the imaginative acquisition of knowledge'. He (Chia) argues that the business schools' rather narrow view of academic rigour has taken away imagination and creativity.

This argument has some bearing on the pragmatic discussion earlier relating to teaching 'for' or teaching 'about' entrepreneurship and the issue of whether the pursuit of 'experience' can or cannot lead to the development of the intellect. The argument reviewed above supports a view that this is a false dichotomy. If it is recognized as such, it also weakens the notion that there is a conflict in the university's role as both a provider of 'humanistic' and also 'professional' education and training. There may be little to fear from the 'new vocationalism'.

There is also early philosophical support for the view that imagination, insight and the power to move are important components of the university's role. De Quincy again in the mid-nineteenth century, argued that much knowledge passes away and is superseded by further 'findings' but that knowledge with the 'power to move' ensures a more durable presence (in Alden 1917). Even earlier, Macauley (1828) makes a plea for insight by comparing a geologist (an economist today?) to the gnat on the skin of an elephant seeking to theorize about the internal structure of the vast animal from the phenomenon of the hide (in Alden 1917). In responding to current political pressure, the universities in embracing 'enterprise' can therefore take courage both from nineteenth-century philosophers as well as the postmodernist school embracing the theory of practice referred to above (Shusterman 1999).

There is also wider and more pragmatic support. In an earlier paper (Gibb 1996), the author has pointed to US and Canadian reports which support a view that universities should not solely be concerned with the scholarship of research (discovery) and teaching but also intellectually with the scholarship of integration (of knowledge) and the scholarship of relevance (Carnegie Foundation 1990). It can be argued that embracing the latter two forms of scholarship will demand from the university a wider integration in the 'practice of the community' and an acknowledgement of its ability to learn from this practice and interaction. Thus the university moves away from being a 'learned' to a 'learning' organization, the latter being open to learning from all sources and in all ways.

A more fundamental challenge, however, is that of the nature of the 'contract' between the university and the student. At present, this appears to focus strongly upon knowledge and not personal development. It is the author's experience over 35 years that, in drawing up new degrees and programmes, the overwhelming weight of attention is given to the knowledge content and the structure of that knowledge. Much less consideration is given to the details of 'how' the course might be taught and even less, if any, to the 'how to' that might result and the related personal development of the student. It is scarcely surprising therefore that the primary teacher can accept the notion of enterprise in education much more easily than the university lecturer (Ma 2000).

There is no space in this paper to review in detail how universities are responding to this philosophical challenge across Europe, but a recent report from Germany provides a pragmatic flavour. The Berlin Institute of Entrepreneurship (1999) (as a result of bringing together groups of professoriate from the those universities engaged in entrepreneurship) has produced ten pragmatic propositions for the entrepreneurial university. These embrace in the suggested practice some of the above philosophies. The propositions include: strong orientation to career, reaching all faculties; the creation of specialist centres; the use of active learning pedagogy; entrepreneurship as a recognized core process of the university and reflected as a primary task of the university; the acceptance of the importance of role models; the development of flexible teachers and staff; a flexible administrative structure; and high student motivation.

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Summary and Conclusion

This paper began with a review of the political pressure on universities to respond to the concept of the enterprise culture in Europe and North America and, indeed, throughout the world. It pointed out that, while there was growing provision of entrepreneurship education, there were a number of confusions in concepts and practice that were constraining the response. Business schools have been the major progenitors of programmes by and large, but there are well-recognized problems in their responding adequately to the challenge. It has been argued that, even in North America, progress has been slow and that the responses, for example, to the entrepreneurial challenge of the Porter and McKibbin report of over a decade ago have been less than adequate.

To address these problems, it has been argued that there is a need to re-explore fundamentally the concept and practice of entrepreneurial teaching and research. It has been suggested that the starting point for this exploration might be the question as to 'why' entrepreneurship is seen to be of growing importance. It has been posited that the answer to this question lies in the dynamics of change related to globalization and the creation of higher degrees of uncertainty and complexity for governments, organizations, communities and individuals. Detailed exploration of these uncertainties/complexities and the way in which they impact on a wide range of stakeholders, from school children to pensioners, provides the context and the spur for a new entrepreneurship paradigm. Such a paradigm raises a number of major challenges to the academic world. Perhaps the foremost is to move the focus of entrepreneurship teaching and research away from the narrow business orientation towards the notion of the development of the enterprising person in a wide range of contexts and the design of organizations of all kinds to facilitate appropriate levels of 'effective' entrepreneurial behaviour. In this vision, the management of small owner-managed business and the pursuit of entrepreneurship and innovation in large companies can be seen as but two of many contexts for enterprising behaviour.

Such a shift in focus will place major demands upon teachers and their institutions. A central challenge is to understand and simulate the 'way of life' of those who live with high levels of uncertainty and complexity', provide a feel for the culture, values and beliefs that reinforce this way of life and provide the associated opportunity to engage in the 'community of practice' of enterprising behaviours in a number of different contexts. This in turn means: breaching the apparent barrier between learning 'about' and learning 'for'; being prepared to adopt a stronger agenda of personal development in the learning contract with students; being prepared to choose more carefully from a wide range of pedagogical approaches and being accountable for the impact that these might have on behaviours; organizing knowledge on a holistic, interdisciplinary, problem-solving basis analogous to the medical school; and maximizing the opportunity for learning to learn from a wide range of different stakeholders. It has been argued that the paradigmatic shift will also cause teachers to challenge certain implicit assumptions about the relationship of market liberalization to entrepreneurship and will draw attention to broader issues of governance and the shaping of the environment for the pursuit of enterprising behaviour. More fundamentally, there is a challenge to concepts of academic rigour, particularly through recognition of the impact of emotions upon processes of collection and interpretation of data and to accepted wisdom relating to how knowledge becomes embedded in learning via practice and how it can be put to imaginative use. This, in turn, offers opportunities to open up the enterprise curriculum to the arts and science.

Reflection on the more pluralistic concept of 'enterprise' (rather than entrepreneurship in the traditional sense) and on a number of the

associated ontological and epistemological challenges leads to a conclusion that the correct place for entrepreneurship and enterprise in the higher education sector may lie outside the business school. Business schools are, by definition, about business. It has been argued that they are essentially corporate in culture. The focus of much of their entrepreneurship teaching is upon new venture management, business planning, growth companies and innovation. Their traditional way of organizing knowledge is around functions. A relatively limited range of mainstream teaching approaches are used, with a strong emphasis upon the case. All of these factors stand in the way of entrepreneurship, in the wider sense in which it has been defined in this paper, being fully accepted.

Moving the teaching of entrepreneurship away from business schools does not mean, however, that it should not be organized by new and independent university centres engaging in integrating theory and practice and intellectually equipped to reach out and draw down from a wide range of university areas of learning. The challenge here is to distance the 'subject' from its heroic ideology and association with business and market liberalization philosophy. This paper has argued that there is a need for a radical Schumpeterian shift in entrepreneurship education involving 'creative destruction and new ways of organizing knowledge and pedagogy'. Such a move would be paradoxically the 'last fling' of Schumpeter as the centrepiece for the teaching of entrepreneurship. Arguably, without such a denouement, fundamental progress will not be made.

Notes

1 Bates at the London Business School, for example, identified skills such as: tolerating uncertainty and ambiguity; dealing with failure; seeking using feedback; persistently problem-solving; taking a longer-term view; not looking back; dealing with failure without indicating how such behaviours are pre- and post-tested, from where they are derived.

A similar list is provided by Hills and Morris.

2 The FIT study, for example, breaks needs into three groups: generic management, entrepreneurial skills (marketing, finance, etc.); scientific and technical skills; and interface management skills.

3 For example Levie found that in the UK only 27 out of 133 courses in the identified universities were for non-business students. In the US, Hills and Morris also pointed to little systematic market analysis other than for technology entrepreneurs. Laukkanen effects a breakdown but not of other areas of common and differentiated need and how these might be built into different types of programmes.

4 In the English language, a relatively clear distinction can be made between the 'enterprising person' and the 'entrepreneur'. This has been tested by the author in a number of workshops with school teachers as an introductory part of developing programmes of 'enterprise education' in schools. The enterprising person will be described as one who demonstrates behaviours such as creativity, initiative taking, energising events, leading others, thinking of new ways of doing things, for example. The entrepreneurial person will be described similarly, with the general exception that there are notions of making money and carrying out business activity. This distinction in English is not easily made in many other languages which makes for difficulty in discussion.

5 In the Durham University Masters in Entrepreneurship, to bring home these points, students are asked to interview a broad range of stakeholders in the context of global, societal, corporate, familial and social change, to identify sources of uncertainty and perplexity and to list the entrepreneurial or other (behaviours) that might result from this. Rather than report on this in the form of an essay (a reductionist exercise), they are asked to join with other interviewers of other stakeholders and combine the key 'findings'. This leads the students towards an understanding of how issues impact on different stakeholders. They are then asked to write a storyboard and produce, direct and act in a drama designed to bring out the key points imaginatively. They are assessed by other students as to their success in so doing (key points that need to be delivered must be set out previously). They are also assessed as to how creative and imaginative the delivery is.

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References

Achs, Z. (2001). Former chief economist of the SBA presentation to the First Conference of the European Entrepreneurship Forum 'Entrepreneurship and Learning', Naples, Italy, 20 June.

Alasaarela, E., Fallenius, M., Halkosaari, T., Huhta, T., Jansson, L., Lahtela, M., Nivala, K., Nokso-Koivisto, P. and Telkki, M. (2002). *Higher Education as a Partnership to Entrepreneurship.* Keski-Pohjanmaan Amma Hikorkeakoulu Hakapaino og, Helsinki, Finland.

Alden, R.M. (ed.) (1917). *Readings in English Prose of the 19th Century.* Boston: Houghton Mifflin/ Cambridge, MA: Tiverside Press.

Alfred Herrhausen Society (2000). *Generations in Conflict.* Zurich: Piper Munchen.

Ascari, A., Rock, M. and Dutta, S. (1995). Re-engineering and organisational change. Lessons from the comparative analysis of company experience. *European Management Journal*, **13**, 1–30.

Ashkenas, R.N. (1990). A new paradigm for customer and supplier relations. *Human Resource Management*, **29**, 385–396.

Association of Graduate Recruiters (1995). *Skills for Graduates in the 21st Century.* London.

Bates, J. (1998). The evaluation of entrepreneurial management. Paper presented at the ISBA Conference at Durham University, November.

Beranger, J., Chabbal, R. and Dabrine, F. (1998). *Report Concerning Entrepreneurial Training of Engineers.* Paris: Ministry of Economy, Finance and Industry.

Berggren, C. (1988). Lean production – the end of history? *Work Employment and Society*, **7**, 163–188.

Berlin Institute of Entrepreneurship (1999). *The Berlin Proposition. Ten Propositions to Foster the Culture of Entrepreneurship in German Universities.* Berlin, Germany.

Bhide, A.U. (2000). *The Organisation and Evaluation of New Business.* Oxford: Oxford University Press.

BizEd (2002). Entrepreneurial spirit association to advance collegiate schools of business. AACSB International, St. Louis, USA, May/June, 20–26.

Blair, A. (1998). The Third Way. Speech by the UK Prime Minister Tony Blair to the French National Assembly, Paris, 24 March.

Bourdieu, P. (1972). *Outline of a Theory of Practice.* Cambridge: Cambridge University Press.

Boyle, D. (2000). *The Tyranny of Numbers.* London: HarperCollins.

Brockhaus, R.H., Hills, G.E., Klandt, H. and Welsch, H.P. (eds) (2001). *Entrepreneurship Education. A Global View.* Aldershot: Ashgate.

Brooks, G. (1991). Enterprise in higher education. Short evaluation – paper. UK Department of Employment.

Brown, A., Moerkans, T. and Vonckemm, E. (1999). Facilitating progress to higher education from vocational paths. *European Journal of Education*, **34**(2), 2–19.

Brown, C. (1999). Teaching new dogs new tricks: the rise of entrepreneurship education in graduate schools of business. Kaufmann Center for Entrepreneurial Leadership. *Kansas Digest*, No. 99-2, December, 4.

Brown, P. (1994). Review article: education, training and economic change. *Work, Employment and Society*, **8**, 607–621.

Buck, B. (2000). Increasing employability by integrating entrepreneurship in education and training. Paper for the European Training Foundation Advisory Forum, June.

Caird, S. (1988). *A Review of Methods of Measuring Enterprise Attributes.* Durham University Business School Monograph, UK, August.

Caird, S. (1990). What does it mean to be enterprising? *British Journal of Management,* **1**, 137–145.

Carnegie Foundation for the Advancement of Teaching (1990). *Scholarship Reconsidered – Priorities of the Professoriate.* Washington.

CEDEFOP (1991). *Training for Small Businesses in the European Community. Guides to the Competency and Design of Effective Training Programmes*, 5 vols. Berlin: European Centre for the Development of Vocational Training.

Centre for Enterprise Education and Development. (1998). *Entrepreneurs by Design.* Mount Allison University and University of Moncton: ACOA.

Chandler, G.N. and Hanks, S.H. (1994). Founder competence, the environment and venture performance. *Entrepreneurship, Theory and Practice*, **18**(3).

Chang, Ha-Joon (2002). *Kicking Away the Ladder: Policies and Institutions for Economic Development in Historical Perspective.* USA: Anthon Press.

Chell, E. and Pittaway, L. (1998). The social construction of entrepreneurship. In *ISBA Conference, Celebrating the Small Business: 21 Years of Small Business Research, 18–20 November.* Durham: Durham University, pp. 647–664.

Chia, R. (1996). Teaching paradigm shifts in management education: university business schools and the entrepreneurial imagination. *Journal of Management Studies*, **33**, 409–428.

CIHE – Council for Industry and Higher Education (1997). *Small and Medium Enterprises and Higher Education: A Framework for Future Policy*. London: CIHE, pp. 1–30.

Crossley, B and Pittaway, L. (2000). The self perception of 'entrepreneurial competencies': are large organisations losing the battle of Corporate Enterprise? Working Paper submitted to British Academy of Management Conference, Glasgow, p. 29.

CVCP (1999). *Technology Transfer. The US Experience Report of a Mission of UK Vice Chancellors*. London: Gatsby Trust.

Department for Education and Employment (1996). *Managing Careers in the 21st Century. Skills and Enterprise Executive*. Sheffield: DfEE.

Department for Education and Employment (2000). *Moving On. Graduate Careers 3 Years after Graduation*. Sheffield: DfEE.

Department for International Development – UK (2000). *Enterprise and Development. Promoting Enterprise as a Means to Eliminate Poverty*. London: DfID.

Department of Trade and Industry – South Africa (1995). *White Paper: National Strategy for the Development and Promotion of Small Businesses in South Africa*. Pretoria, February.

Department of Trade and Industry (1998). *Our Competitive Future: Building the Knowledge Driven Economy*. Command Paper 4176. London: The Stationery Office.

Deutsch, D. (1997). *The Fabric of Reality*. Harmondsworth: Penguin.

Diochon, M. (1998). Entrepreneurship and Community economic development. Exploring the link. Doctoral dissertation, University of Durham, UK.

Du Gay, P. (2000). Enterprise and its future: a response to Fournier and Grey. *Organization*, **7**, 165–183.

Dulewicz, V. (2000). Emotional intelligence. The key to successful corporate leadership. *Journal of General Management*, **25**, 1–15.

Eagleton, T. (1996). *Literary Theory. An Introduction*. Oxford: Blackwell.

Enterprise Research and Development Centre (2000). *The International Entrepreneurship Forum (IEF)*. Birmingham: University of Central England, p. 28.

European Commission (1995). Labour market flexibility. Experiences from 12 Member States. Employment Observatory – Trends – 22. *Annual Report*, 4–7.

European Commission (1996). *Teaching and Learning Towards the Learning Society. White Paper*. Brussels: European Commission.

European Commission (1998a). Dossier of the month. Euro-Info. *The Bulletin of Enterprise Policy*, 111/EN, July, pp. 2–4.

European Commission (1998b). Promoting entrepreneurship and competitiveness, Brussels, September COM (1998), 550 final.

European Commission. (1998c). *The BEST Report. Working for a New Enterprise Culture in Europe*. Brussels: European Union.

European Commission. (1999). *Innovation in Europe – The Green Paper*. Luxemburg: Jean Monnet Building.

European Commission. Enterprise Directorate General. (2000). *FIT Project. The Development and Implementation of European Entrepreneurship Training Curricula*. Brussels: European Union.

European Training Foundation (1996). Training for Enterprise. Conference of Ministers from the Member States of the European Union and the countries of Central and Eastern Europe and Central Asia. Italian Presidency of the European Union Council of Ministers, 3–79.

Faltin, G. (1999). Competencies for innovative entrepreneurship. In Singh, M. (ed.), *Adult Learning and the Future of Work*. UNEXCO: Hamburg.

Ferrand, D.V. (1999). Discontinuity in development. Kenya's middle scale manufacturing industry. Ph.D. thesis, Durham University.

Fiet, J.O. (2000a). The theoretical side of teaching entrepreneurship. *Journal of Business Venturing*, **16**, 101–107.

Fiet, J.O. (2000b). The pedagogical side of entrepreneurship theory. *Journal of Business Venturing*, **16**, 101–117.

Foundation for Small and Medium Enterprise Development (2002). Maximising private sector involvement in poverty reduction strategies – a process/value chain approach. Unpublished paper, Durham.

Fournier, V. and Grey, C. (1999). Too much, too little and too often: a critique of du Gay's analysis of enterprise. *Organization*, **7**, 107–128.

Fukuyama, F. (1995). *Trust: the Social Virtues and the Creation of Prosperity*. London: Hamish Hamilton.

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Fuller, E. and Moran, P. (2001). Small enterprises as complex adaptive systems; a methodological question? *Entrepreneurship and Regional Development*, **13**, 47–63.

Garavan, T.N. and O'Cinneide, B. (1994a). Entrepreneurship, education and training programmes. A review and evaluation. Part I. *Journal of European Industrial Training*, **18**(8), 3–12.

Garavan, T.N. and O'Cinneide, B. (1994b). Entrepreneurship, education and training programmes. A review and evaluation. Part 2. *Journal of European Industrial Training*, **18**(1), 13–23.

Gartner, W.B. and Vesper, K.H. (1998). Experiments in entrepreneurship education: success and failures. *Journal of Business Venturing*, No. 9, 179–187.

Gartner, W. and Vesper, K.H. (1999). *Entrepreneurship Education 1998*. University of California, Los Angeles: Lloyd Grief Center for Entrepreneurial Studies, The Anderson School.

Gasse, Y. (1986). The development of new entrepreneurs. In Sexton, D.L. and Smilor, R.W. (eds), *The Art and Science of Entrepreneurship*. Cambridge, MA: Balliner, pp. 49–61.

Gasse, Y. (1993). *A Comparative Evaluation Study of Various Methods of Teaching Entrepreneurship*. Canada: Laval University.

George, J.N. (2000). Emotions and leadership: the role of emotional intelligence. *Human Relations*, **53**, 1027–1055.

German Social Market Foundation (1999). *Proceeding of a National Workshop on Creating a Self Employment Culture*, Berlin, 7–8 June.

Gibb, A.A. (1987). Enterprise culture and its meaning and implications for education and training. *Journal of European Industrial Training*, **11**(2), 1–36.

Gibb, A.A. (1990). Training the trainers of small business. *Journal of European Industrial Training*, **14**, 17–25.

Gibb, A.A. (1992). Can academe achieve quality in small firms policy research? *Entrepreneurship and Regional Development*, **4**, 127–144.

Gibb, A.A. (1993). The enterprise culture and education. Understanding enterprise education and its links with small business, entrepreneurship and wider educational goals. *International Small Business Journal*, **11**(3), 3–32.

Gibb A.A. (1994). The case method in entrepreneurship teaching – a background paper to an EFMD debate. Unpublished, Sheffield.

Gibb, A.A. (1996). Entrepreneurship and small business management: can we afford to neglect them in the twenty-first century business school? *British Journal of Management*, **7**, 309–321.

Gibb, A.A. (1997). Small firms training and competitiveness. Building upon the small business as a learning organisation. *International Small Business Journal*, **15**, 13–29.

Gibb, A.A. (1999). Can we build 'effective' entrepreneurship through management development? *Journal of General Management*, **24**(4), 1–21.

Gibb, A.A. (2000a). Corporate restructuring and entrepreneurship: what can large organisations learn from small? *Enterprise and Innovation Management Studies*, **1**, 19–35.

Gibb, A.A. (2000b). Small and medium enterprise development: borrowing from elsewhere? A research and development agenda. *Journal of Small Business and Enterprise Development*, **7**, 199–218.

Gibb, A.A. (2000c). Creating an entrepreneurial culture in support of SMEs. *Small Enterprise Development*, **10**(4), 27–38.

Gibb, A.A. (2000d). SME policies, academic research and the growth of ignorance. Mythical concepts, myths, assumptions, rituals and confusions. *International Small Business Journal*, **18**(3), 13–36.

Gibb, A.A. (2002). Creating conducive environments for learning and entrepreneurship. *Industry and Higher Education*, June, 135–148.

Gibb, A.A. and Cotton, J.C. (1998). Work futures and the role of entrepreneurship and enterprise in schools and further education. Background paper to national Conference on Enterprise Education, Department of Industry, London.

Gibb, A.A. and Scott, M. (1985). Strategic awareness, personal commitment and the process of planning in the small business. *Journal of Management Studies*, **22**, 597–631.

Giddens, A. (1998). *The Third Way*. Cambridge: Polity Press, Blackwell.

Global Entrepreneurship Monitor (2000). *Executive Report*. London Business School.

Goleman, D. (1996). *Emotional Intelligence*. London: Bloomsbury.

Grimshaw, D., Ward, K.G., Rubery, J. and Beynon, H. (2000). Organisations and the transformation of the internal labour market. *Work, Employment and Society*, **14**, 25–54.

Halliwell, K.B. (1999). An investigation of the resource implications of the introduction of 'new Taylorist' principles into the Cleveland Constabulary. Masters of Philosophy thesis, University of Durham.

Hamblin, A.C. (1976). *Evaluation and Control of Training*. UK: McGraw-Hill.

Harris, A. (1996). Teaching approaches in enterprise education: a classroom study. *British Journal of Education and Work*, **8**, 49–58.

Hay, M. (2000). The Global Entrepreneurship Monitor. Implications for education. Presentation to Berlin Institute of Entrepreneurship, Free University.

Hayward, G. (2000). *Evaluating Entrepreneurship in Scottish Universities*. Oxford: University of Oxford Education Department.

Hertz, N. (2001). *The Silent Takeover*. London: Heinemann.

Hills, G.E. (1998). Variations in university entrepreneurial education. An empirical study in an evolving field. *Journal of Business Venturing*, No. 3, 109–122.

Hills, G.E. and Morris, M.H. (1998). Entrepreneurship education: a conceptual model and review. In Scott, M.G., Rosa, P. and Klandt, H. (eds), *Educating Entrepreneurs in Wealth Creation*. Aldershot: Ashgate, 38–58.

Hodgson, G.M. (1999). *Economics and Utopia*. London and New York: Routledge.

Horn, E.M. (2000). *Enterprise Learning*. London: DEMOS, p. 48.

International Affairs (1999). Special Anniversity Issue, **7**(3), July.

Johannisson, B. (1991). University training for entrepreneurs: Swedish approaches. *Entrepreneurship and Regional Development*, **3**, 67–82.

Jones-Evans, D. (1996). Experience and entrepreneurship: technology based owner managers in the UK. *Industrial Relations Journal*, **27**, 39.

Jones-Evans, D. and Klofsten, M. (1998). Academic entrepreneurship in Europe – a view from the periphery. Paper to RENT Conference on Research in Entrepreneurship and Small Business, Lyon, France, November, p. 29.

Kanter, R.M. (1983). *The Change Masters; Innovation for Productivity in American Corporations*. New York: Simon & Schuster.

Klandt, H. (1994). Methods of teaching: what is useful for entrepreneurship education. In Klandt, H., Mugler, J. and Muller-Bolling, D. (eds), *International as in Entrepreneurship Education and Training. Proceedings of the INTENT 1993 Conference, Vienna*. Koln–Dortmund: Entrepreneurship Research Monographies.

Klandt, H. (1998). Entrepreneurship education in German universities. In Klandt, H. (ed.), *Internationalizing Entrepreneurship Education and Training*. Koln: Josef Eul, pp. 99–126.

Klein, N. (2000). *No Logo*. London: Flamingo HarperCollins.

Klofsten, M. (2000). Training for entrepreneuship in universities: a Swedish case. *Journal of European Industrial Training*, **6**, 337–344.

Klofsten, M. and Jones-Evans, D. (2000). Comparing academic entrepreneurship in Europe the case of Sweden and Ireland. *Small Business Economics*, **14**, 299–309.

Kooiman, J. (ed.) (1993). *Modern Governance*. London: Sage.

Kyro, P. (2000). Is there a pedagogical basis for entrepreneurship education? Department of Economics, Jyväskylä University, Finland, pp. 1–18.

Laukkanen, M. (1997a). Review of entrepreneurship education. Mimeograph, 19. University of Kuopio, Finland.

Laukkanen, M. (1997b). Regional SME development and youth education. Notes on an emerging Finnish approach. Paper presented at the International Scientific Conference on Business Development in Theory and Practice, University of West Bohemia, Cheb, Czech Republic, May, p. 11.

Levie, J. (1999). *Enterprising Education in Higher Education in England*. London: Department for Education and Employment, p. 40.

Louckes, E.K., Menziers, T. and Gasse. Y. (2000). The evolution of Canadian university Entrepreneurship Education curriculum over two decades. In Miettinen, A. and Klandt, H. (eds), *Internationalising Entrepreneurship Education and Training*. Koln: Josef Eul, pp. 19–44.

Love, J. and Wenger, E. (1998). *Situated Learning – Legitimate Peripheral Participation*. Cambridge: Cambridge University Press.

Ma, R. (2000). Enterprise education and its relationship to enterprising behaviours. A methodological and conceptual investigation. Ph.D. thesis, Durham University.

Macauley, T.R. (1828). History. In Alden, R.M. (1917). *Readings in English Prose of the 19th Century*. Cambridge, MA: The Riverside Press, pp. 268–275.

MacGregor, D. and Daves, F. (1999). Postgraduate entrepreneur: framework for conceptualising strategic management development for small firm owner managers. Paper presented at the Small Business Entrepreneurial Conference, Ohio.

Mason, C. (2000). *Teaching Entrepreneurship to Undergraduates: Lessons from Leading Centres*

In pursuit of a new 'enterprise' and 'entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge

of Entrepreneurship Education. Southampton: University of Southampton, UK.

McMullan, C.A. and Boberg, A.L. (1991). The relevant effectiveness of projects in teaching entrepreneurship. *Journal of Small Business and Entrepreneurship*, **9**, 14–25.

McMullan, W.E. and Gillen, L.M. (2001). Entrepreneurship education in the nineties revisited. In Brockhaus, R.H., Hills, G.E., Klandt, H. and Welsch, H.P. (eds), *Entrepreneurship Education. A Global View*. Aldershot: Ashgate.

McVie, G. (1998). *The Business Birth Rate Strategy. Five Years on The Enterprise Edge*, Briefing Paper 2730 May. Scottish Enterprise, pp. 1–4.

Menzies, T.V. (1998). *Entrepreneurship in Canadian Universities. Report of a National Study*. Canada: Brock University, p. 111.

Menzies, T.V. and Gasse, Y. (1999). *Entrepreneurship and Canadian Universities. Report of a National Study of Entrepreneurship Education*. Canada: Brock University and Université Laval.

Metcalfe, L. (1993). Public management: from imitation to innovation. In Kooiman, J. (ed.), *Modern Governance*. London: Sage, pp. 173–191.

Minkes, A.L. and Foxall, G.R. (2000). Entrepreneurship and organisation. Thoughts on an old theme. *Enterprise and Innovation*, June, 85–89.

Monbiot, G. (2000). *The Captive State*. London: Macmillan.

Mullen, D. (1997). *Socio-anthropological Explanations of Entrepreneurial Learning – The Case of Young Graduates in the UK*. Durham: Durham University Business School.

Naman, J.L. and Slevin, D.P. (1993). Entrepreneurship and the concept of fit: a model and empirical tests. *Strategic Management Journal*, **14**, 137–153.

National Commission for Entrepreneurship (2000a). *Building Companies, Building Communities: Entrepreneurs in the New Economy*. Washington, DC, p. 26.

National Commission on Entrepreneurship (2000b). *Embracing Innovation: Entrepreneurship and American Economic Growth*. Washington, DC: NCOE.

National Commission on Entrepreneurship (2001). Report on NCOE – Kennedy School Conference on Entrepreneurship and Public Policy: new growth strategies for the 21st Century. *NCOE Update*, No. 28, April, pp. 1–4.

NCIHE (1997). *Report on Higher Education*. Chaired by Ron Dearing. London: Department for Education and Employment.

Newman, J.H. (1852). Knowledge, learning and professional skill. In Alden, R.M. (ed.) (1917). *Readings in English Prose of the 19th Century*. Cambridge, MA: Cambridge Press, pp. 418–439.

North, D.C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

Obrecht, J.J. (1998). *Enterprising Education and Training in France: A New Challenge to Universities*. Strasbourg: University of Robert Schuman, p. 11.

OECD (1998). *Fostering Entrepreneurship*. Paris: OECD.

OECD/CERI (1989). Towards and enterprise culture. a chance for education and training. *Educational Monograph*, No. 4. Paris: OECD.

Ogbor, J.O. (2000). Mythicising and reification in entrepreneurial discourse. Ideology – critique or entrepreneurial studies. *Journal of Management Studies*, **37**, 605–637.

Penrose, R. (1995). *Shadows of the Mind*. Oxford: Oxford University Press.

Polanyi, M. (1996). *The Tacit Dimension*. London: Routledge.

Popper, K.R. (1970). Normal science and its dangers. In Laskatos and Musgrave (eds), *Criticism and the Growth of Knowledge*. Cambridge: Cambridge University Press.

Porter, L.W. and McKibben, L.E. (1988). *Management Education and Development: Drift or Thrust in the 21st Century*. New York: McGraw-Hill.

Prats, J. and Suen, W. (2000). *Entrepreneurship Education and its Funding: A Comparison between Europe and the US. European Forum for Management Development*. Brussels.

Preshing, W.A. (1991). Education by projects. *Journal of Small Business and Entrepreneurship*, **9**, 55–60.

Quinn, J.B. (1985). Managing innovation: controlled chaos. *Harvard Business Review*, **63**, 73–84.

Rajan, A., van Eupen, P. and Jaspers, A. (1997). *Britain's Flexible Labour Market. What Next?* UK: CREATE, pp. 1–101.

Rifkin, J. (2000). *The Age of Access*. London: Penguin.

Ronstadt, T.R. (1985). The educated entrepreneur: a new era of entrepreneurship education is beginning. *American Journal of Small Business*, Summer, 7–23.

Ruohotie, P. and Karanen, N. (2000). *Building Connative Constructs into Entrepreneurship Education*. Tampere, Finland: University of Tampere.

Sahdev, K. and Vinnicombe, S. (1997). *Downsizing and Survivor Syndrome. A Study of HR's Perceptions of Survivors' Responses.* Cranfield: Cranfield School of Management, pp. 21.

Salleh, Hj. Din (1992). Entrepreneurship and enterprise: The influence of work experience on enterprising teaching – an empirical review. *Malaysian Management Journal*, No. 1, pp. 1–7.

Sauer, W. (1984). Small firms and the German economic miracle. In Levicki, C. (ed.), *Small Business Theory and Policy*, Ch. 5. London and Sydney: Croom Helm.

Schuetze, H.G. (1996). Innovations systems, regional development and the role of universities in industrial innovation. *Industry and Higher Education*, **10**(2), 71–79.

Schumpeter, J. (1934). *Theory of Economic Development*. Cambridge, MA: Harvard University Press.

Scottish Enterprise (1993). *Improving the Business Birth Rate: a Strategy for Scotland.* Glasgow: Scottish Enterprise.

Seltzer, K. and Bevitly, T. (1999). *The Creative Age. Knowledge and Skills for the New Economy*. London: DEMOSS, pp. 1–88.

Sen, A. (1999). We have the freedom of the markets – what about equality and fraternity. In Alfred Herrhausen Society, *Capitalism in the 21st Century*. Zurich: Piper Munchen, pp. 17–51.

Shaver, K.G. and Scott, L.R. (1991). Person, process, choice: the psychology of new venture creation. *Entrepreneurship Theory and Practice*, Winter, 23–45.

Shusterman, R. (ed.) (1999). *Bourdieu. A Critical Reader*. Oxford: Blackwell.

Sommerlad, E. (1991). The challenge of EHE: enterprising students or enterprising institutions? Paper presented at the Forum for Developments in Enterprise Education. Cambridge, UK, 20 September.

Soros, G. (1998). *The Crisis of Global Capitalism, Open Society Endangered*. London: Little, Brown.

Stevenson, H. and Jarillo, J.C. (1990). A paradigm of entrepreneurship: entreprenreurial management. In Kao, J. and Stevenson, H. (eds), *Entrepreneurship: What It Is and How to Teach It*. Cambridge, MA: Harvard Business School.

Stronach, I. (1990). Rituals of recovery. UK Education and economic revival in the 1970s and 1980s. *Anthropology Today*, **6**(7), 4–8.

Université-Enterprise Europe EEIG (1998). *SMEs and Higher Education: their Role in European Union Wealth and Job Creation*. London: Council for Industry and Higher Education, 35.

Van der Kulip, I. and Verheul, I. (2002). Early development of entrepreneurial qualities; the role of initial education. Unpublished paper, Faculty of Economics, Erasmus University and EIM, Zootermeyer, Netherlands.

Van der Veer, R. and Valsiner, J. (1991). *Understanding Vygotvsky: A Quest for Synthesis.* Oxford: Blackwell.

Welsch, H. (1989). Implications of Porter and McKibbin on Entrepreneurship Education. Paper presented at the Symposium: The Past, Present and Future for Entrepreneurship Education, sponsored by the US Association of Small Business and Entrepreneurship, Cleveland, OH.

Wenger, E. (2000). Communities of practice and social learning organisations. *Organization*, **7**, 225–246.

Westwood, A. (2000). *Winners and Losers in the World of Work. Employment Policy.* London: Institute and Academy of Enterprise, p. 64.

Worrell, L., Kempbell, F.K. and Cooper, G.C. (2000). The new reality for UK managers. Perpetual change and employment instability. *Work, Employment and Society*. **14**, 647–669.

Young, J.E. and Sexton, D.L. (1997). Entrepreneurial learning: a conceptual framework. *Journal of Enterprising Culture*, **5**, 223–249.

Appendix 1. Sources of Uncertainty and Complexity

Headteacher?

Source global

- Benchmarking internationally of education performance
- Demands for language
- Parental demands for student travel
- Information Technology
- Cultural diversity

Source state

- Local management of schools wider responsibilities
- Business involvement
- Curriculum change imposed

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- Wider curriculum
- Vocational pressure

Source organization

- Competition of schools
- Wide planning and budget responsibility
- Greater parental and governor influence on management
- Performance pay and Review systems

Source individual

- Changing personal morals
- More single-parent families
- Youth drug cultures
- More working parents

Doctor

Source global

- Technology in medicine
- Wider sources of information
- Global benchmarking of the service
- International standards
- More diversity of patients – ethnic
- Wider diversity of drugs available

Source state/society

- More stressed individuals
- Market paradigms in the Health Service
- Changing funding systems
- Privatization
- Private/public partnerships
- Care in the community – self-help programmes

Source organization

- Supplier/buyer systems
- Fundholder systems

- Partnership management
- Competition between practices
- More private practice

Source individual

- Greater customer demands for service
- Changing role of doctor ins society
- More stress
- Greater management demands

Appendix 2. Designing the Entrepreneurial Organization

- Creating and reinforcing a strong sense of ownership
- Reinforcing feelings of freedom and autonomy
- Maximizing opportunities for holistic management
- Tolerating ambiguity
- Developing responsibility to see things through
- Seeking to build commitment over time
- Encouraging building of relevant personal stakeholder networks
- Tying rewards to customer and stakeholder credibility
- Allowing mistakes with support for learning
- Supporting learning from stakeholders
- Facilitating enterprising learning methods
- Avoiding strict demarcation and hierarchical control systems
- Allowing management overlap as a basis for learning and trust
- Encouraging strategic thinking
- Encouraging personal contact as basis for building trust

Appendix 3. Linking Personal Learning to New Business Process Development

Personal development: stage, tasks and learning needs Stage	Key tasks	Key learning and development needs
1. From idea and motivation acquisition to raw idea	• To find an idea • To generate an idea • To explore personal capability and motivation for self-employment	• The process of idea generation and evaluation • Knowledge of sources of ideas • Understanding of the ways in which existing personal skills/knowledge might be used in self-employment • Understanding of what self-employment means • Personal insight into self-employment • Positive role image/exploration/feedback • Self-evaluation
2. From raw idea to valid idea	• Clarify idea • Clarify what needs it meets • Make it • See it works • See it works in operating conditions • Ensure can do it or make it to satisfactory quality • Explore customer acceptability – enough customers at the price? • Explore legality • Ensure can get into business (no insurmountable barriers) • Identify and learn from competition	• What constitutes valid idea • Understanding the process of making/doing it • Technical skill to make/do it • Customer needs analysis • Customer identification • Who else does it/makes it • Idea protection • Pricing and rough costing • Ways of getting into a market • Quality standards • Competition analysis
3. From valid idea to scale of operation and resource identification	• Identify market as number, location, type of customers • Clarify how will reach the market (promotional) • Identify minimum desirable scale to 'make a living' • Identify physical resource requirements at that scale • Estimate additional physical resource requirements • Estimate financial requirements • Identify any additional financial requirements needed	• Market research • Marketing mix (promotion etc.) (ways of reaching the customer) • Pricing • Production forecasting and process planning to set standards for utilization, efficiency etc. • Distribution systems • Materials estimating and wastage • Estimating labour, material, capital requirements • Profit/loss and cash flow forecasting
4. From 'scale' to business plan and negotiation	• Develop business plan and proposal • Negotiate with customers, labour, suppliers of materials, premises, capital suppliers, land etc. to ensure orders and physical supply capability • Negotiate with banks, financiers for resources	• Business plan development • Negotiation and presentation skills • Knowledge of suppliers of land, etc. • Contracts and forms of agreement • Knowledge of different ways of paying • Understanding of bankers and other sources of finance • Understand forms of assistance available
5. From negotiation to birth	• Complete all legal requirements for business incorporation • Meet all statutory requirements • Set up basic business systems	• Business incorporation • Statutory obligations (tax, legal) • Business production, marketing, financial systems and control • What advisers can do • Understand how to manage people (if have labour force)

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Appendix 3. Continued

Personal development: stage, tasks and learning needs Stage	Key tasks	Key learning and development needs
6. From birth to survival	• Consolidate business systems for processing • Ensure adequate financial control (debtors, creditors, bank, etc.) • Develop market, attract and retain customers • Meet all legal obligations • Monitor and anticipate change • Maintain good relations with banks, customers, suppliers and all environment contacts • Provide effective leadership development for staff	• Management control systems • Cash planning • Debtor/creditor control • Marketing • Selling skills • Environmental scanning and market research • Leadership skills • Delegation, time planning

Appendix 4. Linking Entrepreneurial Behaviours and Skills to 'Teaching' Methods

	Seeking opportunities	Taking initiatives acting independently	Solving problems creatively	Persuading /influencing others	Making things happen	Dealing with uncertainty	Flexibly responding successfully	Negotiating a deal	Taking decisions	Presenting confidently	Managing interdependence successfully
Lectures											
Seminars			*					*		*	*
Workshops on problems/ opportunities	**		***	*				*	**		
Critiques			*	*			*				
Cases									*	*	
Searches	*	*			*	*					*
Critical incidents			*			*	*		*		
Discussion groups			*	*				*			*
Projects	*	*	*		*	*		*	*	*	*
Presentations				**						**	
Debates				**						**	
Interviews			*	*		*	*	*			
Goldfish bowl			*				*	*			*
Simulations			*	*			*	*	*	*	*
Evaluations	**										
Mentoring each other			*	*		*	*	*			*
Interactive video							*		*		
Internet											
Games	*	*	*	*	*	*	*	*	*	*	*
Organizing events		**		**	**	**		**	**		*
Competitions											
Audit (self) instruments											
Audit (Business) instruments											
Drawings			*	*							
Drama			*		*					*	
Investigations			*		*				*		
Role models											*
Panel observation				*				*	*		*
Topic Discussion		*		*			*			*	*
Debate					*			*			
Adventure training	*		*	*		*	*		*		*
Teaching others			*	*		*	*	*		*	*
Counselling			*	*			*	*			