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Guest Editorial:

Entrepreneurship Education at University: the Plus-Zone Challenge

Kevin Hindle
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Editors note:

The following paper is presented as editorial comment because it raises a number of important questions that need to be discussed within the research and practitioner community this journal serves. That is not to say the paper represents the views of this journal, its publisher or the organisation they represent (SEAANZ). What the paper does do is to raise the level of debate and it is to be hoped it prompts serious consideration of the issues it highlights.

Brian Gibson, Joint Editor

Abstract

The paper discusses the contrast between what is being done and what ought to be done about entrepreneurship education at university level. Research from the Global Entrepreneurship Monitor program demonstrates that entrepreneurship education is an issue of worldwide economic and social significance. It has major policy implications for every nation. The paper briefly discusses the network of entrepreneurship education and experiential learning of which the university is only one component – and not necessarily the most important. The strategic and organizational context of the movement towards more entrepreneurial universities is distinguished from the purely content issue of curriculum designed for aspiring entrepreneurial practitioners. An overview of actual curricula, worldwide, is contrasted with the normative entrepreneurship education framework posited by McMullan and Long (1987). Following consideration of the problems involved in measuring the success of entrepreneurship education programs, a broad, generic template for integrated program development is presented and compared with the approach usually employed in most MBA programs at university business schools. The hierarchical, functionalist approach, symbolized by a pyramid, is contrasted with

a more fluid, organic and boundary-crossing approach, symbolized by a wheel. Its central hub is a ‘plus zone’ where lies the deepest challenge for development of entrepreneurship education in a university context.

Objectives

This paper discusses the contrast between what is being done and what ought to be done about entrepreneurship education at university level. Discussion embraces five aspects of the topic:

- Establishment of the global relevance of all aspects of entrepreneurship education;
- Recognition that the university is only one of a network of important providers;
- Brief examination and critique of the available inventory of university courses and programs in entrepreneurship;
- Presentation of a broad template for designing university entrepreneurship curricula;
- Argument that the core of any such university curriculum design model, its ‘plus zone’, should consist of courses, challenges and experiences that transcend immediate vocational objectives.

The Importance of Entrepreneurship Education in a Global Policy Perspective

Perhaps the best indication of the global importance of entrepreneurship education is

given by the results emerging from the *Global Entrepreneurship Monitor*.

The *Global Entrepreneurship Monitor* (or GEM) refers to both a set of linked, international research projects and a set of documents that report project results. GEM's central aim is, to bring together some of the world's best scholars in entrepreneurship to study the complex relationship between entrepreneurship and economic growth. From the outset, the project was designed to be a long-term multinational enterprise. Each year, a number of countries (10 in 1999, 21 in 2000, 29 in 2001 and growing) perform related entrepreneurship research using identical methods. They each produce an independent report (*GEM Australia*, *GEM USA*, *GEM Japan* et cetera) that explores in considerable detail the nature, extent and effects of entrepreneurship within their individual country and includes selected comparisons with other nations. Additionally, one international, coordinating document (the *GEM Executive Report*) is produced. It summarizes each nation's findings and discusses them at the level of international generality.

GEM explores three fundamental questions:

- Does the level of entrepreneurial activity vary between countries, and, if so, to what extent?
- Does the level of entrepreneurial activity affect a country's rate of economic growth and prosperity?

- What makes a country entrepreneurial?

The GEM research model emphasizes a set of nine factors that specifically influence the entrepreneurial sector. Termed the 'Entrepreneurial Framework Conditions', they are: financial support, government policy, government programs, education and training, research and development transfer, commercial and professional infrastructure, market openness, access to physical infrastructure, and cultural and social norms. Exploration of these factors is at the heart of a set of extensive depth interviews conducted with national experts. The 788 key informant interviews conducted for GEM 2000 provide a rich portrayal of the major entrepreneurial issues in each country and a unique basis for making inter-country comparisons. In the *GEM Global Executive Report* (Reynolds et al 2000: 31-32), summaries of all these interviews were assembled around two important indicators: 'incidence of issues' and 'most critical issues'. The following two tables and commentary upon them are taken directly from the *GEM Global Executive Report* (Reynolds et al: 31-32).

All the issues raised during interviews were classified and a count made of how often they were mentioned. The results are presented in Table 1.

Table 1: Emphasis on Entrepreneurial Framework Conditions

Country	Government Policy	Education & Training	Financial Support	Cultural & Social Norms	R&D Transfer	Government Programs	Commercial & Professional Infrastructure	Access to Physical Infrastructure	Internal Market Openness
Brazil	17	12	14	13	12	11	7	7	7
Korea	7	18	22	11	8	11	8	4	12
U.S	16	15	19	15	9	7	8	5	5
Australia	22	23	15	23	7	5	1	2	3
Canada	28	13	31	22	2	2	2	3	3
Argentina	23	11	19	27	9	4	2	1	4
Norway	21	16	24	11	12	6	8	1	2
India	17	16	12	11	11	8	9	10	6
Italy	13	12	16	13	13	11	7	8	8
UK	8	36	10	30	6	4	1	6	6
Germany	17	16	17	13	10	10	10	5	3
Spain	18	16	16	14	10	8	6	8	3
Denmark	6	29	19	14	4	27	1		
Israel	42	31	11	6	11				
Sweden	20	18	14	19	7	5	6	6	6
Belgium	24	13	16	14	13	6	6	5	3
France	13	13	23	16	7	15	6	4	3
Singapore	21	18	14	24	3	0	7	12	1
Japan	8	16	17	16	9	12	10	6	7
Ireland	13	14	14	13	10	11	4	12	6
Average of All	18	18	17	16	9	8	5	5	4

Source: Reynolds et al 2000: page 31, Table 5.

Here the countries are listed in rank order by the measured level of total entrepreneurial activity. The nine entrepreneurial framework conditions are ranked, from left to right, on the basis of the frequency with which an issue was raised. For each country the percentage of all comments in each issue category was calculated and the average percentage across all 21 countries provided for each of the entrepreneurial framework conditions. It is therefore easy to see at a glance (a) the incidence that an issue was raised by country and (b) how this compares with other countries and the overall average.

At the end of each interview experts were asked a simple question: "What are the three most critical issues for entrepreneurship in your country?" The number of times each of the nine topics was mentioned was used to determine the emphasis among experts within each country. The results are presented in Table 2, is a reproduction of Reynolds et al Table 6. It shows the rank order of the top four topics for each country.

GEM's nine entrepreneurial framework conditions appear to capture almost all of the

issues raised by expert informants, with only 10 percent of the comments categorized as "other." Across all 21 countries four topics account for two-thirds of the total mentions: education and training, cultural and social values, finance, and government policies (as distinct from government programs geared to entrepreneurship). There is no clear pattern related to the level of entrepreneurial activity among the other eight topics. One can see immediately how the major issues vary by country.

The GEM research evidence permits unequivocal statement that entrepreneurship education is an issue of global importance. It had (with government policies) the highest average incidence of mention by GEM expert respondents. It was rated as the most important issue by 5 countries; second most important by 4 and third most important by 5. Accordingly, entrepreneurship curriculum development and provision is not a peripheral issue for major institutions of learning. At a macro level, entrepreneurship curriculum development must be regarded as a core element not an optional extra.

Table 2: Most Important National Entrepreneurship Issues Derived from Expert Informants

Country	Most Often Mentioned	Second Most Often	Third Most Often
Brazil	Government Policy	Education and Training	Finance
Korea	Government Policy	Finance	Education and Training
United States	Cultural, Social Norms	Finance	Education and Training
Australia	Education and Training	Cultural, Social Norms	Government Policy
Norway	Education and Training	Cultural, Social Norms	Government Policy
Canada	Government Policy	Finance	Cultural, Social Norms
Argentina	Cultural, Social Norms	Finance	Government Policy
India	Government Policy	Education and Training	Cultural, Social Norms
Italy	Education and Training	Government Policy	Cultural, Social Norms
United Kingdom	Education and Training	Cultural, Social Norms	Government Policy
Germany	Government Policy	Finance	Cultural, Social Norms
Denmark	Education and Training	Government Programs	Finance
Spain	Cultural, Social Norms	Finance	Government Policy
Israel	Government Policy	Education and Training	Finance
Finland	Cultural, Social Norms	Government Policy	Education and Training
Sweden	Government Policy	Cultural, Social Norms	Education and Training
Belgium	Cultural, Social Norms	Government Policy	Finance
France	Cultural, Social Norms	Finance	Education and Training
Singapore	Cultural, Social Norms	Education and Training	Government Policy
Japan	Cultural, Social Norms	Finance	Government Policy
Ireland	Government Policy	Finance	Cultural, Social Norms

Source: Reynolds et al 2000: page 32, Table 6

How Soon Should Entrepreneurship Education Start: Is University Too Late? *General Issues in a Global Context*

In the Global Entrepreneurship Monitor research model (Reynolds et al 2000), the 'Education and Training' framework deals with the extent to which training in creating or managing small, new or growing business is incorporated within the national educational and training systems at all levels.

In the *GEM Australia* report (Hindle and Rushworth 2000: 27-28) the authors summarized key informants responses to the education issue in an international context. The immediately noticeable message was that all GEM countries were less than satisfied with the quality of both general and entrepreneurship education in their respective nations. Only in standard of business and management education did any country rate education standards as satisfactory. This category, however, got a low score in Australia, indicating that Australian business and management education is perceived as lagging well behind world best practice.

In terms of both frequency of mention and urgency attached to it, education was the single most important issue for the Australian key informants as a whole. Their dominant concerns related to education in schools. Twelve of the 44 Australian respondents included issues related to primary and secondary education in their top three issues and six of these rated it their number one issue - twice as many as for any other single issue.

The main concerns were that:

- School education does not encourage creativity, independence and a questioning approach to life. Instead conformity is preferred and diversity is undervalued.
- Schools and universities prepare students to be good employees. General business principles are not widely taught. Exposure to entrepreneurial concepts is virtually unavailable in the majority of institutions.
- Most teachers have no experience of the business world and are therefore ill-equipped to promote business awareness among their pupils. Teachers' pay is too

low to attract people to transfer into education from the business world.

- Education overall is chronically underfunded. This will eventually undermine Australia's ability to compete in a global marketplace. It also makes it very difficult to introduce curriculum changes to promote understanding of business and entrepreneurship.

Regarding specific education for entrepreneurship, views were less clear-cut. Exposure to the possibility of starting a business was felt to be important and most preferred to see it integrated into the general curriculum rather than taught as a distinct subject. Several respondents felt that entrepreneurial drive was often latent or directed towards non-work activities, but could be triggered by exposure to entrepreneurial role models. Once the interest in entrepreneurship had been established, there was felt to be a great need for specific programs, ranging from 'enormously practical' short courses on an as-needs basis to full-blown post-graduate programs focused on entrepreneurship.

Practical skills entrepreneurs were widely deemed to lack included:

- Basic accounting skills so as to be able to understand, if not personally prepare, financial projections.
- Understanding of the importance of marketing and ability to sell.
- Recognition that they do not have the skills to start a venture alone and willingness to seek partners who have the skills they lack.

The Importance of Primary and Secondary Education

The comments generated by Australian respondents were often more or less replicated by many respondents in many other countries. One strongly emergent theme, globally, was that primary and secondary (pre-university) education in entrepreneurship could well be more important than tertiary (university level) instruction. Other studies support this contention. For instance, in February 2000, Australia held a national innovation summit. The final report of the implementation group brought down its report (Miles et al 2000) in August. Several important recommendations centered on secondary education. To enhance

teacher capability, the group recommended a new program of 'Enterprise and Innovation Scholarships' to encourage teachers to take up learning opportunities with innovative businesses. A related suite of recommended initiatives included: a national review of teacher education; development of on-line curriculum; additional courses and creation of measurement systems to monitor program effectiveness. Several Australian GEM key informants stressed the primary and secondary education system as the key mechanism for effecting the cultural change required to produce a more innovative, less risk-averse, reward-oriented nation. Individual examples of very rare but very effective initiatives at school level were unfavorably contrasted with the general desert of entrepreneurship information in standard approaches to teaching the young.

The University's Limited Place in the Entrepreneurial Education Network

Hindle and Rushworth (2000, *passim*) found that in Australia, entrepreneurial education was an issue cutting right across the spectrum - through the public sector of schools and universities to the private sector providers in the specialist and executive education field. Schools and universities must take up the challenge of nurturing rather than stifling entrepreneurial spirit and providing exposure to and, where necessary, training in basic business principles and specific entrepreneurial skill sets. Private education providers and programs should take on the opportunities offered by the evident gaps in entrepreneurial skills education. One exciting initiative is Magnus Klofsten's Business Platform (Klofsten 2000). Another is the Fastrac Program suite being developed under the auspices of the Kauffman Foundation.

The Finnish scholar, Kristiina Erkkila has produced a book that examines many of the debates about entrepreneurial education in the USA, UK and Finland (Erkkila 2000). She found that the concept of entrepreneurship education is best seen contextually (Erkkila 2000: 192). Though the remainder of this paper focuses on entrepreneurship education offered in the university context, it is necessary to bear in mind at all times that the university is only one strand in a network. All providers of education should consider how they could work with other providers to act as a community

rather than a collection of individual organizations. That will be the best way to overcome fruitless arguments about which component of the system is the most important contributor to national entrepreneurship education - schools, universities, government programs or private providers. For the sake of clear focus, this paper simply avoids such arguments by saying that all elements are vital but university entrepreneurship education is the best documented. Discourse upon the area of the network with the most evidence is likely to be productive of the most useful insights.

A Complicating Context: The Entrepreneurial University Movement

Before proceeding there is a need to distinguish clearly between what might be called the 'entrepreneurial university movement' - an issue of context - and the movement for more entrepreneurship in university curricula - an issue of content. The entrepreneurial university movement centers on matters of strategy and organizational design. The bible of the movement is Burton R. Clark's 1998 book, *Creating Entrepreneurial Universities: Organizational Pathways of Transformation*. It is very difficult - and very dangerous - to try to capture the essence of a complex book in the few words permitted by the constraints imposed on a paper of this nature. I will take the risk. The essential Clark argument is that whatever steady state the university world may once have possessed is long gone and will never return. An unpredictable and turmoil-fraught future demands that universities proceed, step-by-step through experimenting. The path to the future is the path of innovation. His approach is to infer necessity from analysis of cases.

'This study' he writes 'reports research on a handful of universities in Europe that made a valiant effort in the 1980s and early 1990s to become more enterprising, even aggressively entrepreneurial.' (Clark 1998: 127).

Clark argued that there are six keys for universities to meet the exigencies the age:

- the need to find a pathway to transformation;
- the requirement for a strengthened steering core;
- an expanded developmental periphery;

- a diversified funding base;
- a stimulated academic heartland;
- an integrated entrepreneurial culture.

There simply is not space in this paper for an extended discussion the importance and the impact of Clark's work and detailed scrutiny of the way various universities have reacted to it. Many have tried to shrink a complex web of ideas into a sharply-focused phrase. Swinburne University of Technology in Australia has adopted the phrase 'the entrepreneurial university' as its motto and after sending its entire governing council on a world trip to investigate best practice decided that:

'Fundamentally, the mission of the entrepreneurial university is to generate intellectual property and transfer it to new ventures.' (Swinburne University of Technology Higher Education Group 2000: 15).

Conceptually, this is a separate issue from consideration of whether (and how) the given university should provide entrepreneurship education as part of its curricula offerings. In practice, the two issues may end up very closely related - if the university's technology transfer choices do embrace the in-house provision of courses. In concept, however, the issues are quite distinct.

One common theme among those universities which have reacted favourably to Clark's thesis is that they seem to concentrate on the fourth of Clark's mandates: the need for the university to develop a diversified funding base. In this broader context, commercialization of intellectual property is a subset issue. The deep and necessary concern with broadening the funding base raises many issues including:

- the proper demarcation between public domain and proprietary intellectual property;
- academic freedom versus commercial sell-out;
- intellectual leadership versus pandering to the short term training requirements of powerful interest groups.

In this emerging debate, it is important to preserve the distinction between *how* the

university is managed – its strategy, organization and governance - and *what* the university teaches – its choice of courses and programs. It seems at least possible, for instance, for a relatively 'traditional' university (in a governance sense) to offer dynamic well-wrought, well-thought, well-taught programs in entrepreneurship. An example might be the University of Navarra (a tradition-proud, religiously-based institution with many conservative traits in its institutional framework) whose graduate business school, IESE, situated in Barcelona, is arguably the leading entrepreneurial education institution in the Spanish-speaking world. Alternatively, an 'entrepreneurial' university, ranking highly on all six of Clark's criteria in terms of its strategy and governance, may legitimately decide to offer no entrepreneurship courses whatsoever in its curricula. Making an entrepreneurial choice, such a university might choose to restrict its offerings to classics and humanities and selected specialist areas - catering to a select group of students wishing to focus on these fields of knowledge.

Unfortunately, these two complex entrepreneurial issues – strategic context and program content - are becoming unproductively entangled as the debate on universities' relevance and future directions heats up all around the world. The remainder of this paper concentrates on the offering not the governance: on the way entrepreneurship is taught and should be taught.

What is Happening? A Global Inventory of University Entrepreneurship Courses and Programs

Predicate: Diversity versus Generalization

This section begins with some definitional housekeeping. The word 'offering' is used as a generic term to include both courses and programs. In all that follows word 'course' is used to signify a single-subject offering. The word 'program' signifies a group of linked courses.

From young undergraduates to mature researchers, universities service a wide range of constituencies. A key issue for any educational offering in any field is always diversity of learning opportunity. A 'matching principle'

should apply. Different audiences may require different content and delivery systems for the transmission of similar information. So, even this paper focused as it is on generalization rather than specifics, needs to distinguish at least three categories of university-provided entrepreneurship courses and programs.

First come undergraduate offerings. These include both integrated programs (Australian examples include RMIT University's recently-created undergraduate entrepreneurship degree) and the presentation of the odd elective (often a business planning unit) as an adjunct to a specialist degree in another discipline. The second category involves adjunct courses offered by universities and run for the benefit of their own post-graduates working for a research degree in various disciplines or for the benefit of students and staff working in user-oriented research providers such as Co-operative Research Centres (in the Australian environment), government laboratories and private R&D departments. The third category encompasses multi-course, post-graduate, degree-award programs. These may be offered at graduate-certificate, graduate-diploma or masters level (or all three in the case of Swinburne University of Technology's suite of entrepreneurship programs).

Clearly, the particular needs of very different course and program recipients make the task of generalizing about entrepreneurship education difficult. Is it impossible? I do not believe it is and I base the hope that it is not on consideration of the actual inventory of university entrepreneurship courses so far as they are known.

The Inventory

For over 20 years Professor Karl Vesper, alone and with colleagues, has been chronicling the evolution of entrepreneurship courses and programs in universities around the world through a series of surveys of business and engineering schools at four-year colleges and universities throughout the world. Each survey has resulted in a useful compilation of one to two-page summary descriptions of the course offerings, written by the principal course providers. Vesper's latest compilation in his series was executed with co-researcher, Professor William Gartner and is readily

available on the internet (Vesper and Gartner 2001). Their stated objective was:

'... to share among scholars, who are dedicated to the academic field of entrepreneurship, information about the activities of those schools that are pouring the most effort into it. By knowing what others are doing, each school should be able to find ideas, it too can use, and at the same time choose activities that enhance its own individuality and unique contributions to the field.' (Vesper and Gartner 2001: 1).

They finished with 128 descriptions based on the following definitional regime.

- 'School' - Any organization granting a four-year or graduate degree.
- 'Entrepreneurship' - Entry into independent business, whether by start-up or acquisition by an individual or small group of individuals.
- 'Program' - Having three or more for-credit courses aimed at an undergraduate degree or aimed at a graduate degree. Having two courses toward one degree and one toward another we did not define as having a program.

Their compilation revealed 504 courses: 83 'undergraduate', 269 'graduate', 134 'both' and 18 'not sure'.

I use this inventory to resolve the problem raised in the previous section: the difficulty of generalizing about a wide range of offerings to diverse audiences. Since the clear majority of all the world's university entrepreneurship courses currently offered is contained in the post-graduate area, I will concentrate the following argument upon this domain. Readers can decide for themselves whether or not what is presented is applicable to undergraduates and other categories of recipient.

What Should Be Happening? A Philosophy of Entrepreneurship Education

It is always dangerous to use the adjective 'seminal' with respect to a journal article in an academic discipline. I am going to use it to describe an article published in the *Journal of Business Venturing* in 1987. Its superficially date-bound title seems out of place for a

durable article. Yet ‘Entrepreneurship in the Nineties’ by W. Ed McMullan and Wayne A. Long is likely to have relevance so long as entrepreneurship education is discussed. It first appeared with an asterisk in the title and the following editor’s note:

‘Though this article is not empirically based, it addresses a topic that is sufficiently important to warrant a one-time exception to the editorial policy’. (McMullan and Long 1987: 261).

It would be an unproductive use of limited space to reproduce large swathes of McMullan and Long’s article in this paper although the temptation to do so is immense. The essential challenge of their argument is summarized in two sentences:

‘For a number of reasons, current methods for delivering entrepreneurship education have to be judged as inadequate. This new field will need to extend beyond the boundaries of schools of management or engineering, perhaps even beyond universities.’ (McMullan and Long 1987: 262).

The core of the problem was and remains that current teaching models – particularly the business school, MBA model traditionally employed to teach middle to senior managers how to conduct the affairs of mature, large organizations – are inappropriate to the teaching of entrepreneurship.

What is Working?

How Do We Measure the Success of Entrepreneurship Education Programs?

A Range of Experiments Show Promise

Gartner and Vesper (1994: 186) concluded a mid-90s review of the efficacy of various entrepreneurship courses and programs by arguing that various course and program ‘experiments’ (described in success and failure tables that they compiled) indicated a healthy diversity of ideas and efforts.

There is no doubt that continued experimentation and risk-taking in entrepreneurship pedagogy should be encouraged. There will never be one ‘right way’ or ‘definitive approach’. However, some evidence of what might be called the

‘McMullan and Long thesis in action’ provides strong indication of the general direction that entrepreneurship curricula in universities ought to take.

The McMullan-Long Thesis in Action Shows Dollars and Jobs

McMullan and Long (1987) wrote that, unlike university degree programs, the teaching productivity of an entrepreneurship program cannot be properly evaluated by the number of students graduated but by the socio-economic impact that successful programs produce. In conversation, my Swinburne colleague, Professor Tom McKaskill, has succinctly articulated why this is so. I call his argument the ‘no cushions’ theory. Consider business graduates, or law graduates, or engineering graduates or medical practitioners or teachers who leave the university and enter the world of work. They all have one thing in common. They all enjoy, to varying degrees and for varying lengths of time, some form of ‘cushioning’. They are given the twin luxuries of guidance and permission to make the occasional mistake. They are not expected to adapt instantly to their transition from learning institution to workplace performance. Lawyers do articles; engineers enjoy mentoring; doctors have guided internships and so on.

With entrepreneurs it is different.

No entrepreneur who starts a new venture ever has the luxury of a cushioning period between educational completion and occupational commencement. New venturing is a win-or-die game. This means both the metrics of success and the pedagogic philosophy underpinning instruction need to differ substantially from the norms applicable and habitual to many professionally-oriented programs taught at university. In particular, a viable post-graduate entrepreneurship curriculum needs nothing less than a different philosophical basis and a different delivery model from the near-ubiquitous Business School-MBA regime.

McMullan and Gillin (1998) examined the results of surveys tracking the activities and performance of graduates from Swinburne University of Technology’s suite of entrepreneurship programs. The Swinburne approach had been strongly influenced by the ideas expounded in McMullan and Long’s

(1987) seminal paper. They concluded that the type of programming recommended by McMullen and Long (1987) was supported by empirical performance of the philosophy in action. 87% of those surveyed had started ventures either independently or under the auspices of a corporation. The average number of employees in firms with sales was quite high (approximate average of six). Comparisons with the start-up and employment propensities of an MBA program indicated that entrepreneurship programs of the type they recommended showed very positive signs of helping people begin meaningful entrepreneurial careers and providing governments with an effective micro-economic response for job creation (McMullan and Gillin 1998: passim).

The Pyramid versus the Wheel

The entrepreneurship curriculum debate, very active in the late 80s to mid-90s (McMullan and Long 1987; Hills 1988; Plaschka and Welsch 1990; Robinson and Haynes 1991; Solomon and Fernald 1991; Block and Stumpf 1992) seems to have stalled somewhat. What follows in the conclusion of this paper does not pretend to be anything but an outline sketch of the main elements that a university-based entrepreneurship curriculum should contain. It is a kind of identikit picture of a likely suspect rather than a fully-wrought portrait of a proven perpetrator. However, two items provide a solid background to the sketch.

The first - demonstrated by over 14 years of evidence since McMullan and Long's article - is that programs outperform courses. Three or more courses bound together under some set of guiding objectives have been shown to be more productive of positive outcomes than the provision of mere adjunct courses, tacked on to sundry programs. So, what I am about to sketch - my rough philosophical template for the creation of entrepreneurship curricula - has little relevance to the university which satisfies itself with a single-subject, adjunct approach. Unless there is commitment to a program - as distinct from mere courses - a university cannot claim to be a serious provider of entrepreneurship curriculum.

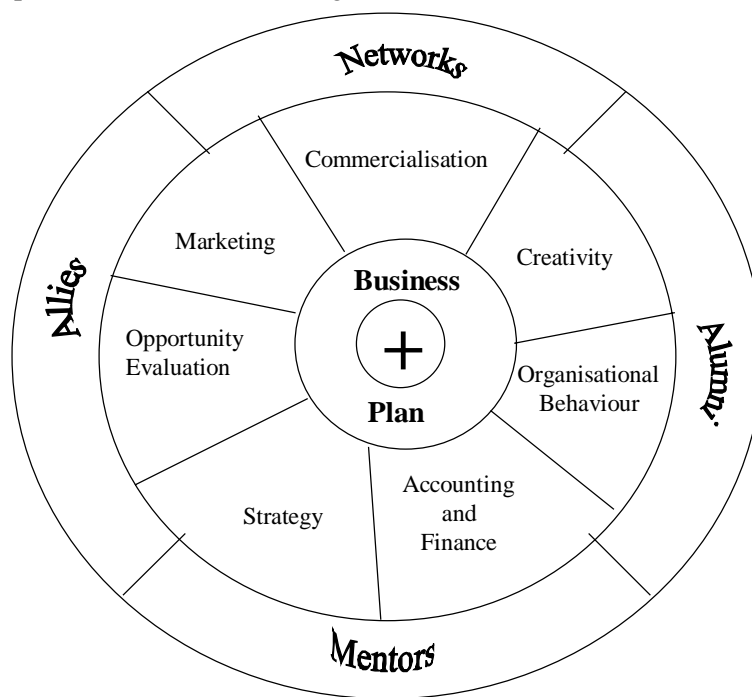
The second item of knowledge about entrepreneurship program provision that can be taken as reasonably well established is that the mechanistic, business-school model of program provision is certainly not the way to go. A stylized diagram of a rigid and compartmentalized MBA approach is provided in Figure 1.

Figure One
The Pyramid Approach to Business Education



Here, the approach is hierarchical. Independent 'building blocks' (self-contained, functionally-oriented boxes of knowledge) are piled on top of one another. 'Base units' in the early stages of an MBA program often include Marketing, Organizational Behavior, Accounting, Finance, and other important skill areas. The labeled boxes are indicative, not prescriptive. Later, a range of additional mandatory and elective subjects is built up, in the style of a pyramid. The course structure is usually crowned by a subject called 'Corporate Strategy', or similar name. This is often quite literally referred to as the 'capstone' course. Its objectives tend to include provision of a purview of all the other subjects. The taker of this course is alleged to obtain the 'CEO's point of view' and 'linking

perspectives' useful for seeing the relationships between all the other subjects hitherto taught in relative isolation.



It is hoped that his capstone course will enable the taker to integrate all the others. Unfortunately, the hope is often forlorn. Corporate Strategy is now a huge discipline in its own right, laden with constructs, models, *sui generis* literature and technical knowledge which make this subject just as much a self-contained, functionally-focused knowledge box as every other.

For traditional business education there are some virtues in the pyramid approach. However, for entrepreneurship education, the most obvious vice of the pyramid structure is that business knowledge is presented in fragments and remains in fragments. Boundaries are not crossed. Functionalism and separatism triumph over integration. This is just the opposite of what entrepreneurs need to do. Figure 2 presents an alternative curriculum design template.

Figure 2: The Wheel Template for Building an Entrepreneurship Curriculum

This model resembles a wheel built of four concentric circles. Working from the outside into the hub, a university entrepreneurship program should begin by recognizing the importance of constant relationship with the real arena of business: the outside world. Networks, allies mentors and alumni are all essential to ensure that there is no possibility of ever letting the program develop any vestige of an 'ivory-tower' mentality. These may be called the fundamental 'conduit' components of a well designed entrepreneurship education program. They provide constant contact between those who are learning it and those who are doing it: entrepreneurs, venture capitalists and all manor of relevant participants in daily action. Detailed attention to the conduit components of a program is essential, not peripheral, to its success. Conduit elements may be used in many ways, from the obvious direct use of practitioners giving instruction in a classroom or mentoring students in various ways, to the subtle use of networks to gain credibility for the program and its graduates in many contexts.

The next circle of involvement in the curriculum template contains the courses themselves. Again, the selected subject titles,

illustrated in Figure Two, are indicative not prescriptive or exhaustive. Many of the subjects that a university will choose to build into its entrepreneurship curriculum will contain similar material to their MBA counterparts in such functional areas as Marketing, OB, Finance, Accounting and Strategy. The focus will be different – on new and growing ventures rather than established firms – but many of the left-brain skills needing teaching will be the same. For instance, double entry book-keeping principles are exactly the same for both new and established ventures but the depth and quality of attention paid to building *pro forma* statements as part of a business plan may receive much greater attention in an entrepreneurship accounting curriculum and the ability to perform consolidated financial statements much less. Other courses, in areas such as opportunity evaluation, creativity management and commercialization of intellectual property may lack any counterpart in the traditional MBA regime. The boundaries between all subjects should be flexible and crossable. The circular arrangement of the illustrative subjects in Figure 2 symbolizes the close inter-relationship and interplay between courses more than the differences between them. This contrasts starkly with the self-

contained knowledge boxes piled one on top of the other in the Business School pyramid of Figure 1. This inter-relatedness of courses is fully realized when they converge upon and feed into a core course, the Business Plan. It forms the third circle of the curriculum design template. In the commercial world, the preparation of an entrepreneurial business plan is central to a new venture's capacity to articulate its intended future and to raise funds from investors so that that future might be pursued. In a university-delivered entrepreneurship program, focus on the business plan as a genuinely unifying teaching opportunity is a feature which can clearly distinguish an appropriate approach to entrepreneurship education from the hierarchical, pyramidal structure. The business planning subject can be a major pedagogical device as well as the repository of practical wisdom. It offers the opportunity to blend subjects and melt the boundaries between them; to show the essential inter-relatedness of key skills, decisions and ways of thinking. This class can be used for potent demonstration of the power of multi-disciplinarity and integration as ways to build teamwork, demonstrate leadership and solve problems.

The Plus Zone Challenge

So far the emerging template caters for all of the practical pedagogical concerns expressed by McMullan and Long (1987). However, it might be argued that the approach has nothing particularly germane to a university about it – as indeed McMullan and Long suggested that entrepreneurship education may not (McMullan and Long 1987: 262 and *passim*). The curriculum-creation model as it stands to this point could as well be employed and implemented by non-university, vocationally-oriented training providers. Is there a place for the distinctive competence of the university (whatever that may be) to add unique value to an entrepreneurship program?

I believe that there is. It is represented by a plus sign, in Figure 2, as the central hub of the model.

For an entrepreneurship education program to be truly worthy of a university setting, it needs some intellectual challenges that take it beyond mere training and give it claim to being education. These challenges revolve around

philosophy, subject-critique and self-critique. What I am about to argue will sound corny to those who would seek to limit entrepreneurship's teaching environment to a vocationally-oriented training regime. What I am about to argue will sound impossible to those who would seek to limit the university's canon to the classical minimum espoused by Allan Bloom (Bloom 1987). So be it because I believe that entrepreneurship, as a major social phenomenon and a deeply-important realm of human behaviour, can provide the basis for learning that transcends specialist functionality and does something for the general and total development of each human being who studies it. It is this strange and rare experience of learning something universal from the deep study of something specific that is the great thing that distinguishes a university – look at the *universality* so broadly proclaimed in that name – from all other halls of instruction. Education is literally a 'leading out of' a 'leading beyond'. Whatever the specific curriculum focus, whatever the age, whatever the model of university governance in or out of vogue, university *education* always requires a plus sign at its heart. It requires first that the specific subject matter on its curriculum is important to humanity. And second it requires transcendence. A great program extends students horizons of humanity.

Entrepreneurship needs no justification to study it on the grounds of its importance to humanity. It is a well-spring of economic growth, social renewal and personal development. Such an important subject is worthy of deep research, significant reflection and sustained dialogue. When a subject – any subject – has the depth of importance which entrepreneurship possesses, I believe it is capable of being the foundation for great education. Here, I mean education in the sense that Allan Bloom (Bloom 1987: *passim*) meant it but not limited to the narrow range of subjects he claimed were capable of providing its core. The essential university experience in my view involves an environment where your ability to exercise complete freedom of enquiry never results in wasted time. If you learned physics from Einstein, your explorations and speculations would never be futile. You would always be in danger of discovering new worlds. If you learned Philosophy from Bertrand Russell your humanity would expand in proportion to your reading. University

education is about the beyond. It provides a 'plus' that remained nearly indefinable until Alfred North Whitehead was paraphrased by that great scholar called Anonymous who called university education 'the part that remains when what you were taught has been forgotten'.

I'll just call it the 'plus zone'.

At Swinburne, in the entrepreneurship program I helped to develop, one of the subjects helping to build this 'plus zone' is called the Entrepreneurial Research Project. Here, students are required to find a topic in the field that transcends any particular application to any specific business and has some relevance to theoretical understanding of the discipline. They must read deeply in the literature of the field and conduct empirically-based research of sufficient merit to be acceptable to a journal or conference using a double-blind refereeing process. This subject is not something all university entrepreneurship curricula should necessarily emulate. As with many other courses mentioned in this paper, it is indicative, not prescriptive. What matters is the attempt to find subjects worthy of the 'plus-zone' and relevant to students' personal and intellectual development as well as to their professional development. It is the conscious attempt to create an exciting 'plus zone' which will enable different universities and different teachers to exert their special flavours and influences on a program of entrepreneurial studies and make it something truly special for the student. Another possible 'plus zone' subject might be Social Entrepreneurship, a course examining ways in which constructs and knowledge developed in the entrepreneurship discipline might be applied to non-profit ventures and social situations peculiarly relevant to the region which the university services. Another subject worthy of the plus-zone might be Entrepreneurship History: one or several courses examining various times, locations and events in the story of human development. For instance, I believe that today's entrepreneurship students would benefit prodigiously from studying the great works of Frederic Lane (see, for instance, Lane 1973) on the commercial evolution of the Venetian republic.

The key to developing 'plus zone' subjects in any entrepreneurship curriculum is to go

beyond the boundaries usually associated with managing a new venture to the limitless space which has always been the true province of the best university education. It is the place where imagination and creativity flourish because the nurturing of genuine understanding has been deep. Despite all the advances that have been made in the volume of university entrepreneurship courses and programs over the last ten years, most still lack this quality of transcendence which is the hallmark of university education. The only issue I would take with McMullan and Long's vision of so many years ago (McMullan and Long 1987) is that in looking so intently at what a Business School mentality might *detract* from an entrepreneurial education program, they may have failed to fully appreciate what a university mentality might *add* to it. When I look at the state of entrepreneurship education in universities, worldwide, today, I see a fast-growing level of activity and a slow-growing level of philosophy.

Allan Bloom, was a man who would no doubt have cursed the sacrilege of tainting the groves of Academe with something as base as an entrepreneurship curriculum. He would have done it with Ciceronian eloquence and probably in Ciceronian Latin. Yet would-be entrepreneurship scholars ought to pay him some heed. In *The Closing of the American Mind*, Bloom wrote:

'To sum up, there is one simple rule for the university's activity: it need not concern itself with providing its students with experiences that are available in a democratic society. They will have them in any event. It must provide them with experiences they cannot have there.' (Bloom 1987: 256).

I half agree with him but, contrary to Bloom's view, I believe in two simple rules. The modern university does have to concern itself with 'providing experiences' closely related to the dynamics of the dreaded 'real world'. It cannot stand completely aloof from democratic society like some kind of Greek Chorus, wailing in the wings. This is so for reasons too numerous to discuss in this forum. But it is so mainly because, in an age of technology, some experiences of democratic society are simply not available *without* active university involvement. One of the respondents to the

GEM Australia report, Bob Taylor, CEO of a technology transfer business, put this with brutal brevity. He said:

‘The university is the economy’. (Hindle and Rushworth: 45).

He might just as well have said: ‘the university is the society’.

Contrary to Bloom’s argument, for many issues of *content* the modern university must function as a conduit – moving the student to and from other learning and experiences in time, space and mind – not anchoring the student to a body of received wisdom in an ivory tower. But at the level of *context* Bloom remains totally right. So, my second rule of the entrepreneurship curriculum development game is that you must ask Bloom’s great question. What is it that your university can add to an entrepreneurship curriculum that will make the learning experience unique? What do you have to put in your entrepreneurship program to provide an experience that your students can have *nowhere else*?

That is the challenge of the plus zone. If your university has an answer for that question, or is attempting to find one, you have or will create an entrepreneurship curriculum worthy of a university. And a university worthy of trying to teach entrepreneurship.

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