

**The wheel and the pyramid: using Whitehead's
philosophy of education to design entrepreneurship
curricula at university**

An essay for

The CESFO Yearbook

University of Southern Denmark

And presentation at session 69 of the AOM 2005 Conference

“Superstar Entrepreneurship Teachers: Their Secrets Revealed”

August, 2005

Kevin Hindle

Australian Graduate School of Entrepreneurship

khindle@swin.edu.au

Keywords: entrepreneurship, philosophy, university, business school,
Alfred North Whitehead.

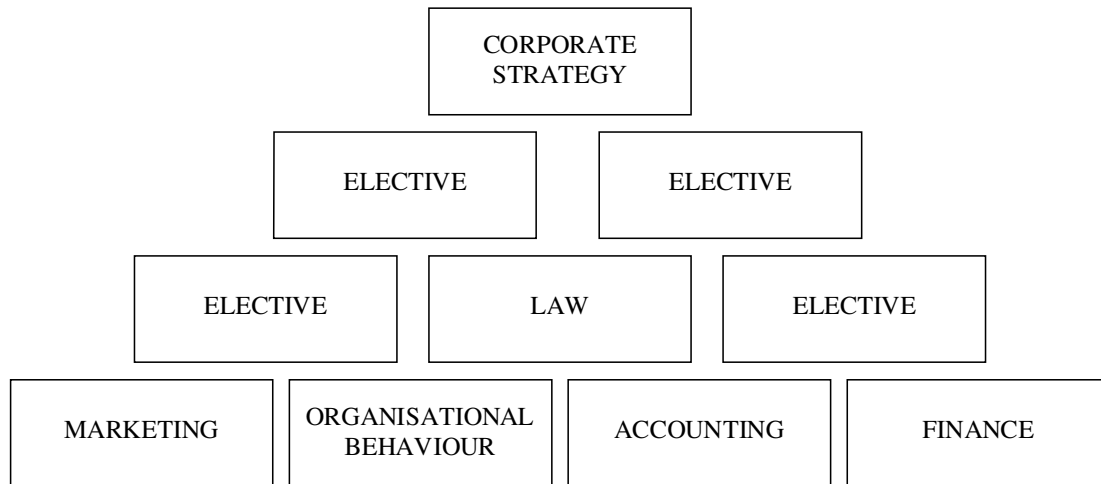
The wheel and the pyramid: using Whitehead's philosophy of education to design entrepreneurship curricula at university

Introduction

It has been strongly argued (McMullan and Long 1987; Birch 2004) that what might be called 'the standard business school model' (whose analogy is a pyramid), often used to teach traditional management programs, is the wrong model for entrepreneurship education. Alfred North Whitehead (1929/1967; 1933; 1936) argued that the justification for a university is that it preserves the connection between knowledge and the zest for life, by uniting the young and the old in the imaginative consideration of learning. Building upon acceptance of Whitehead's educational philosophy – a philosophy I call 'vocational transcendence' – this brief essay develops a template for flexible curriculum design whose analogy is the wheel. The essay draws heavily on two longer articles (Hindle 2001 and Hindle 2006). What follows does not pretend to be anything but an outline sketch of *a general way to develop* an entrepreneurship curriculum: it is not a detailed prescription of *what a specific curriculum should contain*. What follows is a broad outline of a generic way to create *various* curricula – but all of them based on Whitehead's fundamental belief that the function of a University is to enable a person to shed details in favor of principles.

The pyramid approach

Many commentators have argued that the mechanistic, business-school model of program provision is certainly not the way to provide entrepreneurship education (McMullan and Long 1987; Birch, quoted in Aronsson 2004). Let us try to model exactly what it is that they do not like. A stylized, putative diagram of a rigid and compartmentalized 'standard MBA' approach is provided in Figure 1.

Figure One**The Pyramid Approach to Business Education**

© Kevin Hindle 2001, 2005

Here, the approach is hierarchical: like pyramid building in more ways than one. 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. (Of course, the labeled boxes in my diagram are indicative, not prescriptive). Later, a range of additional mandatory and elective subjects is built up, in the style of a pyramid. A subject called ‘Corporate Strategy’, or similar name usually crowns the course structure. 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 this 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 may be some virtues in the pyramid approach. However, for entrepreneurship education, we can agree with McMullan and Long (1987) and Birch (2004) that the approach is sterile. 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 – and followers of Whitehead’s philosophy of university education -need to do. Figure 2 presents an alternative curriculum design approach.

Whitehead’s philosophy of university education

My views on education in general and university education in particular are substantially derived from the great philosopher and substantially contained in just one of his many books. Whitehead first published *The Aims of Education and Other Essays* in 1929. His guiding belief was that ‘The function of a University is to enable you to shed details in favour of principles (Whitehead 1929/1967: 48).’ We ought to be clear that Whitehead was no aloof boffin living in an ivory tower. He also wrote: ‘I am certain that in education wherever you exclude specialism you destroy life (Whitehead 1929/1967: 10).’ He was an enthusiast for business schools (Whitehead 1929/1967: 91 – 102, *passim*) and even wrote for the *Harvard Business Review* (Whitehead 1933). But he insisted that business school curricula should never be allowed to ossify and ought to favor experimentation. I call Whitehead’s philosophy, built on this unique distinction of university education from all other types, ‘the principle of vocational transcendence’. I believe that much of the current debate about entrepreneurship education at university is weakened through inadequate attention to this axiomatic principle and the philosophical issues it raises. Whitehead wrote:

The justification for a university is that it preserves the connection between knowledge and the zest for life, by uniting the young and the old in the imaginative consideration of learning. The university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. A fact is no longer a bare fact: it is invested with all its possibilities. It is no longer a burden on the memory: it is as energising as the poet of our dreams, and as the architect of our purposes. (Whitehead 1929/1967: 93).

I say then, that the university *is* an appropriate place to study entrepreneurship but only for people who want to consider the phenomenon imaginatively rather than mechanistically. For me, this is a foundational axiom. If you believe that a university is just another venue for transfer of vocational instruction – no matter how technical or elevated that instruction may be – then we are not on common ground.

Because of their lucidity, economy, comprehensiveness and elegance, the ten essays of Whitehead's *The Aims of Education*, have always been, are now and are likely to remain for me the pinnacles of educational philosophy. Within the collection, of particular relevance to my subject matter is Whitehead's essay, *Universities and their Function* (Whitehead 1929/1967: 91-102). It holds a double relevance to my purpose because Whitehead made his appeal for the fundamentally generic function of the university with specific reference to the rise of business schools.

The novelty of business schools must not be exaggerated. At no time have universities been restricted to pure abstract learning ... There is however this novelty: the curriculum suitable for a business school, and the various modes of activity of such a school, are still in the experimental stage. Hence the peculiar importance of recurrence to general principles in connection with the moulding of these schools.

(Alfred North Whitehead 1929/1967: 92)

The way in which a university should function in the preparation for an intellectual career, such as modern business or one of the older professions, is by promoting the imaginative consideration of the various general principles underlying that career. Its students thus pass into their period of technical apprenticeship with their imaginations already practiced in connecting details with general principles. The routine then receives its meaning, and also illuminates the principles which give it that meaning. Hence instead of a drudgery issuing in a blind rule of thumb, the properly trained man has some hope of obtaining an imagination disciplined by detailed facts and by necessary habits.

(Alfred North Whitehead 1929/1967: 96)

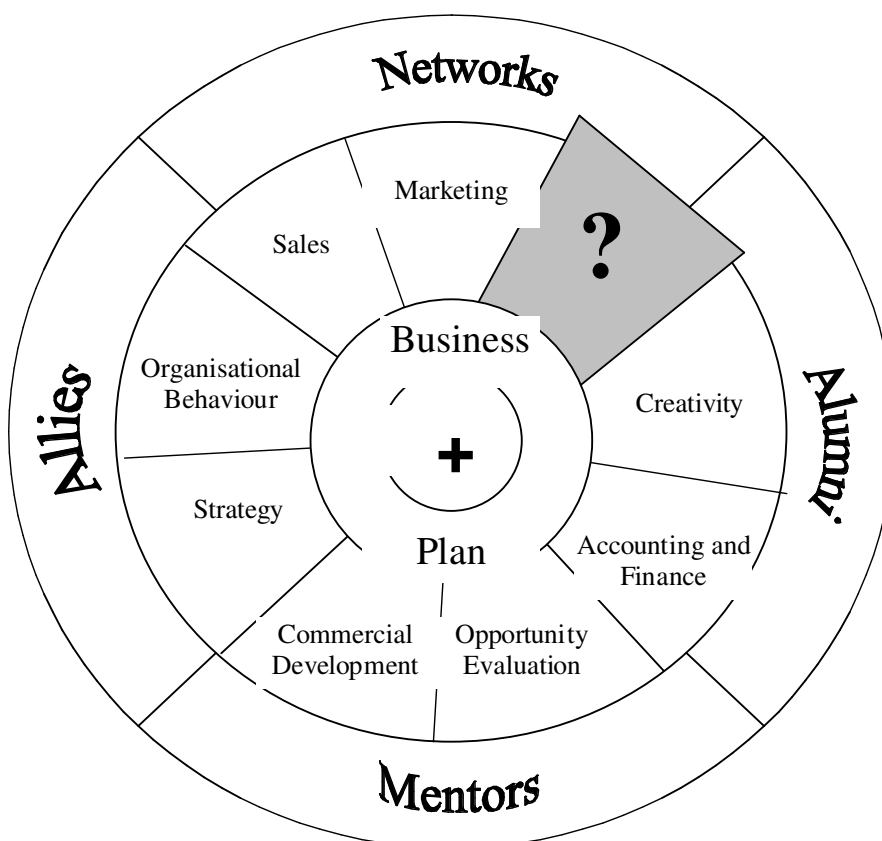
How should we meet Whitehead's call to 'promote the imaginative consideration of the various general principles underlying' entrepreneurship? In a previous paper, (Hindle 2001), I labeled this as meeting the 'plus zone challenge': the challenge to transcend vocational mundanity and specifics in an entrepreneurship curriculum and attempt to do something unique and valuable for the 'whole person', the entirety of every student.

The following template for designing curricula indicates how this might be done.

The wheel approach

Figure 2

The Wheel Template for Building an Entrepreneurship Curriculum



© Kevin Hindle 2001, 2005

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. And I share David Birch's (Birch in Aronsson 2004) belief that an entrepreneurship curriculum simply must include a specific, unashamed emphasis on the sales function. The focus in an entrepreneurship program will be different from the focus in counterpart subjects in a program based on managing established businesses but many of the left-brain skills needing teaching will be the same. For instance, double entry bookkeeping 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 crossable¹. The template features a subject, shaded and labeled with a question mark. This is to emphasize the point that different specific subjects may always be included or excluded by particular schools. I stress again that I am trying to picture *means*, a way of thinking about curriculum creation, not *ends*, any particular entrepreneurship curriculum.

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 standard 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

¹ Again, I wish I had better computer graphic skills. I would show the subjects 'blurring into' one another rather than being distinguished by straight line boundaries.

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 that 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 (see Honig 2004).

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. At the hub of my 'wheel' template is the 'plus-zone' I discussed previously in this essay when considering whether university was an appropriate venue for entrepreneurship. Simply put, the plus-zone contains and radiates out to all other levels of the model the stuff needed to make any subject matter worthy of treatment at university. For any particular university it will be the way that that university seeks to embody the Alfred North Whitehead philosophy of university education.

In a sense, knowledge shrinks as wisdom grows: for details are swallowed up in principles. The details of knowledge which are important will be picked up ad hoc in each avocation of life, but the habit of the active utilisation of will-understood principles is the final possession of wisdom.

(Alfred North Whitehead 1929/1967: 37)

My computer graphic skills are simply not adequate to illustrate the entirety of my perception of the plus zone. Yes, the Whitehead philosophy of university education it is at the core of the system. But it also radiates out and permeates every subject in the curriculum. Not

only do we need some very special ‘plus zone’ subjects at the core, we need a little bit of ‘plus zone’ content and attitude in *every* subject. Can we do it? Can we or ought we inject an element of reflexive thinking in something as seemingly mundane as the teaching of double entry book-keeping to people who ‘just want to get on with it’? Well, if we are a university we can: and we must. Whitehead wrote:

The antithesis between a technical and a liberal education is fallacious. There can be no adequate technical education which is not liberal, and no liberal education which is not technical; that is, no education which does not impart both technique and intellectual vision. In simpler language, education should turn out the pupil with something he knows well and something he can do well. This intimate union of practice and theory aids both. The intellect does not work best in a vacuum. (Whitehead 1929/67: 48)

And (repeating the core of an earlier quotation)

The university imparts information, but it imparts it imaginatively. At least, this is the function which it should perform for society. A university which fails in this respect has no reason for existence. This atmosphere of excitement, arising from imaginative consideration, transforms knowledge. (Whitehead 1929/67: 93)

This task of transformation – of vocational transcendence - is what I have elsewhere (Hindle 2001) called ‘the plus-zone challenge’ when teaching highly technical material in an entrepreneurship (or any other) course at university. The key to developing ‘plus zone’ subjects or components 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.

Conclusion

An inadequate appreciation of the university’s peculiar role in education leads to mechanistic, pyramid style curriculum *design* in the absence of adequate reflection about what a *university* curriculum must contain. Simply, any university curriculum worthy of the name must contain more wisdom than knowledge, more knowledge than information and more information than data. There is no reason why the wheel cannot replace the pyramid as a curriculum-creating approach. And there is no reason that a business school cannot house the new approach. Given the right philosophy, the right location for university curriculum

thinking is not physical: it is mental. It is the place where commitment to imaginative transcendence of material detail lives. As Socrates demonstrated, critical imagination resides in people, not buildings or curricula or organization charts or even books.

So, my first rule for people who want to play the entrepreneurship curriculum development game is: subscribe to Whitehead's philosophy about the role of university education. My second rule is that you must ask the great question posed by Alan Bloom in *The Closing of The American Mind*. 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.

References

Aronsson, Magnus 2004. Education Matters – But Does Entrepreneurship Education? An Interview With David Birch. *Academy of Management Learning & Education*. Guest Co-Editors: Patricia G. Greene, Jerome A. Katz and Bengt Johannisson. Special Issue: Entrepreneurship Education, 3 (3), 289-292.

Bloom, Allan 1987. *The Closing of the American Mind. How Higher Education Has Failed Democracy and Impoverished the Souls of Today's Students*. London: Penguin.

Fiet, J.O. 2000. The pedagogical side of entrepreneurship theory. *Journal of Business Venturing*, 16: 101-117.

Hindle, K. G. 2001. Entrepreneurship education at University: the plus-zone challenge. *Small Enterprise Research*. 9(2).

Hindle, K. G. 2006 (forthcoming). Teaching entrepreneurship at university: from the wrong building to the right philosophy, in Fayolle, A. *Handbook of Research in Entrepreneurship Education*, Cheltenham (UK): Edward Elgar.

Honig, Benson 200. Entrepreneurship Education: Toward a Model of Contingency-Based Business Planning. *Academy of Management Learning & Education*. Guest Co-Editors: Patricia G. Greene, Jerome A. Katz and Bengt Johannisson. Special Issue: Entrepreneurship Education, 3 (3), 258-273.

Katz, J.A. 2003. The chronology and intellectual trajectory of American entrepreneurship education 1876-1999. *Journal of Business Venturing*, 18: 283-300.

Legge, J. M., & Hindle, K. G. 2004. *Entrepreneurship: context, vision and planning* London: Pelgrave Macmillan.

McMullen, Ed (2003). The Problems and Pitfalls of Creating an Entrepreneurship Program. *Proceedings of the Fostering Entrepreneurship: Building Better Entrepreneurs Conference*, Calgary: University of Saskatchewan.

McMullan, W. Ed and Wayne A. Long 1987. 'Entrepreneurship education in the nineties'. *Journal of Business Venturing* 2, 261-275.

Scott, Michael, Rosa, Peter and Klandt, Heinz 1998. Educating entrepreneurs for wealth creation'. In Scott, Michael, Rosa, Peter and Klandt, Heinz (Eds), *Educating Entrepreneurs for Wealth Creation*. Aldershot, UK: Ashgate, 1- 14.

Vesper, Karl H. and William B. Gartner, 2001. *University Entrepreneurship Programs*. Los Angeles: Lloyd Greif Center for Entrepreneurial Studies, Marshall School of Business. www.marshall.usc.edu/entrepreneur/

Whitehead, Alfred North 1929/1967. *The Aims of Education and Other Essays*. New York: The Free Press. First published 1929.

Whitehead, Alfred North 1933. The Study Of The Past - Its Uses And Its Dangers. *Harvard Business Review*, 11 (4), 436-444.

Whitehead, Alfred North 1936. Harvard: The Future. *Atlantic Monthly*, 158 (3), 260-270.