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ARTICLE *in* JOURNAL OF BUSINESS VENTURING · MARCH 2003

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JOURNAL
of BUSINESS
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The chronology and intellectual trajectory of American entrepreneurship education 1876–1999

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Received 1 April 1999; received in revised form 1 January 2002; accepted 1 February 2002

Abstract

Since the first entrepreneurship class—held in 1947—the academic discipline of entrepreneurship's growth is described using a chronology of three domains—courses, supplemental infrastructures and publications. A 100+-item chronology of entrepreneurship education in the USA from 1876 through 1999 is offered and analyzed. The major findings are (1) in the USA, the field has reached maturity and (2) growth is likely outside business schools and outside the USA. The major problems include a glut of journals, a narrowing focus on top-tier publications, potential American stagnation and a shortage of faculty overall exacerbated by a shortage of PhD programs.

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Keywords: History; Infrastructure; Entrepreneurship education; Entrepreneurship programs; Entrepreneurship chairs; Entrepreneurship centers; Entrepreneurship textbooks; Entrepreneurship research; Entrepreneurship endowments; Legitimization; Publications glut; Stagnation; Entrepreneurship journals

1. Introduction

It has been more than 50 years since Myles Mace taught the first entrepreneurship course in the United States. Held at Harvard's Business School in February 1947, it drew 188 of 600 second-year MBA students (Jeff Cruikshank, 1998, personal communication). In 1994, more

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than 120,000 American students were taking entrepreneurship or small business courses (Katz, 1994), and at the start of the new millennium that number is thought to have increased by 50%, although no new studies have been conducted. From that first class in 1947, an American infrastructure has emerged consisting of more than 2200 courses at over 1600 schools, 277 endowed positions, 44 English-language refereed academic journals and over 100 centers. The growth is impressive, even exceptional, but it raises a key question: What are the prospects for and the impacts of such growth for the 21st century?

Assessing the prospects for an academic discipline is better approached less as a science and more as a speculative enterprise, guided by the lessons of history. In that vein, this paper offers the first detailed chronology of entrepreneurship education in the United States, both as a basis for providing preliminary answers to the above questions and as a common historical basis for others' speculations on the future of the field.

2. Methodology

The chronology itself reflects a publication trajectory of papers from the past 10 years on the infrastructure of the academic discipline of entrepreneurship (Katz, 1991a,b,c, 1994). These papers reflect a preference for errors of inclusion, rather than errors of exclusion. When respondents or archival sources indicated more than one event may have had an impact, each of the events was included. The paper also is eclectic and inclusive about what is meant by "entrepreneurship." It uses the "prairie populist" model (Katz, 1991c) in which "entrepreneurship" refers to a collection of academic disciplines and specialties including entrepreneurship, new venture creation, entrepreneurial finance, small business, family business, free enterprise, private enterprise, high-technology business, new product development, microenterprise development, applied economic development, professional practice studies, women's entrepreneurship, minority entrepreneurship and ethnic entrepreneurship. The advantage of the term as used here is that it is very similar to the way the general public views entrepreneurship and its myriad subspecialties—i.e., as one field. The intent is to establish a definition and chronology that is inclusive, in the hopes of crafting as comprehensive a list as possible, leaving subsetting-by-definition to others with particular theoretical models to promote.

Katz (1991c, 1994) focused on three major venues—publications, courses and supplemental infrastructure elements—and those continue to be the focus in this Executive Forum. The methodology underlying the construction of the chronology was multifaceted, but straightforward, including the following.

- Review of key primary and secondary historical source documents were used including Block and Stumpf (1992), CEEB (1997), Christy and Jones (1982), Cooper (1998), Dainow (1986), Dennis (1997), Katz (1991a,b,c, 1994), Gorman et al. (1997), Herbert and Link (1982), McMullan and Long (1987), Meyer (2001), Peterson's Guide (1998a,b), Robinson and Haynes (1991), Sandberg and Gatewood (1991), Solomon and Fernald (1991), Solomon et al. (1994), Vesper (1993), Vesper and Gartner (1997) and Zeithaml and Rice (1987).

- Review of the websites of some of the major programs in the field, including the National Entrepreneurship Survey, eWeb, the Babson College entrepreneurship program and the Entrepreneurship Division of the Academy of Management.
- Review of responses to a series of queries about the history of the field posted to the ENTREP-L (entrepreneurship), FAMILYBIZ (family business) and SMALL-BUSINESS-ISSUES Internet discussion lists.
- Direct discussion with many of the faculty and other professionals in the field who had direct involvement or direct knowledge of the key actions and actors involved, including Karl Vesper, who developed one of the first listings of courses; Charles Hofer, who was involved in the creation of the dissertation awards; Jeff Cruikshank, who is writing a history of entrepreneurship education at the Harvard Business School; Charles Matthews, about the Small Business Institute program; Bert Twaalfhoven, about European activities; Nancy Rothwell of the Institute for Scientific Information; and Ellen Thrasher and J. Hardy Patten of the US Small Business Administration.

3. Results

The chronology developed is given in [Table 1](#). As noted above, the key question is what are the prospects for and the impacts of such growth for the next millenium? The answer is given using the three domains forming the chronology—courses, other infrastructure elements and publications.

3.1. *Growth of courses*

The number of courses continues to grow at a fast rate as illustrated in [Fig. 1](#), but controversy exists regarding what “counts” as growth. [Vesper \(1993\)](#) looks only at 4-year and graduate programs and only those teaching “entrepreneurship,” defined as business start-up, especially among high-growth firms. [Solomon et al. \(1994\)](#), in a study conducted for the United States Small Business Administration (SBA), include entrepreneurship and small business courses, as well as 2-year postsecondary schools. So, [Vesper \(1993\)](#) shows courses growing from 4 schools in 1968, 16 schools in 1970, 370 in 1993, all the way to 504 in 2001 ([Vesper and Gartner, 2001](#))—a rate of approximately 15 schools a year, while the Solomon et al.’s survey reports growth from 263 schools in 1979 to 1400 in 1998 (approximately 57 schools a year).

The Vesper/Gartner/University of Southern California and Solomon/Weaver/Fernald/SBA results are beginning to show greater divergence. The SBA studies show greater growth in small business courses than entrepreneurship, while the opposite is true for the USC compendium. The SBA sample is more representative, but the USC survey is more precise. In many ways, the results are not comparable and not resolvable. Both show growth and both show that growth is greater for some courses than others.

Neither group is adequately sampling outside of business schools in the USA or surveying schools and programs outside of North America. Vesper initially included engineering schools, but has discontinued the practice. Entrepreneurship courses in other university

Table 1

Chronology of entrepreneurship education in America

1876	Francis Walker's <i>The Wages Question</i> published. (First major work by an American university academic considering the entrepreneur. His 1884 book <i>Political Economy</i> will further extend his model for the entrepreneur. Walker was an influential theorist, having served at one point as President of the American Economic Association.)
1887	Hatch Act passed. (Created agricultural experimental stations, the forerunners of modern incubators and research parks.)
1893	49 agricultural experimental stations.
1911	Joseph Schumpeter published <i>The Theory of Economic Development</i> (in German).
1913	Schumpeter arrived in America and taught in Columbia.
1914	Smith-Lever (Agricultural Extension) Act passed. (Created agricultural extension to widely disseminate improved farming methods developed at experimental stations to farmers. The prototype of government sponsored business development services.)
1915	F.W. Taussig published <i>Principles of Economics</i> . (A textbook that makes the argument that the role of the entrepreneur is not merely innovation, but also wealth creation, which serves as the basis even today for a uniquely American definition of entrepreneurship.)
1921	Frank Knight published <i>Risk, Uncertainty and Profit</i> providing the first complete definitively American model of the entrepreneurial process.
1923	Cooperative Extension Service formally organized to deliver advice to farmers on agricultural and business practices.
1932	Schumpeter began teaching at Harvard.
1934	Schumpeter's <i>The Theory of Economic Development</i> translated into English.
1941	US Senate convened its special committee to study the problems of American small business. Report issued in 1942 with several recommendations for protecting and developing small business during and after the war, including using university resources for training small businesses and helping them innovate.
1945	Rudolph Weissman's <i>Small Business and Venture Capital</i> published by Harper. (One of the first books to argue for the importance of small business in the economy and the pioneering effort in venture capital.)
1946	The Research Center for Entrepreneurial History started by Schumpeter and Arthur Cole at Harvard. (First research center with entrepreneurship as its major focus.)
1947	(Feb.) Management of New Enterprises, first MBA entrepreneurship course started at Harvard. Myles Mace was the faculty member. 188 students took the course.
1949	<i>Explorations in Entrepreneurial History</i> began publication at Harvard. (First research journal focused on entrepreneurs. Ceased publication in 1969.)
1950	William Hoad's <i>Small Business Casebook</i> (also known as <i>Cases in Small Business</i>) published as a monograph. (First collection of business cases focussing on small businesses.)
1951	Coleman Foundation created. (The first foundation with entrepreneurship education as a major focus. Makes program grants and has endowed chairs.)
1951	<i>Outline and Source Material for Small Business Education [1950]</i> by William Hoad published by the US Department of Commerce. (One of the pilot projects leading to the creation of the SBA, this delivered small business training through universities.)
1952	Pearce Kelley and Kenneth Lawyer's <i>Case Problems in Small Business Management</i> published by Prentice-Hall. (First commercially published small business text/trade book, contained short cases about small businesses.)
1953	US Small Business Administration started.
1953	Grant Moon reported that the University of Illinois offers a course in "small business or entrepreneurship development."

Table 1 (continued)

1953	C. Roland Christensen's <i>Management Succession in Small and Growing Enterprises</i> first published. (First major work on growth-oriented business, also a classic contribution to the eventual field of family business.)
1953	Entrepreneurship and Innovation offered at New York University by Peter Drucker.
1954	Small Business Management, first MBA small business course offered at Stanford.
1954	<i>Cases in the Management of Small, Family-Controlled Manufacturing Businesses</i> published at Indiana University. (First family business-specific case book.)
1954	Grant Moon began teaching a small business course at the University of South Dakota.
1955	New York (State) Bureau of Business and Distributive Education implemented a nondegree course, <i>Small Business Management; Adult Course Outline</i> in state colleges (Library of Congress Call No. 59021189).
1956	International Council for Small Business formed (called the National Council for Small Business Management Development until 1977).
1958	MIT's entrepreneurship course offered by Dwight Baumann.
1959	SBA Research Initiative launched. (First major government effort to use academics for substantive research on entrepreneurship. Included projects by Pickle, 1964; Hoard and Rosko, 1964; Mayer and Goldstein, 1961.)
1961	David McClelland's <i>The Achieving Society</i> published.
1961	Halsey Broom's <i>Small Business Management</i> published by Southwestern. (This is the first book on small business focussed expressly on the college text market. It remains in publication, with Justin Longnecker as Broom's successor.)
1963	<i>Journal of Small Business Management (JSBM)</i> began. (First refereed scholarly journal devoted to mainstream entrepreneurship/small business research.)
1963	First endowed position, the Bernard B. and Eugenia A. Ramsey Chair of Private Enterprise, created at Georgia State University.
1964	Service Corps of Retired Executives (SCORE) started.
1964	Collins, Moore and Umwalla's <i>The Enterprising Man</i> first published as a research monograph.
1965	H. Schrage's "The R&D entrepreneur: profile of success" comes out in <i>Harvard Business Review</i> . (First major work on high-technology entrepreneurship.)
1967	Norman Smith's <i>The Entrepreneur and His Firm</i> published. (First research contrasting high-growth entrepreneurs to slower-growth small business owners. One of first secondary analyses in entrepreneurship.)
1967	First contemporary MBA entrepreneurship courses introduced at Stanford and New York Universities. (In these courses, focus is on wealth-creation vs. firm creation, the hallmark of small business courses.)
1967	Approximately two schools offering courses in entrepreneurship (Vesper, 1999, personal communication).
1968	First undergraduate entrepreneurship concentration, Babson College.
1969	McClelland and Winter's <i>Motivating Economic Achievement</i> published. (First major study of entrepreneurship training with detailed outcome assessment.)
1970	Leon Danco held first interdisciplinary seminar on family business.
1970	First modern entrepreneurship center, the Caruth Institute of Owner-Managed Business, was established at Southern Methodist University.
1970	First major academic research conference, <i>Symposium on Technical Entrepreneurship</i> , chaired by John Komives and Arnold Cooper at Purdue. (Library of Congress Call No. 72177979/r883.)
1970	Sixteen schools offering courses in entrepreneurship (Vesper, 1999, personal communication).

(continued on next page)

Table 1 (continued)

1971	Peter Kilby's <i>Entrepreneurship and Economic Development</i> published. (Seminal early compilation of entrepreneurial theory and research.)
1971	"Black is beautiful, is it bountiful?" by Jeffrey Timmons came out in <i>Harvard Business Review</i> . (First major published work on minority entrepreneurship.)
1971	First MBA entrepreneurship concentration, University of Southern California.
1972	Small Business Institute program launched by US Small Business Administration at Texas Tech University. By the end of the year, 20 schools were participating. (SBI sponsored student-performed field consulting projects to small businesses.)
1972	Patrick Liles' <i>New Business Ventures and the Entrepreneur</i> text with cases first published. (First contemporary model entrepreneurship case text. Howard Stevenson was lead author for the current edition.)
1972	First undergraduate entrepreneurship concentration, University of Southern California.
1973	Association of Private Enterprise Education formed.
1973	Lawrence Klatt's <i>Small Business Management: Essentials of Entrepreneurship</i> published. (One of the first texts to cross over from small business to entrepreneurship.)
1974	Gordon Baty's <i>Entrepreneurship: Playing to Win</i> (Reston Publishing) was first published. (The first trade volume to get significant use in entrepreneurship courses—also one of the first texts devoted exclusively to the contemporary approach to entrepreneurship.)
1974	Entrepreneurship Interest Group of the Academy of Management formed under the direction of Karl Vesper.
1975	Students in Free Enterprise (SIFE), supporting collegiate entrepreneurship and free enterprise, started by Robert Davis of the National Leadership Institute.
1975	Karl Vesper reported 104 colleges/universities with entrepreneurship courses (Vesper, 1993).
1975	Al Shapero published "The displaced, uncomfortable entrepreneur" in <i>Psychology Today</i> . (One of the first major articles about entrepreneurs in the popular press.)
1975	Small Business Institute Directors Association founded.
1974	Five endowed positions (Katz, 1991a).
1976	Heizer Award for Dissertations in New Venture Creation first awarded.
1975	<i>American Journal of Small Business</i> (after 1988, <i>Entrepreneurship: Theory and Practice</i>) first published.
1976	<i>Entrepreneur</i> Magazine began publication.
1977	First nine pilot Small Business Development Centers (SBDCs) were started in California (2), District of Columbia, Florida, Georgia, New Jersey, Maine, Missouri and Nebraska.
1979	Inc. Magazine began publication.
1979	First SIFE student business competition (four schools represented).
1979	Harold Livesay's <i>American Made</i> published (launching point for the "entrepreneurial decade" of the 1980s).
1979	David Birch published "The Job Generation Process" working paper for MIT's Program on Neighborhood and Regional Change. (Provided impetus for government interest in entrepreneurship as the engine of economic growth.)
1979	263 postsecondary schools with courses in entrepreneurship or small business (Solomon et al., 1994).
1980	First of Don Sexton's "State of the Art" conferences held at Baylor University.
1980	Eleven endowed positions (Katz, 1991a).
1980	Public Law 96-302 passed, formalizing Small Business Development Centers (SBDCs).
1981	First Babson Entrepreneurship Research Conference and first publication of <i>Frontiers of Entrepreneurship Research</i> (Vesper, 1981).
1981	SIFE's annual competition drew 100 schools.

Table 1 (continued)

1982	First undergraduate entrepreneurship course in a Marketing Department (University of Illinois–Chicago).
1982	<i>Encyclopedia of Entrepreneurship</i> , edited by Kent, Sexton and Vesper.
1982	315 postsecondary schools with courses in entrepreneurship or small business (Solomon et al., 1994).
1983	First entrepreneurship course in an engineering school, University of New Mexico.
1983	Association of Collegiate Entrepreneurs (ACE) formed.
1983	Neil Churchill and Virginia Lewis published “The five stages of small business growth” in <i>Harvard Business Review</i> .
1983	<i>The Business of Art</i> first published. (First text/trade volume focussed on contemporary entrepreneurship training for a specific profession.)
1984	First Price-Babson College Fellows Program offered. (Pioneering training program for tenure-track and adjunct faculty in entrepreneurship.)
1984	Robert Hisrich and Candida Brush published “The woman entrepreneur: management skills and business problems” in <i>JSBM</i> . (First major work on women entrepreneurs.)
1984	First single campus business plan competitions at Babson College and University of Texas–Austin (known as MOOT).
1984	Collegiate Entrepreneurs of Illinois Conference. Group became Collegiate Entrepreneurs of the Midwest (CEM) in 1985 and the Collegiate Entrepreneurs Organization (CEO) in 1997.
1985	<i>Journal of Business Venturing</i> began publication.
1985	Peter Drucker’s <i>Innovation and Entrepreneurship</i> first published. (This volume legitimized entrepreneurship among traditional Business School faculties and greatly increased the visibility of entrepreneurship among Business school alumni.)
1986	First national business plan competition held, under the direction of Tim Mescon, University of Miami.
1986	Vesper reported 253 colleges/universities with entrepreneurship courses (Vesper, 1993).
1986	590 postsecondary schools with courses in small business or entrepreneurship (Solomon et al., 1994).
1986	Gary Liebcap’s <i>Advances in the study of entrepreneurship, innovation and economic growth</i> began publication. (First major annual research series specifically with a focus on entrepreneurship.)
1987	<i>Journal of Business Venturing</i> added to Social Science Citation Index.
1987	Entrepreneurship Interest Group of the Academy of Management became the Entrepreneurship Division.
1987	First National Business Plan Competition, San Diego State University. (First of the enduring national “open” business plan competitions.)
1987	<i>Family Business Review</i> began publication.
1988	<i>Small Business Economics</i> began publication.
1991	Special Issue of <i>Entrepreneurship: Theory and Practice</i> on the infrastructure of the academic discipline of entrepreneurship.
1991	102 endowed positions (Katz, 1991a).
1991	57 undergraduate and 22 MBA programs with entrepreneurship concentrations (Robinson and Haynes, 1991).
1991	1060 postsecondary schools with courses in entrepreneurship or small business (Solomon et al., 1994).
1992	<i>Small Business Economics</i> added to Social Science Citation Index.
1992	Center for Entrepreneurial Leadership created at the Ewing Marion Kauffman Foundation. (The largest foundation with a direct interest in entrepreneurship education.)

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Table 1 (continued)

1993	Vesper reports 370 colleges/universities with entrepreneurship courses (Vesper, 1993).
1993	EGOPHER begins operation. (First Internet site devoted exclusively to entrepreneurship education. Succeeded by eWeb— www.slu.edu/eweb —in 1995.)
1993	SBA Online FTP and Gopher sites began operation.
1993	Jerome Katz and Robert Brockhaus' <i>Advances in Entrepreneurship, Firm Emergence and Growth</i> began publication. (First major annual research series specifically focussed on mainstream entrepreneurship.)
1994	First of three special September issues of <i>Simulation and Gaming</i> appeared on entrepreneurship education. Others appeared in September of 1995 and 1996.
1994	First ETP/NFIB Award for dissertations in Small Business given.
1995	Over 450 schools participating in the Small Business Institute program.
1995	<i>Journal of Small Business Management</i> added to Social Science Citation Index.
1996	SBA withdrew its share of funding for the Small Business Institute program.
1996	Lisa Gundry and Aaron Buchko's <i>Field casework</i> published by Sage. (First entrepreneurship text supplement series from a commercial publisher.)
1996	First Family Business major offered, Texas Tech University.
1997	SIFE has 264 schools competing at their annual gathering.
1997	Service Corps of Retired Executives (SCORE) began delivering consulting assistance over the Internet.
1998	SBA preliminary results showed 1400 postsecondary schools with courses in entrepreneurship or small business http://www.gwu.edu/~nes .
1998	SBI programs at 220 schools (Matthews, 1999).
1998	208 endowed positions (Katz, 1999).
1998	VuSME, the Virtual University for Small and Medium Enterprises went on the World Wide Web. (First entrepreneurship distance education program deployed by a university, in this case a consortium of four schools.)
1999	Summer—"Special Research Forum on International Entrepreneurship" to published in <i>Academy of Management Journal</i> . (First special issue of a mainstream management journal dedicated to a theme in mainstream entrepreneurship.)

venues are growing, but no research to date covers this change. Examples of such courses include microfinance and indigenous business organization courses in sociology and economic development (Malecki, 1994), high-tech entrepreneurship in engineering schools (Vesper, 1993; Roberts, 1991), home economics (Heck et al., 1995), vocational education (e.g., International Consortium for Entrepreneurship Education), professions newly awakened to the need for training in the management of small profession-based businesses (Caplin, 1983; Katz, 1991b) and the traditional home of agricultural extension.

Similarly, growth of entrepreneurship courses and majors in Europe and Asia has been profound, but largely untracked, except for efforts by the European Foundation for Entrepreneurship Research, which focuses largely on top-tier European business schools. Vesper and Gartner (2001) found a similar pattern with 80% North American and 20% elsewhere, primarily Europe, in their sample of 128 respondents. Since most overseas programs are fewer than 10 years old, it shows the phenomenal growth of entrepreneurship education *outside* the USA.

In contrast, the early-adopter half of the roughly 3000 North American colleges with business programs have courses in place now. The remaining late-adopter schools will continue to draw out their adoption processes. Virtually, all schools with American Assembly of Collegiate Schools of Business (AACSB) accredited MBA or 4-year degrees, as well as

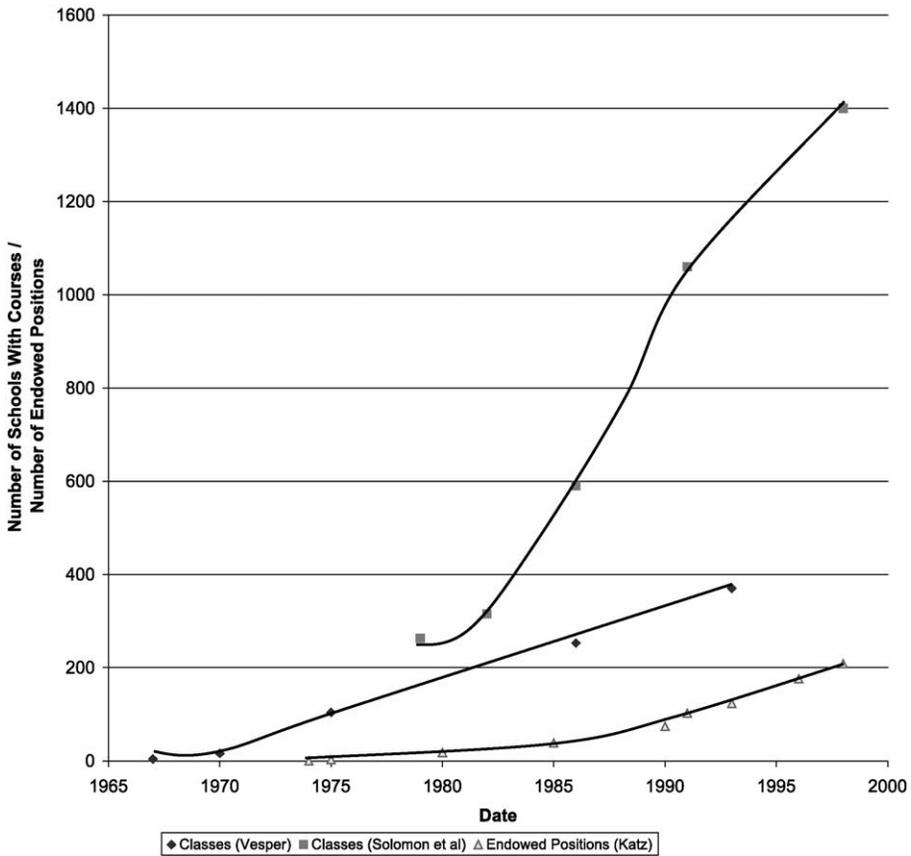


Fig. 1. Growth in number of endowed positions and schools with entrepreneurship courses.

nearly all nationally ranked schools, are already teaching entrepreneurship. These schools are generally offering multiple courses, including MBA concentrations or undergraduate majors in entrepreneurship. One web-based listing (Katz, 2001) identified 233 such schools worldwide, with 195 in the USA. Moving from courses to majors is the likely pattern of future growth for American business schools’ entrepreneurship efforts.

3.2. Growth of infrastructure elements

In Fig. 1, it is also possible to see the remarkable growth in endowed positions, taking off after a slow start in the 1960s and 1970s and now doubling on average every 4 years (Katz, 1991a, 1994, 1999). Katz (1999) reports some slowing in the USA due to saturation, but indicates that growth overseas continues to climb. The American saturation point is indicated by endowed positions in most schools with entrepreneurship concentrations or centers. Even as schools add multiple chairs, the overall pace, while still fast, is no longer meteoric.

The bulking up of endowments was funded largely through the stock market boom of the late 1990s. For example, since 1995, several top-tier business schools have aggressively

grown their center or program endowments past US\$10 million each. For comparison, centers in the early 1990s had endowments between US\$500,000 and US\$1 million, with the largest reported endowment of US\$4.5 million as a significant exception (Katz, 1994). These “bulked-up” centers and programs could lead to a broader range of program possibilities, in terms of support for faculty without endowed positions, student groups, incubators, consulting services, libraries and other settings.

Beginning in 1963, following the establishment of the first endowed position, the discipline of entrepreneurship’s wealth has grown to exceed US\$440 million with more than 75% of the funds accrued since 1987. The breakdown includes, at an average of US\$1.05 million each, 277 chair and professorship endowments; at an average of US\$1 million each, 100 center endowments; and 9 program endowments with a combined value of US\$50 million. For comparison, *Business Week* reports that the endowments to major business schools as institutions since 1984 have totaled US\$975,000,000 (<http://www.businessweek.com/bschools/faqsnafigs/aacsb/aacsbgift.htm>). It is possible that no other area in American business education draws on a larger or more widely dispersed financial foundation. Even with the dot-com bust of 2000 and the stock market declines of 2000 and 2001, the majority of American millionaires still come from the ranks of entrepreneurs, and a return to endowment bequests similar to the early 1990s is the most likely prospect.

3.3. Growth of publications

Publications had several high-water marks in terms of books, throughout the field’s history. However, it is not possible to discern a trend in the identification of books likely to have a major impact on the academic discipline. In lieu of that, it is possible, however, to find some indication of the growth of popular literature in the areas of entrepreneurship and small business.

The number of trade and textbooks in entrepreneurship and related disciplines continues to grow dramatically. A comprehensive survey conducted in 1995 showed 625 titles in print (Katz and Green, 1996). A 1998 replication using [Amazon.com](http://www.amazon.com) produced initial lists of 3555 titles in small businesses and 1132 in entrepreneurship, which when combined and cleaned produced a list of 2723 active titles. This approach suggests a dramatic rise in the number of trade and text volumes, conservatively shown to be doubling every year.

Impressive in the recent numbers, but somewhat slower in growth, are academic journals. Largely a phenomenon of the period since 1987, the number of journals have doubled every 3 years on average (<http://eweb.slu.edu/booklist.htm>). As shown in Table 2, 44 refereed entrepreneurship journals are accepting papers as of May 2001, with a new one starting approximately every 4 months (i.e., three new journals a year) since 1987. By comparison, in 1996, the rate was one journal starting every 6 months (i.e., two new journals a year).

With such growth, it is probable that journal supply is growing faster than researcher supply. For example, the Entrepreneurship Division of the Academy of Management grew from 600 to 800 members in a 10-year period (1987–1996), while the number of journals grew from 3 to 26 during the same time. Adjusting for increases in journal size and

Table 2

English-language refereed journals in entrepreneurship and small business operating or announced as of December 1999

-
1. *Academy of Entrepreneurship Journal*
 2. *Asian Journal of Business and Entrepreneurship*
 3. *Creativity and Innovation Management*
 4. *Economic Analysis: A Journal of Enterprise and Participation*
 5. *Enterprise and Innovation Management Studies*
 6. *Entrepreneurial Executive*
 7. *Entrepreneurship Development Review*
 8. *Entrepreneurship, Innovation and Change*
 9. *Entrepreneurship and Regional Development*
 10. *Entrepreneurship: Theory and Practice*
 11. *Enterprise and Innovation Management Studies*
 12. *Family Business Review*
 13. *International Journal of Entrepreneurial Behaviour and Research*
 14. *International Journal of Entrepreneurship*
 15. *International Journal of Entrepreneurship and Innovation*
 16. *International Journal of Entrepreneurship and Innovation Management*
 17. *International Journal of Technological Innovation and Entrepreneurship*
 18. *International Small Business Journal*
 19. *Journal of Applied Management and Entrepreneurship*
 20. *Journal of Business and Entrepreneurship*
 21. *Journal of Business Strategies*
 22. *Journal of Business Venturing*
 23. *Journal of Creative Behavior*
 24. *Journal of Developmental Entrepreneurship*
 25. *Journal of Enterprising Culture*
 26. *Journal of Entrepreneurship*
 27. *Journal of Entrepreneurship Education*
 28. *Journal of Extension*
 29. *Journal of International Business and Entrepreneurship*
 30. *Journal of Microfinance*
 31. *Journal of Private Enterprise*
 32. *Journal of Private Equity*
 33. *Journal of Small Business and Enterprise Development*
 34. *Journal of Small Business and Entrepreneurship*
 35. *Journal of Small Business Management*
 36. *Journal of Small Business Strategy*
 37. *Journal of Technology Transfer*
 38. *New England Journal of Entrepreneurship*
 39. *Small Business Economics*
 40. *Small Business and Enterprise Development*
 41. *Small Enterprise Development: An International Journal*
 42. *Southern Africa Journal for Entrepreneurship and Small Business*
 43. *Small Enterprise Research: The Journal of SEAAZ*
 44. *Venture Capital*
-

An up-to-date list, including nonrefereed journals, is maintained at <http://eweb.slu.edu/booklist.htm>.

frequencies of publications, there were approximately 1200% more journal pages available per entrepreneurship professor per year in 1997 than in 1987. This makes a simple but elegant argument in favor of our soon hitting a limit to growth.

3.4. A research caveat

Before speculating on the future, it is important to note the major limitation of this particular Forum so far, namely its focus on the North American market. At several points in the Forum, the alert reader will have noticed mention of program elements outside of North America. These are the tip of an unexplored iceberg. Today, entrepreneurship education outside North America is growing dramatically. While the number of schools is in the hundreds and programs in the one- to two-dozen range, the effort is starting at the top business schools and working down through the rest of schools. Already there are more PhD students in entrepreneurship outside North America than inside, and the number of highly capable researchers is growing very dramatically. While endowments significantly lag those of North America, there is more government commitment to funding. For instance, Germany funded nearly two-dozen entrepreneurship chairs in the late 1990s. In short, the worldwide market for entrepreneurship education is becoming more competitive in terms of programs for the brightest MBA students, PhD programs and endowed positions. With most of the new entrepreneurship journals being started outside the USA and substantial growth of European entrepreneurship, especially in the newly emerging economies of eastern Europe, American entrepreneurship programs will face unprecedented global competition for students in the classroom and mindshare in the media.

4. Implications

The American business schools' distinctive approach to entrepreneurship education has enjoyed more than 50 years of growth, with accelerated growth in the 1990s when courses, endowed positions, centers and publications began doubling every 3–5 years. What are the implications of these trajectories of growth for the field of entrepreneurship education in America?

4.1. The major findings

4.1.1. Maturity in business schools

In a field more than 50 years old, it is safe to say that the life cycle of entrepreneurship education in United States business schools is at the threshold of the maturity stage. This arguably is characterized by:

- Two widely recognized and consistent approaches: entrepreneurship (wealth-creation focussed courses) and small business (form-creation focussed courses);

- For each approach, there is considerable standardization across the industry (notably the reliance on the number, type and teaching approach to courses) (Plaschka and Welsch, 1990; Solomon et al., 1994);
- The presence of the service in the major venues, notably nearly all AACSB accredited business schools, as well as more than 1000 nonaccredited ones (Solomon et al., 1994);
- A complete educational infrastructure, consisting of more than 300 endowed positions, more than 100 centers, more than 40 refereed academic journals and more than a dozen professional organizations in the United States alone (Katz, 1994);
- An emerging segmentation of the discipline marked by the growth of specialized professional groups and publishing venues in economics, economic development, finance and high-technology; and
- Legitimization by various external sources, including
 - National rankings of entrepreneurship programs in the mainstream media (*US News and World Report*, *Business Week*) and
 - Inclusion of four top-tier entrepreneurship journals in the Social Science Citation Index (*Entrepreneurship and Regional Development*, *Journal of Business Venturing*, *Journal of Small Business Management*, *Small Business Economics*).

4.1.2. *Growth outside of business schools*

While entrepreneurship education in American business schools may be reaching maturity, demand in other markets is growing. Since the late 1990s, demand for entrepreneurship trade books has nearly doubled each year. Entrepreneurship offerings continue to grow in schools of agriculture, engineering, the learned professions, and arts and science, usually with minimal or no involvement by business school entrepreneurship faculty (cf. examples such as Carnegie-Mellon, Colorado, Cornell, Iowa, Laval, Minnesota, Missouri at Kansas City). If new approaches are developed there, business schools are not likely to know, much less benefit. The real risk to business schools would be if a new paradigm of entrepreneurship education emerged from these new sources, supplanting the model developed in American business schools and refined over the last 50 years. The 21st century entrepreneurship education would be certain to look nothing like its 20th century predecessor.

4.2. *The major problems*

4.2.1. *The publications glut*

Simply put, there are too many journals for faculty in entrepreneurship today. Few schools can buy more than a fraction of the journals, and most are not indexed or available on the major services like EBSCO, ProQuest, Lexis-Nexis or InfoTrac. With too many journals chasing too few good papers, the newer journals will face difficulties demonstrating the quality to get into indexes, into libraries and onto lists of journals approved for tenure decisions. In short, a shakeout could be coming unless the field grows much faster or the journals restructure themselves.

Ironically, the field arguably *still* needs journals—with niche journals being a likely area for sustainable growth. In looking at the number of papers presented at research conferences,

areas like international entrepreneurship, women's entrepreneurship and entrepreneurship education have sufficient paper flow to warrant dedicated outlets. Using electronic publishing models, it would be possible to create journals able to survive financially on very small subscriber bases. For schools seeking legitimacy or visibility, such electronically published niche journals could be attractive. For commercial publishers, such journals have been risky. The *Journal of Small Business and Entrepreneurial Finance* and the *Franchising Research* were folded due to poor financial performance. Meanwhile, more than a dozen new general market entrepreneurship journals were started by commercial publishers.

4.2.2. *Legitimization and publication*

While there is a glut of new and unproven journals in entrepreneurship, the leading-edge researchers in entrepreneurship, especially those at AACSB-accredited institutions, are increasingly focused on publishing in an even more select venue, the top-tier management journal. This is another indicator of reaching the maturity stage. Not only are articles on entrepreneurship appearing in top-rated management journals, but there are more journals devoting special issues to entrepreneurship topics, including: "International Entrepreneurship" in the *Academy of Management Journal* (October 2000), "Privatization and Entrepreneurial Transformation" in the *Academy of Management Review* (July 2000) and "New and Evolving Organizational Forms" in the *Academy of Management Journal* (December 2001).

Legitimization like maturity poses challenges. The greatest one is socialization of junior professors new to the field. For example, where should they publish? If they aim for mainstream management journals and away from mainstream entrepreneurship journals, we are likely to see research more generic (to appeal across management disciplines) and less relevant. The field of strategic management has achieved this type of "success" over the past 20 years, but seems to have done so largely at the cost of estranged relationships with the strategic planners in the business world. The orthodoxy and mainstream opportunities that have come as entrepreneurship education's payoff for success also pose the very real threat of less variance in thinking, in depth or quality of relation to the entrepreneurial community, and in the distinctiveness of the domain of entrepreneurship research.

4.2.3. *Avoiding stagnation*

Can American entrepreneurship education cope with maturity? The big problem is avoiding stagnation. This is particularly possible where the internal business school "market" is rich—with abundant financial resources, publication outlets, students and programs to absorb faculty time. Entrepreneurs are warned about the danger success brings—getting "complacent with success" and forgetting about the energy, innovation and market orientation that originally made them successful.

The maturity of the field noted above, when contrasted with the explosive demand for entrepreneurship training and education outside of business schools and outside America, suggest America has reached a "complacent with success" phase. Historically, eager

entrepreneurship faculty, on the prowl for mindshare that could turn into endowments, have emphasized innovation. Entrepreneurship was one of the first disciplines to have students consult (Gundry and Buchko, 1996) or to formally organize the use of adjunct faculty (e.g., the Price-Babson Fellows Program or Katz, 1995). Today, however, collegiate entrepreneurship education has institutionalized its original model for growth, creating a new orthodoxy. If the American business schools are going to generate a new generation of frame-breaking paradigms, they must once again consider embracing the “lean and hungry” mindset of their earlier stages.

4.2.4. *Challenges in the faculty pipeline*

Today, lack of faculty at every rank is the number one limiting factor of the growth of the field. At higher ranks, this shortage is reflected in the more than 20 open endowed positions, a number that grows almost monthly as new positions are created. At the introductory course levels, it is reflected in the high percentages of adjunct (i.e., nontenure track, part-time) faculty being used to teach entrepreneurship, even in some of the most famous business schools in America. It also is reflected by the growth of entrepreneurship and small business education across the university because demand has outstripped the supply of business courses and business faculty. Currently, the greatest growth of entrepreneurship faculty can be witnessed in programs outside the United States. American business-school-based entrepreneurship faculty represents a decreasing proportion of the community of entrepreneurship educators, both across the university and around the world. This means the previously taken-for-granted ability of American business-school-based entrepreneurship professors to set the agenda or *desiderata* for the field of entrepreneurship as a whole is on the decline. In the 21st century, entrepreneurship education will become a worldwide product with multiple national and niche competitors competing for intellectual mindshare, students and trainees.

4.2.5. *PhD programs in entrepreneurship*

A second fundamental weakness for entrepreneurship education worldwide is a lack of PhD programs providing faculty in entrepreneurship. Based on lists from eWeb and the Vesper and Gartner (2001) *Compendium*, only 12 schools offer PhD's specific to entrepreneurship [Calgary (Canada), Case Western, Colorado, European Doctoral Consortium, Georgia, Harvard, Imperial (UK), Swinburne (Australia), Jyväskylä (Finland), Vaxjo (Sweden) Indiana, Jonkoping (Sweden)], although more than two dozens offer PhD's in management or marketing or even education where students can specialize (and receive support) in entrepreneurship (<http://eweb.slu.edu/phdlist.htm>). As a result, most of the holders of endowed positions come from other disciplines and, of the 1600+ schools teaching entrepreneurship or small business, the majority still make do with adjunct faculty rather than standing professors (Katz, 1991c, 1995).

Entrepreneurship education worldwide needs to aggressively grow the faculty from the ground-up. The Academy of Management Entrepreneurship Division has developed a white paper on doctoral education in entrepreneurship to lead the way in this effort. Doctoral faculty, trained in the history and specifics of entrepreneurship education, educated to perform

leading-edge as well as mainstream research, and imbued with the challenge to look at the broader societal context in which entrepreneurship education is enmeshed, would do much to strengthen and adapt the field of entrepreneurship education. Trained in this way, the graduates would be in a position to make contributions in the 21st century to rival those of the pioneers from the last half of the 20th century.

5. Conclusion

Depending on how broadly one wishes to define entrepreneurship, it is more than 50 or perhaps even more than 100 years old. In America, it has grown to become an infrastructure of tremendous size, scope and wealth. It also has just gone through one of its periods of greatest growth, perhaps growth that was so fast that it might have outstripped the available intellectual resources. For American business school entrepreneurship professors, this means that they will face increasing competition for the brightest students and the best ideas and the premiere venues for publication from not only entrepreneurship faculty around the world, but from entrepreneurship faculty members in the office next door. In a way, this reflects the broader acceptance of entrepreneurship as a discipline of value in academia, and that is a tremendous success for a field that 20 years ago was uncertain of itself or its value.

For the American entrepreneurship academics in business schools, there are major questions to be asked in the near future about where work should be directed in terms of subject and market, how the competing demands of research, teaching and service should be balanced and, most fundamentally, how to maintain an entrepreneurial attitude in an academic industry that has tasted success in a big way.

The good news is that entrepreneurship education is certain to continue as a major and growing academic discipline worldwide. There are too many academics, too much established infrastructure and too much demand from students, firms and governments to let entrepreneurship fall into disuse or disarray. And from the standpoint of establishing the discipline worldwide, entrepreneurship education is succeeding beyond anyone's past predictions. One future uncertainty is the form or forms of entrepreneurship education that dominate in the new century. The next new paradigm could come from anywhere on the globe, emerging from the new infusions of culture, business settings and institutional influences. For the 20th century's history of entrepreneurship education, the world turned to America for inspiration. For the 21st century version, the world could turn anywhere.

Acknowledgements

Part of the research and the chronology for this paper was developed under contract from the OECD to the author for a working paper entitled "A Brief History of Tertiary Entrepreneurship Education in the United States" and is used here with permission. Sweden's Entrepreneurship and Small Business Research Institute (ESBRI) also provided assistance. The author wishes to thank Kimberly Green, Cheryl Nietfeldt, Magnus Aronsson, Claudette

Jenkins and Maria Byström for their assistance and advice. Extensions and updates of this chronology will be available online at <http://eweb.slu.edu/chronology.htm>.

References

- Block, Z., Stumpf, S.A., 1992. Entrepreneurship education research: experience and challenge. In: Sexton, D.L., Kasarda, J.D. (Eds.), *The State of the Art of Entrepreneurship*. PWS-Kent, Boston, pp. 17–42.
- Caplin, L., 1983. *The Business of Art*. Prentice-Hall, Englewood Cliffs, NJ.
- College Entrance Examination Board, 1997. *Index of Majors and Graduate Degrees—1998*. College Entrance Examination Board, New York.
- Christy, R., Jones, B.M., 1982. *The Complete Information Bank for Entrepreneurs and Small Business Managers*. The Center for Entrepreneurship and Small Business Management, Wichita, KS.
- Cooper, A., 1998. Entrepreneurship: the past, the present, the future. Keynote address to the 1998 Annual Meeting of the US Association for Small Business and Entrepreneurship, Clearwater, FL.
- Dainow, R., 1986. Training and education of entrepreneurs: the current state of the literature. *J. Small Bus. Entrepreneurship* 3 (4), 1–23.
- Dennis, W.J., 1997. *The Public Reviews Small Business*. NFIB Education Foundation, Washington, DC.
- Gorman, G., Hanlon, D., King, W., 1997. Some research perspectives on entrepreneurship education, enterprise education and education for small business management: a ten-year literature review. *Int. Small Bus. J.* 15 (3), 56–77.
- Gundry, L., Buchko, A., 1996. *Field Casework: Methods for Consulting to Small and Startup Businesses*. Sage, Thousand Oaks, CA.
- Heck, R.K.Z., Owen, A.J., Rowe, B.R. (Eds.), 1995. *Home-Based Employment and Family Life*. Auburn House, Westport, CN.
- Herbert, R.F., Link, A.N., 1982. *The Entrepreneur*. Praeger, New York.
- Katz, J.A., 1991a. Endowed positions: entrepreneurship and related fields. *Entrepreneurship: Theory Practice* 15 (3), 53–67.
- Katz, J.A., 1991b. Educating entrepreneurial professionals: identification of the critical market. *J. Private Enterp.* 7 (1), 105–120.
- Katz, J.A., 1991c. The institution and infrastructure of entrepreneurship. *Entrepreneurship: Theory Practice* 15 (3), 85–102.
- Katz, J.A., 1994. Growth of endowments, chairs, and programs in entrepreneurship on the college campus. In: Hoy, F., Monroy, T.G., Reichert, J. (Eds.), *The Art and Science of Entrepreneurship Education*, vol. 1. Baldwin-Wallace College, Cleveland.
- Katz, J.A., 1995. Managing practitioners in the entrepreneurship class. *Simul. Gaming* 26 (3), 361–375 (September).
- Katz, J.A., 1999. eWeb's 1999 Survey of Endowed Positions in Entrepreneurship and Related Fields. St. Louis University. (<http://www.eweb.slu.edu/chair.htm>).
- Katz, J.A., 2001. eWeb's Listing of Majors in Entrepreneurship and Related Fields. St. Louis University. (http://www.eweb.slu.edu/ent_college_list.htm).
- Katz, J., Green, R.P., 1996. Academic resources for entrepreneurship education. *Simul. Gaming* 27 (3), 365–374.
- Malecki, E., 1994. Entrepreneurship in regional and local development. *Int. Rev. Reg. Sci.* 16 (1–2), 119–153.
- McMullan, W.E., Long, W.A., 1987. Entrepreneurship education in the nineties. *J. Bus. Venturing* 2, 261–275.
- Meyer, G.D., 2001. The Evolution of Entrepreneurship Education: Current State of the Art. Plenary address to the ICSB World Conference. (<http://www-bus.colorado.edu/faculty/meyer/evoluth/index.htm>).
- Peterson's Graduate Programs in Business, Education, Health, Information Studies, Law and Social Work Peterson's, Princeton, NJ.
- Peterson's Graduate Programs in the Humanities, Arts and Social Sciences, 1998b. Peterson's, Princeton, NJ.

- Plaschka, G.R., Welsch, H.P., 1990. Emerging structures in entrepreneurship education: curricular designs and strategies. *Entrepreneurship: Theory Practice* 14 (3), 55–71.
- Roberts, E.B., 1991. *Entrepreneurs in High Technology*. Oxford, New York.
- Robinson, P., Haynes, M., 1991. Entrepreneurship education in America's major universities. *Entrepreneurship: Theory Practice* 15 (3), 41–52.
- Sandberg, W.R., Gatewood, E.J., 1991. A profile of entrepreneurship research centers: orientations, interests, activities, and resources. *Entrepreneurship: Theory Practice* 15 (3), 11–24.
- Solomon, G.T., Fernald, L.W., 1991. Trends in small business and entrepreneurship education in the United States. *Entrepreneurship: Theory Practice* 15 (3), 25–40.
- Solomon, G.T., Weaver, K.M., Fernald, L.W., 1994. A historical examination of small business management and entrepreneurship pedagogy. *Simul. Gaming* 25 (3), 338–352.
- Vesper, K.H., 1981. *Frontiers of Entrepreneurship Research—1981*. Babson College, Babson Park.
- Vesper, K.H., 1993. *Entrepreneurship Education*. Entrepreneurial Studies Center, UCLA, Los Angeles, CA.
- Vesper, K.H., Gartner, W.B., 1997. Measuring progress in entrepreneurship education. *J. Bus. Venturing* 12 (5), 403–421.
- Vesper, K.H., Gartner, W.B., 2001. *Compendium of Entrepreneur Programs*. University of Southern California, Lloyd Greif Center for Entrepreneurial Studies, Los Angeles (<http://www.marshall.usc.edu/entrepreneur/postoffice/Compendium/index.html>).
- Zeithaml, C.P., Rice, G.H., 1987. Entrepreneurship/small business education in American universities. *J. Small Bus. Manage.* 25 (1), 44–50.