



The State of Entrepreneurship Education in the United States: A Nationwide Survey and Analysis¹

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Abstract: This paper presents the current state of entrepreneurship education in the United States and internationally as reported by participants in the 1999-2000 National Survey of Entrepreneurship Education. Survey results indicate a small but growing trend in the number of courses, concentrations and degrees in the academic fields of small business management and entrepreneurship. There is also evidence that institutions are receiving major endowments for entrepreneurship education in the form of chairs, professorships and centers. A surprising trend emerged from the data regarding entrepreneurship education and the use of technology. Of those that responded to the survey only 49% indicated that they offer information on the web regarding entrepreneurship and new venture creation to students and entrepreneurs. Also, 30% of those who responded indicated that they offer on-line management and technical assistance for students and entrepreneurs. Finally, 21 percent of the respondents indicated they use distance-learning technologies in their entrepreneurship education courses or concentrations. Growth in Entrepreneurship Education has accelerated over the last two decades. The dilemma is for the field to stay on the “cutting edge.” To continue to be a vibrant member of the academic community, pedagogies must reflect the changing times.

Keywords: entrepreneurship education, United States, survey

1. Introduction

The past decade (1990-1999) witnessed enormous growth in the number of small business management and entrepreneurship courses at both the 2 and 4-year college and university level. This expansion of educational offerings has been fueled in part by dissatisfaction with the traditional Fortune 500 focus of business education voiced by students and accreditation bodies (Solomon & Fernald, 1991). The dilemma is not that demand is high but that the andragogy selected meets the new innovative and creative mindset of students. Plaschka & Welsch (1990), recommend an increased focus on entrepreneurial education

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and more reality and experientially-based pedagogies such as those recommended by Porter & McKibbin (1988). If entrepreneurship education is to produce entrepreneurial founders capable of generating real growth and wealth, the challenge to educators will be to craft courses, programs and major fields of study, that meet the rigors of academia while keeping a reality-based focus and entrepreneurial climate in the learning experience environment.

This paper reports on the results of the 1999-2000 George Washington University/Kauffman Center for Entrepreneurial Leadership nationwide survey on entrepreneurship education.

2. Literature Review

The following examination of the literature presents the historical context of entrepreneurial education; a comparison between entrepreneurial education and traditional business education; a review of the conceptual distinction between small business courses and entrepreneurship courses; and an examination of entrepreneurship education methodologies and evaluation strategies.

2.1 Historical Context

Entrepreneurship education has experienced remarkable growth in the last half century. Within fifty years the field evolved from a single course offering to a diverse range of educational opportunities available at more than 1500 colleges and universities around the world (Charney & Libecap, 2000). The field's earliest roots are traced to Japan where in 1938, Shigeru Fujui, Professor Emeritus at Kobe University, initiated the first efforts in applied education in entrepreneurship (McMullen and Long, 1987). Courses in small business management began to emerge in the 1940's (Sexton and Upton, 1984) and in 1958, Dwight Baumann, an engineering professor at MIT, introduced what may have been the first course in entrepreneurship in the United States (McMullen and Long, 1987).

The early prediction that "...the number of course offerings should increase at an expanding rate over the next few years" (Vesper, 1985, p. 380) held true. In 1985, 253 colleges or universities offered courses in small business management or entrepreneurship and in 1993, 441 entrepreneurship courses were available to interested students (Vesper, 1994). By 1999, Foote reported student enrollment in entrepreneurship classes at five top U.S. business schools increased 92 percent from 1996 to 1999 (from a total of 3,078 to 5,913) and the number of entrepreneurship classes offered increased 74 percent. A recent estimate suggests that entrepreneurship and small business

education may now be offered in as many as 1200 post secondary institutions in the United States alone (Solomon, 2001) with educational experiences ranging from traditional course work to integrative curricula that include marketing, finance, new product development and technology (Charney & Libecap, 2000).

2.2 Differentiating Traditional Business Education From Entrepreneurship Education

Although small business management and entrepreneurship courses have experienced remarkable growth in the last several decades, there is consensus that the field is far from maturity (Robinson and Hayes, 1991). As the field evolves, discussion continues regarding the field's relevance, course content, pedagogy, and effectiveness measures (Solomon, Weaver, and Fernald, Jr., 1994). Early discussions focused on the need for entrepreneurship education and questioned whether entrepreneurship courses were not simply traditional management courses with a new label (King, 2001). While there is general agreement that the core management courses offered in traditional business programs are essential for success in any business career, (Vesper and McMullan, 1987; Block and Stumpf, 1992), there are fundamental differences between business principles applied to new ventures and those applied to large corporations (Davis, Hills, and LaForge, 1985).

Unlike the functional "specialist" focus of traditional business programs such as accounting, marketing or finance, entrepreneurial education requires a "generalists" approach that integrates and combines a variety of functional skills and knowledge (Hills, 1988; Block and Stumpf, 1992). Entrepreneurship education is also differentiated by stage of development, the central problem of new ventures. Traditional management education presents the functional format as if it were equally applicable to ventures at all levels of development, from an idea onward as though no differentiation by stage of development is required" (McMullan and Long, 1987, p. 267). Courses and programs in entrepreneurship education must focus on early lifecycle development challenges; particularly those related to startup (Vesper and McMullan, 1987) such as opportunity recognition, market entry, protecting intellectual property, the legal requirements of new businesses and severe resource constraints. Educational content must also address the lack of specialized functional expertise, the ways in which some organizational objectives differ from mature firms, and the finite time span available to generate profits (Loucks, 1982; Hills, 1988).

A core objective of entrepreneurship education that differentiates it from typical business education is "to generate more quickly a greater variety of different ideas for how to exploit a business opportunity, and the ability to

project a more extensive sequence of actions for entering business...”(Vesper and McMullen, 1988, p. 9). Business entry is fundamentally a different activity than managing a business (Gartner and Vesper, 1994); entrepreneurial education must address the equivocal nature of business entry (Gartner, Bird, and Starr, 1992). To this end, entrepreneurial education must include skill-building courses in negotiation, leadership, new product development, creative thinking and exposure to technological innovation (McMullen and Long, 1987; Vesper and McMullen, 1988). Other areas identified as important for entrepreneurial education include awareness of entrepreneurial career options (Hills, 1988; Donckels, 1991); sources of venture capital (Vesper and McMullen, 1988; Zeithaml and Rice, 1987); idea protection (Vesper and McMullen, 1988); ambiguity tolerance (Ronstadt, 1987); the characteristics that define the entrepreneurial personality (Hills, 1988; Scott and Twomey, 1988; Hood and Young, 1993) and the challenges associated with each stage of venture development (McMullen and Long, 1987; Plaschka and Welsch, 1990).

The integrated nature, specific skills, and business lifecycle issues inherent in new ventures differentiate entrepreneurial education from a traditional business education. An additional comparison, within the context of entrepreneurial education, can be made between small business management courses and entrepreneurship courses – a distinction not always addressed in the literature (Zeithaml and Rice, 1987).

2.3. Small Business Management and Entrepreneurship Courses

Unlike many specialized business courses, courses in both small business management and entrepreneurship focus on the total firm. These courses provide a breadth of creative managerial skills and knowledge that is the “closest approach to the original concept of professional management education offered at colleges and universities” (Zeithaml and Rice, 1987, p. 50). Both types of courses frequently provide students with opportunities to gain the knowledge and skills needed to generate a business concept, determine its feasibility, launch and operate a business, and develop exit strategies (Solomon, Weaver, and Fernald, Jr., 1994). Although small business management and entrepreneurship courses are closely related, there are also important conceptual differences between the two education types (Zeithaml and Rice, 1987; Solomon and Fernald, Jr., 1993). Small business management courses focus on achieving normal sales, profits and growth within an existing business. The traditional objective of small business management programs is to provide students with management know-how related to managing and operating small, post-startup companies including “setting goals and objectives, leading, planning, organizing and controlling from a small business

perspective” (Solomon and Fernald, 1993, p.5). In contrast, entrepreneurship education focuses on originating and developing new growth ventures (Guglielmino and Klatt, 1993; Marchigiano-Monroy, 1993) with an emphasis on high profitability, rapid growth, and expedient exit strategies (Solomon, et al., 1994).

2.4. Moving Beyond the Nature versus Nurture Debate

Continued rapid growth in both small business management courses and entrepreneurship courses offers some credibility for the assumption that skills relevant to successful entrepreneurship can be taught (Solomon and Fernald, 1991). In a study of entrepreneurial program graduates, Clark, et al. (1984) found evidence to suggest that the teaching of entrepreneurial and small business management skills aided new venture creation and success. A survey of 100 chief executives in entrepreneurial firms found that respondents believed that “while personality traits are difficult to influence, the vast majority of knowledge required by entrepreneurs can be taught” (Hood and Young, 1993). Additional support for this view comes from a ten-year (1985-1994) literature review of enterprise, entrepreneurship and small business management education that reported “... most of the empirical studies surveyed indicated that entrepreneurship can be taught, or at least encouraged, by entrepreneurship education” (Gorman, Hanlon & King, 1997, p. 63).

Given the relationship between entrepreneurial activity and economic development and the widely accepted notion that entrepreneurial ventures are the key to innovation, productivity and effective competition (Plaschka and Welsch, 1990); the question of whether entrepreneurship can be taught is obsolete. Ronstadt (1987) posed the more relevant question regarding entrepreneurial education: what should be taught and how should it be taught?

2.5. Education Methodologies

2.5.1. Course Content

Despite general agreement that entrepreneurship can be taught, there is little uniformity in program offerings (Gorman, Hanlon and King, 1997). This may be a function of an emerging field with a limited, but growing, body of knowledge. As researchers and scholars develop frameworks and sets of hypotheses for the study of emerging business successes and failures, the content of courses will evolve based on what is needed and what can be taught for the successful development of a new venture (Block and Stumpf, 1992). According to Ronstadt, the program focus of “the old school” was on action;

the business plan; and exposure to experienced visitors who inspired students through stories and practical advice. This era of entrepreneurship education was “one venture” centered and was essentially based on the premise that entrepreneurial success was a function of the “right human traits and characteristics” (1990, p.76). “The new school”, while still action oriented, builds and relies on some level of personal, technical or industry experience. It requires critical thinking, ethical assessment and is based on the premise that successful entrepreneurial activities are a function of human, venture and environmental conditions. This newer form of entrepreneurship education also focuses on entrepreneurship as a career process composed of multiple new ventures and the essential skill of networking or “entrepreneurial know-who” (Ronstadt, 1990, p. 80).

Another view from McMullan and Long calls for entrepreneurial education programs to have some of the core functional elements of a business administration program, but to present those functions from the “vantage point of a start up” (1987, p. 11). In addition to entrepreneurship-specific content, such as the social, psychological, historical and economic aspects of entrepreneurship, the program should include skill practice in one-on-one negotiations, oral presentations and persuasive writing. Courses should be structured around a series of strategic development challenges including opportunity identification and feasibility analysis; new venture planning, financing and operating; new market development and expansion strategies; and institutionalizing innovation (McMullan, Long and Vesper, 1988).

Real-time entrepreneurial activities include “projecting new technological developments, strategically planning, assisting in attracting necessary resources, and arranging for joint ventures” (Vesper and McMullen, 1988, p. 11). Ideally students should create multiple venture plans, practice identification of opportunities, and have extensive exposure to entrepreneur role models. Student interaction with these role models may occur in several important ways including having entrepreneurs serve as coaches and mentors (Hills, 1988; Mitchell and Chesteen, 1995); classroom speakers (Hills, 1988); and interview subjects (Hills, 1988; Solomon et al., 1994; Truell, et al., 1998). Effective entrepreneurial education requires students to have substantial hands-on experience working with community ventures so that they can learn to add value to real ventures and thus be prepared to add value to their own ventures (McMullan and Long, 1987).

2.5.2. Pedagogy

In addition to course content, educators are challenged with designing effective learning opportunities for entrepreneurship students. Sexton and Upton suggested that programs for entrepreneurship students should

emphasize individual activities over group activities, be relatively unstructured, and present problems that require a “novel solution under conditions of ambiguity and risk” (1984, p. 24). Students must be prepared to thrive in the “unstructured and uncertain nature of entrepreneurial environments” (Ronstadt, 1990). This kind of experience is offered to students in innovative entrepreneurship programs recognized by the United States Association for Small Business and Entrepreneurship (USASBE). Highlights of these programs include the following activities:

- A rigorous business plan evaluation by an outside panel of business leaders held just prior to graduation. Students who do not pass this “final” evaluation do not graduate and must wait another year for a second chance to complete degree requirements (Ball State University);
- An internal business plan competition where qualifying MBA teams present business plans to a panel of six judges comprised of investment advisers and venture capitalists. The winning team receives \$10,000 and an additional \$20,000 in 2-for-1 matching dollars for committing to invest their winnings in the business startup (University of Louisville);
- In addition to coursework, internship activities and networking events, students apply for university-based venture funds and incubator facilities. This startup “hatchery” offers students the opportunity to learn about the risks, problems, and rewards that make up the entrepreneurial experience (Miami University of Ohio).

Offering students opportunities to “experience” entrepreneurship and small business management is a theme among many entrepreneurial education programs. The most common elements in entrepreneurship courses continue to be venture plan writing, case studies, readings, and lectures by guest speakers and faculty (Vesper, 1985; Klatt, 1988; Kent, 1990; Gartner and Vesper, 1994). The typical elements of small business management courses include class work, tests, and a major project, which is usually a consulting project (Carroll, 1993). Project based, experiential learning is widespread in entrepreneurial education and may take myriad forms such as the development of business plans (Hills, 1988; Vesper and McMullan, 1988; Preshing, 1991; Gartner and Vesper, 1994; Gorman et al., 1997); student business start-ups (Hills, 1988; Truell et al., 1998); consultation with practicing entrepreneurs (Klatt, 1988; Solomon et al., 1994); computer simulations (Brawer, 1997); and behavioral simulations (Stumpf, et al., 1991). Other popular activities include interviews with entrepreneurs, environmental scans (Solomon, et al., 1994), “live” cases (Gartner and Vesper, 1994), field trips, and the use of video and

films (Klatt, 1988). Student entrepreneurship clubs are also widespread (Vesper and Gartner, 1994).

Anticipated changes in course pedagogy include a greater use of various types of cases, increased international considerations, a more intense focus on strategy formation and implementation, and an increase in the use of computers for various purposes (Ahiarah, 1989). Computer simulations provide entrepreneurial students “with multiple experiences of simulated new venture decision making” (Clouse, 1990, p. 51). The use of computer simulations described by Brewer, et al. (1993) affords students realistic entrepreneurship experiences that develop skills in complex decision-making and offer instant feedback.

Pedagogy is also changing based on a broadening market interest in entrepreneurial education. New interdisciplinary programs use faculty teams to develop programs for the non-business student and there is a growing trend in courses specifically designed for art, engineering and science students. In addition to courses focused on preparing the future entrepreneur and small business manager, instructional methodologies should also be developed for those who manage entrepreneurs in organizations; potential resource people (accountants, lawyers, consultants) used by entrepreneurs; and top managers who must provide vision and leadership for corporations which must innovate in order to survive (Block and Stumpf, 1992).

2.6. Entrepreneurship Education Evaluation Strategies

Evaluation of entrepreneurship education encompasses assessment of both the individual student and the program as a whole. Current student assessment methodologies combine traditional and entrepreneurial techniques. Conventional business education evaluation strategies of tests and written case studies are supplemented by innovative assessments methods that include having students evaluate each other’s venture plan; having venture capitalists evaluate students’ venture plans; using a live case for the final examination; and “adopting a grading policy under which any student who manages to raise \$10,000 or more on the basis of a plan developed in the course receives an automatic ‘A’” (Vesper, 1986, p. 383). To adequately measure the impact entrepreneurial education has on students’ knowledge and attitudes, “a uniform method of evaluation which permits comparisons between students, faculty, pedagogical method, course content, and other variables is needed” (Block and Stumpf, 1992).

Measuring program success is also vital to the evolution of the field. While student acceptance (Block and Stumpf, 1992) and number of students graduated (McMullan and Long, 1987) are requisite measures of effectiveness, these indicators are not adequate. The fundamental measure of effectiveness of

entrepreneurial education should be measured by socioeconomic impact produced (McMullan and Long, 1987; Block and Stumpf, 1992). Evaluation should consider the number, types and growth rate of companies produced (McMullan and Long, 1987), the contribution to the economy in terms of employment, and the degree of career satisfaction of students (Block and Stumpf, 1992). A challenge to the academic entrepreneurship education community is to develop solid theoretical bases upon which to build pedagogical models (Robinson and Hayes, 1991) and systematic evaluation strategies. "Like any new venture, these programs must be given room to breathe, flexibility of movement in order to develop their educational products, and protection to grow and flower into healthy maturity" (Ronstadt, 1990).

3. Methodology

The George Washington University developed a mail survey to examine the current state of entrepreneurial education in the United States and internationally and to evaluate the extent and breadth of entrepreneurial education methods and course offerings during the 1999-2000 academic year. The study also sought to examine pedagogical developments and trends, as well as any relations between and among students, course offerings and teaching pedagogy. Finally, the study sought to examine what innovative and creative teaching pedagogies were being introduced into the classroom such as use of the Internet and educational technologies.

The content of the survey is organized as follows:

1. Identify institutional academic entities – two-year community and junior colleges, four-year colleges and universities and international colleges and universities – which were offering small business and entrepreneurial educational programs.
2. Examine trends in entrepreneurial education in both the United States and internationally and closely examine the multiple course offerings, concentrations and majors at both the undergraduate and graduate level.
3. Explore teaching pedagogies and assessments employed both in and outside of the class setting.
4. Identify the traditional and non-traditional pedagogies and assessment techniques employed given the non-traditional foci of the field.

Over 4000 questionnaires were initially mailed to 2 and 4-year colleges and universities both in the United States and internationally. After a month, a

follow-up postcard was sent including an incentive offer to stimulate response rate. Finally, 240 qualified responses were received both through the mail and through online submissions.

In order to conduct meaningful data analysis, the data were analyzed using the Statistical Package for the Social Sciences Personal Computer Plus software (SPSS PC+). Data regarding type of institution were recoded and broken into three discrete groupings [two-year community and junior colleges, four-year colleges and universities, and international universities and colleges]. The questions regarding trends in entrepreneurial education, which offered respondents the opportunity to select as many of the responses as they perceived applicable to their institution, were coded using the multiple response technique of SPSS PC+. An analysis of the survey data is the focus of the next section.

3.1 Results

The results of the survey are presented as responses to specific questions on the survey.

- 1. Please indicate what type of academic institution your school represents.** The responses to this question indicated that 80 percent of the respondents to the survey were four-year colleges and universities, that 13 percent of the respondents to the survey were two-year community and junior colleges and that 6 percent of the respondents to the survey were international universities and colleges.
- 2. What year did your educational institution first start offering courses on Entrepreneurship?** A frequency analysis of the data indicates that the range of years in which schools started offering courses on Entrepreneurship was from 1978 to 1999. The modal year that the educational institution started offering courses on Entrepreneurship and or Small Business was 1982.
- 3. What types of courses are offered in the area of Entrepreneurship and or Small Business in your educational institution?** As shown in Figure 1 above, the data indicate for all respondents, 2-year colleges, 4-year colleges and universities and international colleges, Small Business Management was the most frequently offered course offering [35 percent of all respondents], second was Entrepreneurship [25 percent of all respondents] and third was New Venture Creation [15 percent of all respondents].

When the data were further analyzed by specific type of educational institution, the results in Table 1 below were obtained. The data indicate that 2-year colleges are predominantly teaching Small Business Management courses. The 4-year colleges and universities are also predominantly teaching Small Business Management, and International colleges and universities are predominantly teaching Entrepreneurship. The researchers believe that for future studies, terms such as “*entrepreneurship, new venture and small business management*” should be operationally defined to reduce any response bias.

Table 1: Courses Offered by Institution

2-Year Colleges	4-Year Colleges and Universities	International Colleges and Universities
1. Small Business Management	1. Small Business Management	1. Entrepreneurship
2. Entrepreneurship	2. Entrepreneurship	2. Small Business Management
3. New Venture Creation	3. New Venture Creation	3. New Venture Creation

4. **What types of endowments has your school received in the area of Entrepreneurship and or Small Business?** As shown in Figure 2 below, respondents were given three choices: Endowed Centers, Endowed Professor and Endowed Chair. Because some respondents had multiple forms of endowments, the researchers regrouped the data to better display the range of endowments currently existing in 2 and 4-year colleges and universities. As shown, the data indicate that Endowed Center was the most popular type of endowment to educational institutions. Endowed Center was closely followed by schools with endowed professorships; a combination of Endowed Center and Endowed Chair; and all three forms of endowments: Endowed Center, Endowed Professor and Endowed Chair.

5. **Does your school offer a course, field of concentration or degree in Entrepreneurship?** As shown in Figure 3 below, the data indicate among 2-year colleges, “Courses” were the primary academic vehicle offering Small Business Management and Entrepreneurship education with “Concentrations” in most cases, a distant second. Some institutions did offer “Degree Programs” in Entrepreneurship and Small Business. These data indicate that among those responding, Small Business Management and Entrepreneurship courses were widely offered but “Concentrations” and “Degree Programs” lagged far behind.

As shown in Figure 4 below, the data indicate that among 4-year colleges and universities “Courses” were the primary academic vehicle offering; Small Business Management and Entrepreneurship “Concentrations” again were a distant second. The majority of degree programs (20) were in Entrepreneurship.

- 6. What are the most popular in-class pedagogical methods used in teaching Entrepreneurship and or Small Business in your educational institution?** The data reveal that all three populations – 2-year colleges, 4-year colleges and universities, and international colleges and universities – tend to employ the same basic in-class teaching methods (see Table 2).

Table 2: In-class Pedagogical Methods

2-Year Colleges	4-Year Colleges and Universities	International Colleges and Universities
1. Case Studies	1. Creation of Business Plans	1. Creation of Business Plans
2. Creation of Business Plans	2. Case Studies	2. Case Studies
3. Discussions	3. Guest Speakers	3. Lectures by business people and guest speakers

- 7. What are the most popular pedagogical methods outside the classroom in teaching Entrepreneurship and or Small Business in your educational institution?** The top three most popular methods used outside the classroom are shown in Table 3 below. The data reveal that all three populations – 2-year colleges, 4-year colleges and universities, and international colleges and universities – tend to employ the same basic external teaching methods, with 2-year colleges more focused on Internship programs than the other two populations.
- 8. Does your school/center offer information on the web regarding Entrepreneurship and New Venture Creation to both students and entrepreneurs?** The data indicate that 51 percent of the educational institutions do not offer information on the web regarding Entrepreneurship while 43 percent do offer information on the web (see Figure 5).
- 9. Do you offer management and technical assistance on-line for students and entrepreneurs?** The data indicate that 23 percent of the

educational institutions responding to our survey offer some technical assistance on-line (see Figure 6).

Table 3: External Classroom Pedagogical Methods

2-Year Colleges	4-Year Colleges and Universities	International Colleges and Universities
1. Internships	1. Small Business Consulting	1. Small Business Consulting
2. On-Site Visits with Small Business Owners	2. Internships	2. On-Site Visits with Small Business Owners
3. Community Development and Small Business Consulting	3. On-Site Visits with Small Business Owners	3. Internships

10. Do you offer Distance Learning in entrepreneurship via the Internet? The data indicate that 21 percent of the educational institutions responding to the survey offer Distance Learning (see Figure 7).

11. Do you require web-based assignments as part of your entrepreneurship curriculum? The data indicate that 52 percent of the educational institutions responding to the survey do require web-based assignments as part of the entrepreneurship curriculum (see Figure 8).

12. What are the most popular periodicals used in the class? The data indicate that the most popular periodicals used in class are: Inc. Magazine (22 percent), Entrepreneur (15 percent), Wall St. Journal (15 percent) and Business Week (14 percent) (see Figure 9).

Table 4, below, provides the summary for multiple questions asked in regard to the educational institution outreach efforts in the area of entrepreneurship. The questions are in the left column of the table with the results in the right column broken down into a Yes, No or No Response categories.

Table 4: Outreach Efforts

Questions	Yes	No	No Response
Does your school offer Executive Development courses in Entrepreneurship?	29%	65%	6%
Does your school offer Continuing Education programs in Entrepreneurship?	45%	48%	7%
Does your school offer Internship opportunities with small local companies?	73%	18%	9%
Does your school work with local, state and federal government agencies in support of entrepreneurship?	72%	23%	5%
Is your school involved with any outreach programs that teach entrepreneurship to secondary and elementary schools?	39%	55%	6%
Does your school keep track of Alumni who started their own business?	42%	48%	11%
Does your school participate in Business Plan competitions?	42%	52%	6%

3.2. Discussion of Findings

Based on previous national surveys on entrepreneurial education (Solomon, 1988; Solomon and Fernald 1991; Solomon and Fernald, 1993; and Solomon, Weaver and Fernald, 1994) results of the 1999-2000 data indicate that there is a growth trend in terms of courses, concentrations and degrees in the academic fields of small business management and entrepreneurship. The data also show that entrepreneurial educators are increasingly using diverse experiential teaching and evaluation pedagogies. The growth of small business management and entrepreneurship courses is an occurrence that is not likely to dissipate soon. More importantly the data show a rise in course offerings, majors in the field and funding through endowed chairs. In fact, studies now point to the fact that endowments in entrepreneurship education are growing at an exponential rate (Katz, 1994).

Based on the data presented in this paper, there is a need to move to away from the use of traditional non-technology based forms of teaching and evaluation methods to the use of more educational technologies such as the Internet-based assignments and the use of knowledge portals. This opens the door for new methods of both teaching and learning. Not all technologies and

educational methods using the Internet might be the correct or best suited tool and approach. Early experiences with distance learning have not proven successful for some colleges and universities. Yet, the point is to start integrating the use of the internet in the entrepreneurial education process. According to noted management expert Peter Drucker, "Technology will force the educators to restructure what they are teaching (BizEd, 2001). For example the use of video conferencing and streaming of video case studies shows promise as a viable use of educational technology. The ability to bring new 'live' perspectives from different geographic locations and schools adds to the richness of the content and educational experience.

As educators move away from tests in favor of self-directed 'project' centered educational techniques, such as personalized business plans, it makes sense to create a class structure that facilitates this form of learning. Also, given the nature of learning and knowledge acquisition, educators need to explore ways that they can virtually provide knowledge to students 24/7. Recent developments in the educational and training sector, including "Small Business Classroom", show much promise as indicated by cofounder Hattie Bryant.

One of the most surprising results of the survey was the relationship between various entrepreneurship education pedagogies and the limited use of educational technologies. Given the tremendous growth in personal, business and academic technology, one might assume that a higher percentage of entrepreneurship educators would have adopted and used various educational technology tools such as the Internet, online chat rooms and distance learning. These results show that entrepreneurial educators are beginning to employ educational technologies into their teaching. However, educators need to lobby for more resources from their administrations in order to introduce more educational technologies into the classroom and consider requiring students to purchase laptops for lectures and labs. Since 1994, the National Center for Education Statistics (NCES) has surveyed schools to measure what proportion of them is connected to the Internet. As of the fall of 2000, almost all schools in the United States have access to the Internet. Our results indicate that only 49 percent of the educational institutions surveyed offered information on the web regarding Entrepreneurship and that 30 percent of the educational institutions in our survey offered technical assistance on-line.

3.3. Conclusion

The George Washington University (GWU) School of Business and Public Management (SBPM) Department of Management Science conducted the 1999-2000 National Survey of Entrepreneurship Education. The primary aim of the project was to conduct research into entrepreneurial education. The first

step in the research was a review of the literature on entrepreneurship and in particular entrepreneurial education. The second step was to send a mail survey to identify academic institutions that were offering small business and entrepreneurial educational programs. The third step examined trends in entrepreneurial education in both the United States and internationally regarding the development of multiple course offerings, concentrations and majors at both the undergraduate and graduate level. The results showed various new trends and one of them was in entrepreneurship education and technology.

If entrepreneurial educators are to broaden their teaching approaches, they need to move away from traditional methods and look to the full range of educational technologies as tools that will expand their reach to other schools and more students. Also, with the quantity and quality of information available on the Internet, students and faculty can use this resource to more easily acquire the needed knowledge to develop feasibility studies and business plans, gain access to market data and research industry and economic trends. As colleges and universities are beginning to realize that long distance learning is a part of regular learning, entrepreneurship and small business courses need to capitalize on this opportunity. The Internet is playing a major role in allowing this new type of education to take place.

Clearly, for entrepreneurship to embrace the 21st century, educators must become more competent in the use of academic technology and also expand their pedagogies to include new and innovative approaches to the teaching of entrepreneurship. Cyberspace has virtually erased time and distance and the Internet is transforming the theory of education into the practice of implementation. Professors are beginning to use this medium for communicating with other educators to learn how to improve and expand their courses. Entrepreneurship educators are also experiencing this phenomenon. For example, The George Washington University, under a grant from the Coleman Foundation, created an entrepreneurship education website for the Distributive Education Clubs of America (DECA). In addition to downloadable teaching modules, the site provides a message board where teachers from different schools can share knowledge by exchanging ideas and resources. Users are also encouraged to use the “comment” option to give feedback to the GWU curriculum development team regarding course materials. The entrepreneurship education modules are continually updated and improved to best meet the real-time needs of the user community.

Recently, Newsweek published a special article entitled “The Classroom of the Future” (Newsweek 10-29-01), in which leading teachers, inventors and entrepreneurs shared their vision for what schools will be in 2025. Among the viewpoints expressed by Steve Jobs was “One of the issues as a society going forward is to teach in the medium of the generation. The medium of our times is video and photography. We see things changing. We are doing more and

more with movies and DVDs. The drive over the next twenty years is to integrate multimedia tools into the medium of the day.” Some entrepreneurship educators are already beginning to teach using the “medium of the day” with the help of courseware products such as Prometheus, developed by Bo Davis at The George Washington University. In addition to offering students and teachers the opportunity to interact via email, bulletin boards and live discussion formats, Prometheus and other course management programs also integrate multimedia options into the course. Students can access a course site, download a posted journal article, watch an instructional video or DVD and return a completed assignment from any Internet connection. Educators can follow up with individualized online coaching and feedback to the student. “A good deal of teaching will still be done in the classroom, but much of it will take place off campus and in groups. Much will occur online, and much will be accomplished through self-study. Perhaps the single most important medium will be special tools that are adapted for use at home, with built-in visual and audio feedback mechanisms” (Drucker, BizEd, Nov/Dec 2001).

Linda Darling-Hammond, a professor of education at Stanford University, expressed her view that “Technology will support individuals becoming citizens of the world. Teachers will become coaches, directing students to the resources they need to solve problems – a guide on the side helping students find answers online, rather than a sage on stage. Teachers will understand how students are learning and access lots of different ways to help a particular student learn” (Newsweek, 10/29/01). For example, rather than offering students a few traditional options to research new venture feasibility, educators can invite the institution’s resource librarian to hold a tutorial on written, electronic and multimedia resources now easily accessible in most libraries. With some basic instruction, students in a matter of hours can mine data that was once the time-intensive domain of only the most advanced researchers. A final viewpoint shared by Senator Maria Cantwell expresses the notion that “The real issue is not the technology – the hardware is going to change – but the interactive nature of the education. People who interact with information retain more of that information. But most important, perhaps, education will become part of a larger more robust community” (Newsweek, 10/29/01).

We at The George Washington University Council for Family and Entrepreneurial Enterprises believe in and are working on, the creation of Entrepreneurship Knowledge Portals as the next educational technological frontier. These portals represent one alternative to improving entrepreneurship education pedagogical approaches, as they create centralized locations where educators can come, share and learn. The mission of an **Entrepreneurship Knowledge Portal** is to provide a one-stop shop for educators to come and review what other schools are offering in entrepreneurship education and share their own ideas on innovations in entrepreneurial education.

The field of entrepreneurial education has experienced tremendous growth in the United States. The results of this study represent a stream of research than began in 1978 with the examination of the current *state of entrepreneurship education*. In the last twenty years, a great many changes have occurred including gains in the academic acceptance and credibility for the field of entrepreneurship education. The American dream is to start your own business, not work for someone else. American colleges and universities as well as their international counterparts are responding to this growing interest and realizing what major public policy makers now believe: that small and medium enterprises will continue to be the economic generators capable of propelling their economies into the next millennium.

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