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"Entrepreneurship Education in the United States"
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Entrepreneurship Education in the United States

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Abstract

The United States has an almost overwhelming variety of educational programs and activities that are designed to promote entrepreneurship. This chapter paints the landscape of the extent to which institutions, both government-funded and privately-funded infuse society with information and education on how to become a successful entrepreneur. The chapter is based on an intensive survey of the World Wide Web and academic literature to compile an inventory of the types of programs, activities and organizations that stimulate intellectual entrepreneurship in the United States. The objective of this chapter is not to engage in an exercise of ‘flag waving’ nor is it an assessment as to which programs have the highest impact on sustainable economic development. This is a descriptive effort to present international scholars with an inventory of university related strategies and programs that promote entrepreneurship. Where available, information on economic impact of particular programs is provided. The author does not offer commentary on which programs are ‘exportable’ to specific countries feeling that the reader is in the best position to import ideas that fit their realities.

Overall Observations

The first observation is that in the United States, entrepreneurship education is offered at every level of educational institution from kindergarten through doctoral studies. Second, this survey reveals that starting about 1980, there was been a tremendous growth in formal entrepreneurship education in business schools across the country. Third, while business schools have increased their entrepreneurship course offerings, there has been a trend toward entrepreneurship courses for non-business students. Fourth, there has been an increase in ‘centers’ of entrepreneurship which have been established to encourage entrepreneurial activity among liberal arts, engineering, and medical students. Some engineering schools and medical research complexes have hired their own entrepreneurship faculty to offer courses in business to their students. These centers for entrepreneurship offer courses in entrepreneurship for both students and local aspiring entrepreneurs, sponsor business plan competitions, and promote academic research on entrepreneurship. Their real contribution is serving as an intellectual forum or infrastructure for potential entrepreneurs to network with those who offer expertise and possible funding for new businesses. Fifth, Entrepreneurship Centers are helping commercialize scientific research that is sponsored by the Department of Defense and other Federal agencies. In the 1980’s, Congress passed a bill that made it easier for government-sponsored research to be transferred to commercial entities. This technology transfer policy coupled with the efforts of universities to capitalize on the opportunity to profit from government sponsored research (through royalty payments on university patents) has resulted in an explosion of university-created ‘for profit’ organizations and
the need for university scholars and administrators to have some locally available expertise in entrepreneurship.

Beyond the scope of this chapter is the observation that entrepreneurship education is not exclusive to educational institutions. The trade publication industry offers a huge library of books written for the aspiring entrepreneur. The “how to start a business” and “self improvement” books are among the most popular and best-selling categories of literature in American bookstores. And, popular culture sometimes contributes to an appreciation of entrepreneurship. Hollywood has created television shows and movies that are infused with portrayals of entrepreneurs. These stories provide entertaining lessons on business from villains (Dallas and Dynasty television programs, as examples) to heroes (the movie about the Tucker Auto Company). Even children’s books are infused with stories of those who overcame adversity to become captains of industry through their entrepreneurial success. The development of the internet and www web contributes to increased dissemination of information useful to aspiring entrepreneurs. The www reduces the cost of obtaining information previously only available through expensive consultants (attorneys, marketing organizations, management consultants, and accountants). The number of www sites devoted to the creation, development, and management of businesses is staggering. While many of the sites are funded or sponsored by non-profit institutions of higher education, a significant number are “info-mercials” promoting the professional services of management consulting firms, accountants, and law firms. The trade press, Hollywood, and www are factors that may contribute to the entrepreneurial culture but are not the subject of this investigation.

This chapter classifies types of programs which are offered by or through government supported and private institutions of higher education. This chapter also discusses the role of non-profit organizations that offer entrepreneurship courses but do not offer academic degrees. The number of ‘named’ programs indicates that wealthy entrepreneurs are actively participating and in some cases successful entrepreneurs are helping design educational programs that promote entrepreneurship. Others are participating as ‘live speakers’ and others are serving as ‘adjunct’ faculty. Many have made substantial financial contributions to institutions of higher education. And, some have set up separate foundations to promote and fund entrepreneurship education.

Though there is an almost bewildering array of courses and programs. Descriptions of some of the prominent programs are provided along with lists of institutions that offer entrepreneurship education. It is beyond the scope of this research to offer assessment as to which strategies have been most effective in promoting sustainable economic development. In reviewing the literature promoting various undergraduate and graduate courses and programs in entrepreneurship, there is a uniform assumption and lots of anecdotal evidence that such programs do contribute to local economic development. Several studies of the effectiveness of particular programs are cited, but this research does not attempt to assess which programs produce the most entrepreneurial activity for the dollars invested. Before addressing the issue of how entrepreneurial educational programs correlate with entrepreneurial activity, the programs need to be identified and categorized which is the purpose of this effort.

Embedded in the web sites created by entrepreneurship program directors is the message that entrepreneurial education may contribute to a body politic that is more
tolerant of change. Change and what Schumpeter calls ‘creative destruction’ or wave theory of business is an underlying theme as to the value of obtaining entrepreneurial education according to many of the web sites that promote entrepreneurship programs. Entrepreneurship students get exposed to the economic concept that the price of new technology, products and services causes economic instability but that society’s material wealth increases with technological innovation. Most of the programs carry the subliminal message that personal economic stability is not a feature of the American economy and that they should expect job changes during their business careers. Most of the programs assume that their students will gain some work experience in existing organizations before they find the right opportunity to start their own business. And, themes of ‘intrapreneurship’ or how large businesses can respond entrepreneurially to competitive challenges helps prepare future management that is more open to innovation and change than the traditional management students who have a more “administrative” orientation. And, entrepreneurial education may expand the class of business opportunists who pair with innovators and scientists. The objective of this chapter is to define the landscape and provide some sampling of the vast variety of entrepreneurship education in the United States.

**The Growth of Entrepreneurship Education in the 1980’s - Present**

During the 1960’s and 1970’s, many large industrial companies actually downsized their domestic manufacturing operations. Economic dislocations caused by increased energy costs, increased labor costs (due to actual wage inflation and due to restrictive conditions placed on unionized employers), and global competition resulted in many companies moving their manufacturing overseas or in simply shutting down operations in the United States. The “Rust Belt” of the Midwest was used to describe the result of the closure of steel mills, textile mills and traditional manufacturing plants. Some of the firms simply moved to Southern states to save on energy and labor costs, but many firms found that ‘free trade policies’ resulted in a barrage of cheaper imports. Huge increases in agricultural productivity resulted in oversupply so that even the agricultural sector of the US economy appeared bleak. Recall that during the late 1970’s; the United States experienced a period of inflation under the Carter administration. The price of oil jumped from $12 a barrel to almost $30 a barrel which hurt energy-consumptive industries. In the 1970’s, Congress changed the tax policies concerning depreciation of real estate and real estate write-offs so that real estate investment were no longer economic. Because the tax laws changes applied to existing investments, the assessed values of real estate dropped ultimately resulting in foreclosures of real estate. The United States faced a crisis in banking and real estate just at the time when large portions of the country found their manufacturing sites closed. Whereas economic development agencies once focused on attracting large corporate relocations, they were faced with the reality that large manufacturing firms were downsizing or relocating facilities to foreign countries. So, one response was that many state governments responded by encouraging their publicly funded institutions of higher education to examine their role in economic development and look instead to fostering the development of new enterprises. Business schools, engineering schools and medical
schools were challenged to come up with programs to foster the creation of new businesses.

The result is that educational entrepreneurial programs are now seen as part of the infrastructure needed for economic development. This chapter presents some anecdotal evidence and scholarly research attributing economic development to entrepreneurship education.

The recent explosion of entrepreneurship programs should be viewed within historical context. Some academicians may attribute the economic expansion of the 1980’s and 1990’s to university based entrepreneurship programs. The reality is that America managed to industrialize and innovate without these programs. Andrew Carnegie, Henry Ford, David Rockefeller and J.P. Morgan all managed to become captains of industry without the benefit of such education. A more recent example is Michael Dell a collegiate dropout who created an innovative, high growth, entrepreneurial firms without the benefit of formal entrepreneurial education (though he did return to finish his college degree).

Methodology

This chapter represents a continuing investigation of the role of higher education in promoting intellectual entrepreneurship and an expansion of previous efforts to include other educational programs and activities outside or in combination with institutions of higher education. An earlier effort was a content analysis of two years of the Chronicle of Higher Education. The result was a summary of innovative programs in entrepreneurship and business education published in as a chapter, “Fountains for Intellectual Entrepreneurship,” in the 2001 edition of Knowledge Café for Intellectual Product and Intellectual Capital. The purpose of this study is to categorize and inventory the extent of programs and activities by institutions of higher learning to promote entrepreneurship. This study is based on two research strategies. Various search engines were used to scan the www to uncover programs and activities in entrepreneurship. And, electronic reference programs were used to search academic and non-academic literature on entrepreneurship education.

Youth – K-12 Programs

Programs that promote an understanding of entrepreneurship among young students are relatively new. These programs have not been designed to lure students out of education into the workplace, but to give students an incentive to pursue additional education and to develop personal habits that enforce self-esteem and goal setting. The public school system of America spends approximately $6,000 per student which is

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2 Ms. Maymoonah Thai, an MBA candidate, assisted in the preliminary research.
4 Particularly helpful was Academic Universe (Lexis-Nexis), Business Premiere, Science Direct. All trademarked bibliographic and full text search services.
almost three times the amount spent in 1960.\textsuperscript{5} Some of the highest per capita expenditures occur in public schools that have the worse test scores and highest drop out rates in the nation (Newark, New Jersey and Washington D.C.). According to the best measure of student achievement, by the fourth grade two-thirds of American children cannot read at a proficient level, three-fourths cannot write proficiently and four-fifths are not proficient in mathematics.\textsuperscript{6} In the fall of 1995, over one third of entering college freshmen were enrolled in remedial courses. At the same time, America does have an educational system that produces public school students that will go on to attend Harvard, Stanford and other Ivy League universities. The reality is that America’s public school system has an extremely wide variation of quality and standards. Some social commentators ascribe this problem to the reality that America’s students reflect a wide socio-economic range and that the combination of different cultural attitudes toward education, a lack of parental influence (due to high divorce rates and high percentages of children born outside of marriage), and influence of drug abuse, unemployment and other problems facing parents puts an unfair burden on America’s public school system. Whatever the reason for such a large disparity in quality of education, there is the beginning of an effort to teach entrepreneurship as a means of showing students the relevancy of education and for giving hope to those who may feel disenfranchised from society. There are 54 million school age children in the United States. Unfortunately, only small percentages receive education in entrepreneurship, but the effort is building thanks to several organizations.

The Ewing Marion Kauffman Foundation’s Center for Entrepreneurial Leadership has funded the creation of a curriculum for entrepreneurship education. Marilyn Kourilsky, Vice President of the Kauffman Center for Entrepreneurial Leadership started writing curriculum in the 1980’s. Her curriculum focuses on the concept of entrepreneurship and teaches general behaviors for working and living successfully, as well as skills in starting businesses.\textsuperscript{7}

The New Youth Entrepreneur is a program of 12 modules that teach entrepreneurship as a concept. The program walks students through the steps of starting a business. The curriculum is aimed at upper elementary and middle school students (ages 12 – 17). It is published as a CD-ROM and is available from EDTEC of Camden, New Jersey.\textsuperscript{8} Another product directed to elementary school children first published in 1996 is YESS/Minni-society by Marilyn Kourilsky and Sheila Carson. The YESS/Minni-society package consists of five paperback textbooks and instructor teaching guidelines.

The Consortium for Entrepreneurship Education offers Program for Acquiring Competence in Entrepreneurship (PACE) consisting of 21 booklets based on three levels: elementary students, older students who learn about business plans, and level 3 is for adults who are ready to start their own businesses. The program is available on a CDROM.\textsuperscript{9}

\textsuperscript{5} Bennett, Dr. William E. “The Next Chapter of American Education” Business Perspectives, Vol. 13 Issue 3, Spring 2001, p. 26
\textsuperscript{6} Ibid.
\textsuperscript{7} Brown, Carolyn “Curriculum for Entrepreneurship Education: A Review” CELCEE Digest, December 2000, Report Number CELCEE -00-8.
\textsuperscript{8} Ibid.
\textsuperscript{9} Ibid. The Consortium for Entrepreneurship Education is located at 1601 W. Fifth Ave, PMB 199, Columbus, Ohio 43212 or online at http://www.entre-ed.org/curricul.htm.
In 1999, the Global Education Partnership designed a program for middle and high school students called *Open for Business: a Project Based Entrepreneurship and Job Skills Program*. It consists of two units: one that helps students understand the skills needed to start a business and one that teaches job search and interview skills along with lessons on leadership and responsibility.\(^{10}\)

Other programs or curriculum include: *Growing a Business* by KidsWay Inc. a foundation formed in 1994 that uses entrepreneurship and business education to help ‘at-risk’ children to develop the skills needed to succeed in school as well as enhance their emotional and personal growth. *Own the Place* teaches career skills and helps students design a business plan for new ventures.\(^{11}\)

In 1987, Steve Mariotti (a former business executive and entrepreneur) decided to become a public high school teacher in New York City’s South Bronx district. His school district served a predominately Black and Hispanic (Puerto Rican) community. Steve was shocked by the students’ attitudes toward school. He quickly realized that the students needed a reason to stay in school. While teaching, he was brutally attacked by students. Instead of leaving the public school system, Steve decided that a new approach was needed. Combining his business background with his desire to teach at-risk students, Steve discovered that when low-income youth are given the opportunity to learn about entrepreneurship, their innate “street smarts” can develop into “academic smarts” and “business smarts.” He founded the National Foundation for Teaching Entrepreneurship.\(^{12}\)

Steve also recognized that most public school teachers do not have a background in business, so when he developed the curriculum for students, he also developed a program to train the teachers. Since 1987, his organization has offered entrepreneurship training to over 65,000 low-income students. “Our problem is that there are easily 10 million or more ‘at risk’ students so we have a lot of work ahead of us.”\(^{13}\)

**Community Colleges**

Community colleges are different from traditional four year institutions in two basic ways. Tuition for both public and private institutions rarely covers operating costs not to mention the capital costs of buildings, laboratories, etc. Four year institutions receive their funding from either state legislatures if they are public institutions or if they are private institutions from their own private endowments. Of course, tuition does help cover some of the operating costs, but only a small portion. Community colleges are funded by their own taxing authority which collects a property tax on residential and business real estate. This is the same mechanism that funds public K-12 schools in the United States. Therefore community college boards are local people elected to oversee the tax collection and budgetary requirements of the colleges. State legislatures consist of individuals elected throughout the state. Community college board members that have power over the community colleges are individuals whose financial interests are tied

\(^{10}\) *Ibid.*

\(^{11}\) *Ibid.* *Own the Place* is published by Start-Up Education, P.O. Box 7072, Pueblo West, Colorado 81007

\(^{12}\) [www.nfte.com](http://www.nfte.com)

\(^{13}\) Taken from remarks made by Michael J. Caslin III, CEO of National Foundation for Teaching Entrepreneurship at the Technology Enhanced Entrepreneurship Education Clinic (TE3) held October 10-12, 2002 in Boston, Massachusetts.
directly to the ‘district’ in which the community college is located. Local economic realities therefore rank extremely high in setting the educational agenda.

A second difference between community colleges and four-year institutions is that community colleges are not limited to academic programs. Traditionally, community colleges were seen as providing ‘vocational’ training to aid local economic development. Many community colleges still offer vocational programs. More than half of the community college students pursue two year ‘associate’ degree programs and enter directly into the workforce. Others take a set of college preparatory courses and then transfer to four year institutions where they take courses toward their major and minors. A significant segment of the community college population is adults already in the workforce. The adult learners but are seeking to upgrade very specific skill sets and these individuals take courses leading to certifications. In the 1950s, there were a variety of automotive repair credentials such as transmission repair specialists, etc. While automotive repair is still offered at many community colleges, the most popular programs are computer education leading to Novell Network certifications, CISCO router certifications and Microsoft certifications (all trademarked certifications). Many different professionals take computer courses to enhance their promotion potential. Computer courses are popular among medical technicians and licensed vocational nurses who want to update their work skills.

There are 1176 community colleges in the United States. Publicly funded institutions number 992 and 148 are private institutions. The majority of community colleges offer courses that include information on starting a business. Some of the community colleges include starting a business or business plan writing in their small business courses, others offer the course with the title of entrepreneurship. Community colleges have as their mission providing educational opportunities to promote the workforce. The entrepreneurial or small business curriculum is directed to help individuals create their own small business related to their vocation.

Higher Education and Entrepreneurship Courses

Until 1970, only a few universities offered courses or degrees in entrepreneurship. Probably the best known and earliest course was offered by Harvard University in 1945. The course was designed for returning veterans. By 1970, there were some 16 universities who offered courses in entrepreneurship. The St. Louis Center for Entrepreneurship and Education sponsored by St. Louis University used www.google.com to compile a list of 223 institutions that offer a major in entrepreneurship or small business. However, other studies show that over 400 institutions of higher education offer either a major in entrepreneurship or a minor in entrepreneurship. If one adds community colleges to the mix, there are easily over 1,500 institutions offering either a course in entrepreneurship or a course in small

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business that includes steps in starting a business and the process of writing business plans.

In typical American fashion, there is no government mandated set of courses or curriculum that constitutes ’entrepreneurship.’ With each institution subject only to their regional accreditation agency’s criteria for courses, the variety of course titles within the entrepreneurship major is staggering. These titles include: entrepreneurship or starting new firms, small business management, field projects with venture consulting, starting and running a firm, venture plan writing, venture finance, entrepreneurship for non-business majors, family business, venture opportunity finding/screening, venture marketing, management of fast-growing firms, venture in (arts, nursing, Eastern Europe, technology or other fields), creative thinking, franchise development, international venturing, law for entrepreneurs, innovation evaluation, technology transfer, entrepreneurship for (bankers, software writers, biologists, or their fields), corporate venturing, business entry via acquisition, street smarts in business and numerous other titles.\(^\text{17}\)

Some institutions blur the distinction between starting a family business or small business and starting a business that grows exponentially and advances an industry. Other institutions have separate ‘family business’ programs to assist ‘mom and pop’ business owners. These programs provide courses and counseling on issues such as generational transfer of the family business, estate and tax planning issues, and how to develop more sophisticated management systems. Other institutions focus on the creation of high technology ventures or in the creation of service type enterprises.

Probably the oldest and strongest undergraduate and graduate entrepreneurship program in the United States is Babson College. The College was founded by an entrepreneur, Roger Babson, in 1919. Roger Babson was born in 1875 and acquired his wealth as an investment banker and founder of the Babson Statistical Organization, a clearinghouse for data on corporate financial data and economic information. A true renaissance man, Babson founded two other colleges: Webber College in Florida and Utopia College (later named Midwestern Institute) in Eureka, Kansas. In 1940, he ran for President of the United States on the New Prohibition Party ticket. He was also fascinated by the theories of Sir Isaac Newton and founded the Gravity Foundation. He died in 1967.\(^\text{18}\)

Babson’s undergraduate curriculum reflects the founder’s liberal arts orientation coupled with a fascination for business. The current coursework provides business students with those liberal arts courses that promote creativity and entrepreneurship. In 2002, for the sixth consecutive time, U.S. News & World Report named Babson College the #1 college for Entrepreneurship in the U.S. In 2002, U.S. News created a new ranking called "Programs That Really Work," and they named Babson 10th in the country. In 2002, The Wall Street Journal survey of MBA programs named Babson College the #1 Hidden Gem for the 2nd year in a row. The Journal also has ranked Babson #3 in the Entrepreneurship category, behind Stanford and Harvard. According to the survey, Babson students received high marks for entrepreneurial skills and teamwork.\(^\text{19}\)


\(^{19}\) http://www2.babson.edu/babson/babsonhpp.nsf/public/homepage
Babson is a relatively small college with only 1,701 undergraduate students and 1,730 graduate students during the school year of 2001-2. More than 40 states and 65 countries are represented on campus. About 19 percent of the undergraduates and 14 percent of the graduate students are from outside the United States.\(^{20}\) The entire curriculum is oriented to promoting entrepreneurship—the creation and management of new, high growth, innovative organizations. At the MBA level, the institution developed a year round program of learning modules that fit a cycle of creating a new company. Faculty from economics, marketing, law, finance, and management provide short courses on specific topics relating to the cycle or process of setting up a new company. The curriculum completely integrates all the business disciplines into focusing on the creation of a new venture. This change was made in the early 1990's during the administration of a former President who had been Chairman of Xerox Corporation during its heyday. In 2001, the faculty decided to use that same approach for year two of the MBA, but this time the foundational theme would be 'operating the high growth enterprise.’ Faculty developed short, focused modules addressing key issues in high growth firms for the MBAs.

St. Louis University offers a strong undergraduate program in entrepreneurship. Saint Louis University’s entrepreneurship program, which is directed by Dr. Jerome Katz, was recognized as the U.S. Model Entrepreneurship Program in 1995, and was rated as one of the Top 25 in the country by Success Magazine in 1996, 1997, and 1998, which identified him and his SLU colleagues as America's best entrepreneurship faculty in all three years.\(^{21}\) Many entrepreneurship professors have substantial experience in forming new businesses or in advising them in addition to their academic credentials. For example, Dr. Katz is also President of J.A. Katz and Associates, a keiretsu or network organization specializing in consulting to large and small businesses about American entrepreneurs, their firms and their methods for achieving success. Clients have included Fortune 500 firms such as Southwestern Bell Telephone, the Trane Company, and R.H. Donnelly, and smaller high performance family businesses such as Consumer's Food Systems of Memphis and BSI Constructors of St. Louis. His firm has also provided specialized consulting services to small business advising firms such as the Missouri Artisans Business Development Association, the Heartland Economic Development Program, and the Small Business Development Centers in Philadelphia, Houston and St. Louis.\(^{22}\)

Many business publications rate top undergraduate programs in entrepreneurship. *U.S. News and World Report* rated the following in the top five: Babson College, University of Pennsylvania (Wharton), University of Southern California (Marshall School of Business), Massachusetts Institute of Technology (Sloan), and University of Texas at Austin (McCombs) in 2002.\(^{23}\)

Strong entrepreneurship programs are those that have faculty that combine practical experience and active academic research (which in the United States generally translates to publication in peer-reviewed journals), financial support from local

\(^{20}\) [http://www2.babson.edu/babson/BabsonHP.p.nsf/Public/aboutBabsonGlance](http://www2.babson.edu/babson/BabsonHP.p.nsf/Public/aboutBabsonGlance)

\(^{21}\) [http://www.slu.edu/eweb/jerome.htm](http://www.slu.edu/eweb/jerome.htm) accessed on October 1, 2002.

\(^{22}\) *Ibid.*

businesses, and an array of course offerings. Entrepreneurship courses help students understand not only the mechanics of forming businesses, but add to their understanding of innovation and technology, and strategies for managing extremely high growth organizations. Many institutions have opened Centers for Entrepreneurship within their Colleges of Business which is elaborated below.

Centers for Entrepreneurship

Many universities have created “centers” for entrepreneurship. While the missions of the centers vary among institutions, the reality is they represent a bridge between academe and the business community. What pyramids were to Egyptian rulers, named centers are to entrepreneurs. Endowing a center at a university is the modern key to immortality! Literally millions of dollars have found their way to business schools through this approach. An investigation of these Centers reveals a common menu of activities ranging from promoting academic research and publication, organizing business plan competitions, hosting business incubators, sponsoring non-degree educational programs, providing consulting services to aspiring entrepreneurs, serving as a library of resources, developing entrepreneurial case studies for use in business education, and general fund raising for the business school.

There are so many centers that the Kaufman Foundation funded the creation of the National Consortium of Entrepreneurship Centers. There are over 60 universities that are members, but there are entrepreneurship centers at many more institutions. Members include Centers at: Babson College, Ball State University, Baylor University, Benedictine College, Boston University, Bradley University Brigham Young University, Carnegie Mellon University, Colorado State University, Community College of Indiana, Cornell University, Council for Entrepreneurial Development, DePaul University, Drexel University, George Mason University, Georgia State University, Indiana University, Iowa State University, John Carroll University, Kennesaw State University, Loyola Marymount University, Massachusetts Institute of Technology, Northeastern University, Northern Kentucky University, San Diego State University, St. Louis University, Syracuse University, Texas Christian University, Tufts University, University of Akron, University of Arizona, University of Colorado, University of Cape Town, University of Hawaii, University of Illinois Chicago, University of Iowa, University of Maryland, University of Missouri at Kansas City, University of Nebraska, University of North Carolina, University of North Carolina — Greensboro, University of Notre Dame, University of Portland, University of South Carolina, University of Southern California, University of St. Thomas, University of South Africa – Capetown, University of Virginia, University of Washington, University of Western Ontario, University of Wisconsin – Madison, Wake Forest University and Wichita State University.24

In addition to the Marion Kauffman Foundation, the National Consortium of Entrepreneurship Centers is funded by the BeaconVentureCapital.com. BeaconVentureCapital.com is a division of Beacon Global Advisors, Inc., a U.S. registered broker/dealer and investment advisor for high-net-worth individuals and institutions. The NASDAQ Stock Market is another sponsor of the Consortium of Entrepreneurship Centers. The Consortium has been in existence for five years and sponsors conferences for the

24 http://www.nationalconsortium.org/members.html
Directors of Entrepreneurship Centers for the purpose of “enhancing and fostering improvements in curriculum, research, outreach and programs in entrepreneurship.”  
Another source or listing of entrepreneurship centers may be found at http://entrepreneurs.about.com/library/centers/bcenters.htm. There are 42 centers listed on the web page maintained by About.com.

Stanford’s Center for Entrepreneurship web page lists the following institutions as sponsoring Centers: University of Central Arkansas: Small Business Adv. Nat'l Center, University of Arizona: Berger Entrepreneurship Program, Babson College: Center for Entrepreneurial Studies, Ball State University, Baylor University: John F. Baugh Center for Entrepreneurship, Brigham Young University: Center for Entrepreneurship, UC Berkeley: Lester Center for Entrepreneurship and Innovation, UCLA: Harold Price Center for Entrepreneurial Studies, University of Southern California Lloyd Greif Center for Entrepreneurial Studies, Carnegie Mellon: Donald Jones Center for Entrepreneurship, University of Colorado: Center for Entrepreneurship, Columbia Business School: Eugene M. Lang Center for Entrepreneurship, Cornell University: Center for Entrepreneurship, De Paul University: Entrepreneurship Program, University of Georgia: Small Business Development Center, Harvard University, University of Illinois at Chicago, University of Maryland: Michael Dingman Center for Entrepreneurship, MIT Entrepreneurship Center, New York University: Berkley Center for Entrepreneurial Studies, Northwestern University, University of Oregon: Links for Entrepreneurs, University of Pennsylvania: Sol Snider Entrepreneurial Center, RPI: Center for Technological Entrepreneurship, St. Louis University: Jefferson Smurfit Center for Entrepreneurial Studies, University of St. Thomas: Center for Entrepreneurship, San Diego State: Entrepreneurial Management Center, University of Texas at Austin – GSB, and University of Warwick Business Processes Resource Center.

A study conducted at University of Arizona reported more than 100 active university-based entrepreneurship centers in the US and more than 270 endowed positions in entrepreneurship, an increase of 20 percent in just the last five years.

Edward M. Hufft, Jr. and Kenneth Huggins, two academic researchers at Metropolitan State College in Denver, Colorado developed a list of 2,000 centers for their research study. The list included family business centers (which cater to family owned and managed businesses), small business institutes (which perform consulting services for businesses that have received loans from the U.S. Small Business Administration), Small Business Development Centers (which are funded by the Small Business Administration to serve local businesses that may not have any loans from the SBA) and entrepreneurship centers.

Some Centers pursue research to stimulate innovation or entrepreneurship. The Batten Institute at the Darden School of Management at University of Virginia is one example. They define their activities as follows: “We invest in applied research and knowledge transfer programs about the frontiers of change in organizations, markets, and

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26 http://entrepreneurs.about.com/library/centers/bcenters.htm
27 http://www.bpa.arizona.edu/programs/berger/publications/impact_measuring.html
technologies. We favor pioneering projects, rather than extensions of established work. We expect that our sponsored projects will illuminate the best practices of agents of change such as entrepreneurs, transformational leaders, inventors, demanding customers, risk capital investors, and insight-leading educators. Among their activities is the publication of the *Journal of Business Venturing*, a peer reviewed, scholarly journal, the publication of faculty ‘working papers’ on research in entrepreneurship, and sponsorship of academic conferences at the university.

The MIT Entrepreneurship Center expresses their mission as training “men and women to make high tech, start up companies successful.” MIT traces its involvement in entrepreneurship back to the founding of Arthur D. Little (a management consulting firm) in 1886. MIT alumni founded companies such as Genentech, Gillette, Hewlett-Packard, Teradyne, and Raytheon launching new industries. The MIT Technology Licensing Office (TLO) has more than 1,000 issued US patents in its portfolio, many with foreign counterparts. Each year, the TLO annually grants as many as 60-80 licensing agreements. In the 1940s, MIT President Karl Taylor Compton, working with members of the local business community, conceived the idea of a high-tech venture capital firm to help nurture the development of companies springing up in the region. This work led to the founding of the first modern venture capital company, American Research and Development (ARD), in 1946. The Harvard Business School was MIT’s partner in founding ARD. A 1997 study indicated that MIT alumni are responsible for the creation of over 5,000 companies employing 1.1 million and having sales of $232 billion. The Institute for Entrepreneurship began by offering the first course in entrepreneurship in the 1960s but the Center was not formed until 1996 with a grant from the Kauffman Foundation. In FY 2002, the Center launched six new courses. They are titled: Building a Biomedical Business; Developmental Entrepreneurship; Corporate Entrepreneurship; Technology and Entrepreneurial Strategy; Law for the Entrepreneur and Manager; and Designing and Leadership the Entrepreneurial Organization. In addition, Entrepreneurs in the Next Economy evolved into its current form, Entrepreneurs in High Technology: IT, Energy, and Biotechnology. The Center brings in successful entrepreneurs as Senior Lecturers where they can give aspiring engineers, scientists and management students some practical advice. The Center sponsors a course called E-Lab in which students work one day a week in a high technology, start up company. G-Lab is a similar course but students find themselves in companies outside the United States. The Center currently has 17 professors and 16 practitioners teaching more than 30 sections of entrepreneurship courses to over 1300 graduate and undergraduate students from management, engineering, science, and other departments.

Stanford University has a Center for Entrepreneurship. It sponsors research, coursework and business plan competitions. Because there are so many individuals and organizations interested in forming high technology start up companies, Stanford has a program called the Stanford Entrepreneurial Network. This organization’s mission is to

29 http://www.darden.edu/Batten/bto_overview_wwd.htm
30 http://www.darden.edu/Batten/btr_jrn_ business_venturing.htm
31 http://entrepreneurship.mit.edu/
32 http://entrepreneurship.mit.edu/entre_at_mit.php
33 Ibid.
34 http://entrepreneurship.mit.edu/history_ center.php
35 http://entrepreneurship.mit.edu/enrollment_stats.php
create a forum among all the entrepreneurial activities and centers at Stanford. They sponsor conferences for students and faculty from the Stanford School of Engineering, School of Law, the Business Center for Entrepreneurial Studies, Stanford’s Office of Technology and Licensing, and the Graduate School of Medicine, etc. The Center for Entrepreneurship at Stanford was started in 1996. They cite as their mission the following:

- **Research**: Encourage rigorous and relevant research on issues related to entrepreneurship by providing logistical, analytical, and financial support to faculty and students.
- **Curriculum Development**: Provide teaching assistance, develop new courses, and work with faculty on writing case studies as teaching tools for the entrepreneurship courses.
- **Community Outreach**: Collaborate with several entrepreneurial efforts both at Stanford and in the local community, enabling our students and alumni to take advantage of a broader network of resources.
- **Student Programs**: Support student activities related to entrepreneurship.

The Stanford Center sponsors a program that provides graduate students of business the opportunity to serve as consultants for high technology start-up companies. In 2001, the Center received 100 requests from companies located throughout the United States.

Many Centers are named after their benefactors who were successful entrepreneurs. The Baugh Center for Entrepreneurship at Baylor University in Waco, Texas is but one example. Their web site explains: “Mr. Baugh went on to become the founder and senior chairman of SYSCO, the largest wholesale food distributor in the world. In 1976, as the recipient of the food industry's Heritage Award, he became the first person inducted into the Institutional Food Services in America Hall of Fame. He is also a member of the Texas Business Hall of Fame, has received the Herbert Hoover award and other industry awards, and is listed in Who's Who in America and in the World. Mr. Baugh is a director of the Bank of Houston. He is a founding trustee of Houston Baptist University, and was a director of the Baptist Foundation of Texas for more than 25 years, including service as its Chairman. He is a member of the Tallowood Baptist Church of Houston and has served as chairman of food industry and other business and professional organizations.” In 1981, the John F. Baugh Center for Entrepreneurship established the first non-government funded innovation evaluation program in the United States. The Center developed a computer program to analyze some 33 factors in giving an inventor

35 http://www.stanford.edu/group/eship/
37 http://www.gsb.stanford.edu/ces/about.html
38 http://gobi.stanford.edu/studentprojects/index.html
an evaluation of the potential for commercialization.\textsuperscript{41} Since its inception, Baylor has evaluated some 1,500 businesses.\textsuperscript{42} Since 1987, the Center has sponsored an Institute for Family Business and focuses on the problem of generational transfer of the business.\textsuperscript{43} Baylor also publishes the \emph{Journal of Entrepreneurship Theory and Practice} which is also the official journal of the United States Association for Small Business and Entrepreneurship (USASBE).\textsuperscript{44} In support of the local community, the Center offers a non-degree program called Fast Trac Entrepreneurial Training program for local entrepreneurs wanting to set up new businesses in central Texas.\textsuperscript{45}

The Karl Eller Center and its award winning Berger Entrepreneurship Program at the University of Arizona were created in 1984. A 2000 study underwritten by the Kauffman Center for Entrepreneurial Leadership noted that the Center’s entrepreneurship program had resulted in more alumni starting new businesses, developing new products and more likely to be involved in high technology endeavors than programs at peer institutions.\textsuperscript{46} A study by two researchers of the impact of the Eller College of Business and Public Administration and the Berger Entrepreneurship Program revealed a startling comparison between business school graduates and those who were graduates of the Berger Entrepreneurship program. The survey of 2,484 alumni revealed that entrepreneurship graduates were: three times as likely to start their own businesses, three times more likely to be self-employed and had annual incomes 27 per cent higher and own 62 percent more assets than regular business majors!\textsuperscript{47}

While no two centers are exactly alike, one can draw some conclusions as to some of the basic programs they offer. In terms of curriculum, the Centers serve to draw entrepreneurs into the classroom either as coaches or as lecturers. In terms of student activities, Centers may sponsor business plan competitions, or place students to work as consultants in start up firms, or sponsor social activities so that students can meet entrepreneurs, lawyers, accountants and those involved in finance (bankers, venture capitalists, and ‘angel’ investors). Many Centers offer non-degree programs for local business owners or for aspiring entrepreneurs. At universities which have engineering, law, or medical programs, Centers provide both credit courses and special programs to promote entrepreneurial activity. Some institutions which have doctoral research in the sciences, medicine, or technology use their Centers to blend researchers and entrepreneurs to look at commercialization of research. Some centers promote intellectual inquiry into the field of entrepreneurship which may include publication of research journals.

The Forum for Entrepreneurship and Education is a center that is not sponsored by a college of business. The Forum which promotes entrepreneurship education for public school teachers is hosted by Vanderbilt University’s Department of Leadership and Organization in their Peabody College of Education and Human Development. Their statement of beliefs states: “we believe... Schools should teach about uncertainty,

\textsuperscript{41} \url{http://business.baylor.edu/entrepreneur/default.aspx?pageID=247}
\textsuperscript{42} \textit{Ibid.}
\textsuperscript{43} \url{http://business.baylor.edu/entrepreneur/default.aspx?pageID=256}
\textsuperscript{44} \url{http://business.baylor.edu/entrepreneur/default.aspx?pageID=241}
\textsuperscript{45} \url{http://business.baylor.edu/entrepreneur/default.aspx?pageID=252}
\textsuperscript{46} \url{http://www.bpap.arizona.edu/programs/berger/about/history.html}
\textsuperscript{47} Charney, Albert and Libecap, Gary D. "Impact of Entrepreneurship Education" Insights, Kauffman Foundation at \url{http://www.entreworld.org/Bookstore/Product.cfm?DID=6&Product_ID=62&CATID=22}. 
helping students learn how to deal with ambiguity and how to manage chaos... we need to develop citizens who will “make jobs instead of take jobs.” Their mission is to “impact education from kindergarten through graduate level collegiate studies and into adult education.” They offer seminars in entrepreneurship, creative thinking, business planning, venture funding development, curriculum development, and programs for public school entrepreneurship teachers. They also conduct research on new and innovative ventures that will impact twenty first century living.

MBA and Entrepreneurship

At the graduate level, entrepreneurship has become an ‘area of concentration’ or minor even within the sacrosanct MBA degree. And this is not limited to relatively unknown or insignificant programs. All Business Schools is a complete online guide to business education lists 27 MBA programs with entrepreneurship concentrations.

These include (by state): University of Arkansas Sam M. Walton College of Business; Loyola Marymount University in Los Angeles; University of California Andersen School of Management in Los Angeles; University of Denver Daniels College of Business; University of Delaware College of Business; George Washington University School of Business and Public Policy (Washington, D. C.), Florida State University College of Business in Tallahassee; University of South Florida College of Business Administration in Tampa; University of Hawaii - Manoa - College of Business Administration; Dominican University - Graduate School of Business and Information Systems in River Forest; Ball State University College of Business in Muncie, Indiana; University of Iowa Henry B. Tippie School of Management in Iowa City, Iowa; Anna Maria College School of Graduate Studies in Paxton, Massachusetts; Boston University School of Management; Oakland University School of Business Administration in Rochester, Michigan; University of New Hampshire Whittemore School of Business and Economics in Durham, New Hampshire; Rider University College of Business Administration in Lawrenceville, New Jersey; Rochester Institute of Technology College of Business in Rochester, New York; Wake Forest University Babcock Graduate School of Management in Winston-Salem, North Carolina; Case Western Reserve University Weatherhead School of Management in Cleveland, Ohio; Clemson University School of Business and Behavioral Science in Greenville, South Carolina; Texas Christian University M.J. Neeley School of Business in Fort Worth, Texas; Baylor University Hankamer School of Business in Waco, Texas; University of Utah David Eccles School of Business in Salt Lake City, Utah; and Utah State University in Logan, Utah; Regent University Graduate School of Business in Virginia Beach, Virginia; and Eastern Washington University College of Business and Public Administration in Cheney, Washington.

\(^{48}\) [http://entrepreneurship.vanderbilt.edu/admin.htm]

\(^{49}\) Ibid.

\(^{50}\) Ibid.

\(^{51}\) [www.allbusinessschools.com](http://www.allbusinessschools.com) accessed on October 7, 2002.
While the above is an impressive list, it is not complete. There are many other MBA programs that offer entrepreneurship courses. According to this author’s research on the internet, there are 90 MBA programs in the United States that offer entrepreneurship courses. Some of these are described below.

The Massachusetts Institute of Technology, Sloan School of Management boasts: “The study and practice of entrepreneurship are central to Sloan’s culture, and have been a part of the Sloan curriculum for more than 40 years. Two of our MBA Program management tracks—eBusiness, and New Product and Venture Development—are devoted to it. This pervasive vision also influences countless other aspects of life at Sloan.”

The University of Maryland online MBA program offers an MBA seminar course on “The Marketing of New Ideas.” At Northwestern’s Kellogg School, nearly a third of the students entering the MBA program in 1996, stated they would take entrepreneurship courses. DePaul University's graduate entrepreneurship program has risen 20 per cent a year and in 1997 had 106 students. Currently at the Leeds School of Management University of Colorado in Boulder, more than 65% of CU-Boulder's MBAs focus on entrepreneurship as an area of concentration and 700 undergraduate and graduate students are enrolled in entrepreneurship courses annually. The Johnson Center for Entrepreneurship at University of Indiana sponsors MBA curriculum with courses in: Creativity and Innovation, Venture Screening, Venture Strategy, Technology Management, New Products Management, Business Planning, Growth Management and Venture Investment Analysis. The University of Arizona's Berger Entrepreneurship Program is designed to prepare selected students for success as entrepreneurs and business leaders. Students attend classes, work with successful entrepreneurs, develop business plans (many enter intercollegiate national and international competitions), and take part in numerous other learning activities. The program culminates with the preparation and defense of the business plan - complete with market exploration, competitive analysis, legal research, financial projections, capital procurement, and exit strategies.

The New York University’s Leonard N. Stern School of Business offers an Entrepreneurship and Innovation Area as an MBA second major. Students completing co-major requirements are also eligible for the Harold Price Award given at pre-commencement. “The Harold Price Entrepreneurship Award is given annually at Pre-commencement to a graduating student pursuing an entrepreneurial career who has attained outstanding achievement in entrepreneurship studies and student leadership, and who intends to initiate or participate in founding a new enterprise after graduating.”

Rensselaer started their entrepreneurship curriculum in 1985. Today they offer a graduate entrepreneurship program consisting of three specific entrepreneurship courses: Principles of Technological Entrepreneurship, New Ventures, Practicum in Technological

54 http://leeds.colorado.edu/entrep/ accessed on October 7, 2002.
Entrepreneurship and one of six restricted electives: Invention, Innovation, and Entrepreneurship, Financial Markets and Institutions, Industrial Marketing, Management of Technological Innovation, Design for Innovation or Research and Development Management. In 2001, they launched a program directed at all their undergraduates titled “Discovering Your Entrepreneurial Potential.”

The David Eccles School of Business at the University of Utah offers an MBA entrepreneurship program which they describe as “targeted specifically at entrepreneurial management in emerging, technology-intensive industries. The program consists of 12 credit hours: three required core courses beyond the general MBA core and selection of a minimum of one elective course from a list of selected course offerings. The emphasis is available to students in both the day and professional MBA programs.” The university explains their reasoning for their entrepreneurship concentration by noting that “Recent initiatives in the university, in the local business community, and by the state government all indicate that Utah has a large store of emerging technology, has a rapidly building supply of capital, but has a significant shortage of trained and experienced managers for high growth, technology intensive firms. This program is intended to address specifically this need in the local business community. Most job growth in the United States over the last several decades has been in startups or rapidly growing firms, primarily in companies that are taking advantage of new technology markets. This is even truer in Utah, where employment in old-technology, established firms has decreased at the same time that the state has consistently run a below-national-average level of unemployment despite a high rate of growth and immigration. New and high-growth companies are the lifeblood of the local economy, and high technology industry is providing the engine for local growth. This program is intended to place its graduates with such companies.”

The University of Illinois offers an MBA concentration designed to appeal to those who have engineering undergraduate degrees. The concentration is built on specialized courses in entrepreneurship and technology commercialization. The University claims that: “Students who complete these courses find themselves with a distinctive set of skills and knowledge that positions them well to excel in new venture-oriented projects. Teams typically go beyond simple market size assessments to positioning companies and their inventions relative to the marketplace and making recommendations on licensing or partnering with firms, if this appears to be the most viable step. In some instances, valuations of the technology, licensing terms, and the potential valuation of new ventures are provided at the request of OSBI’s clients. This extends into the area of corporate entrepreneurship, a rapidly growing sector where corporations, seeking to leverage and retain the knowledge and creativity of their staffs, seek rapid, efficient methods to evaluate technologies and inventions, whether directly related to their core business or not.”

It should not be surprising that the University of California at Berkley located at the edge of ‘Silicon Valley’ offers MBA studies in entrepreneurship. They claim: “The study and practice of entrepreneurship is booming at the Haas School.”

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59 Ibid.
School of Management started a business incubator in 1997 to help student start-ups get off the ground. The incubator is located across the street from campus and offers space for up to eight startups launched by Haas students and alumni.63

Stanford University’s MBA offers a concentration in entrepreneurship with courses titled: Private Equity Investing Seminar, Investment Management and Entrepreneurial Finance, Managing to IPO Control Systems, Start-up Globalization Strategies, Entrepreneurship and New Ventures, Entrepreneurship and Venture Capital, Evaluating Entrepreneurial Ventures, and Strategic Management of Technology and Innovation.64

Another ‘high technology’ site is Austin, Texas home of University of Texas. The McCombs School of Business and the Austin community offer their MBA students a variety of useful resources including: The Herb Kelleher Center for Entrepreneurship, dedicated to funding teaching, research, and community outreach related to entrepreneurship; The Hicks, Muse, Tate & Furst Center for Private Equity Finance; The Austin Technology Incubator, a highly successful business incubator focused on high-technology start-ups; The Capital Network, matching investors with growing companies; and IC2 Institute, an international think-tank for entrepreneurship.65

The Illinois Institute of Technology boasts an ambitious goal for their MBA/entrepreneurship program: “...to prepare each student to start up a venture within 12 months of graduation. Students are first grounded in the basic disciplines of business through eight MBA core courses. Then, in six concentration courses, each student will 1) design a value-creation process, 2) develop a business model for commercializing that value bundle, 3) prepare a strategy to obtain venture capital/private equity financing to start up the venture, and 4) test the business model using computer-based simulation techniques.”66

The Zicklen School of Management at the City of New York University offers an MBA in Management/Entrepreneurship and Small Business Management. The sub specialization in Entrepreneurship and Small Business Management is designed to meet the needs of students who have backgrounds in entrepreneurial ventures, are part of family businesses, or are interested in starting their own businesses when they graduate. The program is interdisciplinary and includes courses in management, accountancy, economics/finance, marketing, and computer information systems.67 The Zicklin School of Business is the largest collegiate school of business in the nation and the only CUNY unit that offers business programs accredited by the AACSB-International Association for Management Education.68

The University of Wisconsin – Madison offers an MBA concentration in entrepreneurship. Their entrepreneurship program consists of courses on: Entrepreneurial Management, Entrepreneurial Growth Strategies, WAVE Practicum, Entrepreneurial Finance, Venture Creation, and Readings and Research in Entrepreneurship.69

63 http://www.haas.berkeley.edu/EW MBA/programguide/entrept/more.htm accessed on October 7, 2002.
68 http://zicklin.baruch.cuny.edu/about/about_home.html accessed on October 7, 2002.
Georgia State University, MBA students are required to have a minimum of 12 semester hours or four courses for the concentration. Students must take Entrepreneurship and Enterprise, and Field Study in Entrepreneurship. Then they must select either Business Plan Development or Venture Creation in Electronic Commerce. And, they must take one from the following offerings: Negotiation and Dispute Resolution, International Entrepreneurship, Technology and Global Competition, Enhancing Leadership Skills, or Competitor Analysis.\(^7^0\)

The University of Arizona in Tucson, Arizona claims to be the first MBA program to require two core courses in entrepreneurship for all graduate business students. The university claims that “this emphasis reflects the importance of risk taking and entrepreneurship in the American economy.” The course is not a traditional 3 hour course, but is formatted as a two hour credit course that meets once a week during each semester over a two semester period. The objectives of the course are described as providing students: an overview of entrepreneurship in the economy and the determinants of entrepreneurial activity; insight on investor return, venture risk, and providing them with an understanding of what key business requirements are necessary for a successful venture. The MBA students may elect a concentration in entrepreneurship.\(^7^1\)

The University of North Carolina at Chapel Hill offers an MBA concentration in entrepreneurship permitting students to select from some 20 courses spanning all disciplines of business. “Much of the curriculum is taught by practicing entrepreneurs, venture capitalists, venture lawyers and others who have the most current and relevant perspective on the entrepreneurial experience.”\(^7^2\) They list 12 full time faculty and adjunct faculty.\(^7^3\)

The list of MBA programs offering entrepreneurship courses or concentrations is not limited to large institutions. For example, Suffolk University in Boston, Massachusetts offers an entrepreneurship area for their MBAs. They describe their program as one for people with an interest in starting a business or for those wishing to join one of the non-traditional, innovative "growth" companies that abound in today’s marketplace. It is also appropriate for those seeking a more entrepreneurial perspective or for those contemplating a career transition into an entrepreneurial work setting.\(^7^4\) The Indiana Institute of Technology offers an MBA with an entrepreneurship concentration. The university describes itself as a “small, private independent university specializing in providing quality undergraduate education in Engineering, Computer Science and Business. Indiana Tech is also home to adult degrees via our Evening Division and MBA/MSM Program.”\(^7^5\)

Effective April 2002, Nova Southeastern University of Fort Lauderdale, Florida offers an MBA with a concentration in Entrepreneurship. The concentration consists of courses titled: Entrepreneurship Law and Ethics, Delivering Superior Customer Value, Venture Initiation, Entrepreneurial Finance, Entrepreneurial management and

\(^7^0\) [http://www.cba.gsu.edu/rec/mbaconcentration.html](http://www.cba.gsu.edu/rec/mbaconcentration.html) accessed on October 7, 2002.
\(^7^3\) Ibid.
\(^7^5\) [http://www.indtech.edu/About/](http://www.indtech.edu/About/) accessed on October 7, 2002.
International Trade for Entrepreneurs. The Huizenga School Advisory Board was active in the design of the program. The Advisory Board includes Keith Cobb, former CEO of Alamo Car Rental; Steve Halmos, co-founder of SafeCard Services, Inc., the nation’s largest credit card services company; Jim Hilmer, retired senior partner of one of the world’s largest advertising agencies; Keith Koenig, co-founder of City Furniture, a $170 million retail furniture store, and other entrepreneurs.76

Ph.D Programs in Entrepreneurship

A relatively new activity in academe is Ph.D programs in entrepreneurship. According to a 1998 study by Dr. Jerome Katz of St. Louis University, the following institutions offer doctoral programs specifically in entrepreneurship: University of Georgia, University of Indiana, and Wharton.77 Other institutions offer Ph.Ds in conventional areas of business but provide concentrations or research areas in entrepreneurship. These institutions include: Boston University, University of Colorado at Boulder, Georgia Tech, Harvard, University of Houston, University of Maryland, University of Minnesota, Mississippi State, New York University, University of North Carolina, Penn State, Purdue University, Rutgers University, St. Louis University, University of South Carolina, State University of New York – Buffalo, University of Tennessee, Texas A&M University, Texas Tech University, University of Southern California, and University of Wisconsin at Madison.78

My more recent investigation revealed that there are more Ph.D programs in which entrepreneurship is now part of the title or is an area of concentration within a traditional management field than presented above. For example, the University of Washington currently offers a Ph.D in Technology Entrepreneurship, a minor in technology entrepreneurship for doctoral students outside the business school, and a certificate program or credential in technology entrepreneurship for undergraduates and MBA students.79 The Weatherhead School of Management at Case Western Reserve offers a Ph.D in Entrepreneurship.80 Ohio State University offers a Ph.D in Strategic Management and Entrepreneurship. The Massachusetts Institute of Technology Sloan School of Management offers a Ph.D program in Management Science which can include a concentration in behavioral sciences and the management of technological innovation and entrepreneurship.81 While Stanford University does not offer a Ph.D in entrepreneurship, they do sponsor the Center for Entrepreneurial Studies. The Center encourages rigorous and relevant research on issues related to entrepreneurship by providing logistical and financial support to faculty and students including Ph.D students.82

77 http://eweb.slu.edu/phdlist.htm
78 http://eweb.slu.edu/phdlist.htm
79 http://depts.washington.edu/cte/CTE_Educational_PhD_Requirements.shtml
80 http://www.weatherhead.cwru.edu/degree/phd_mgmt/todelete/entrprn.html
81 http://mitsloan.mit.edu/phd/paths.html
82 http://www.gsb.stanford.edu/ces/research.html
Business Plan Competitions

Business plan competitions fuel interest in entrepreneurship. The basic aim of the business plan competition is to stimulate students or local citizens into putting their ideas into concrete plans for new businesses. Generally, a panel of university business professors and business professionals including bankers, lawyers and accountants, and local successful business owners agree to evaluate the business plans. Many of the competitions state that the winning business plan will be one that is deemed to be the best planned, has the best possibility of success and is the best researched. Some of the winners actually use their winnings to fund their business. Other winners use the money to continue their education.

MIT’s Sloan School of Management conducts a national new venture business plan competition and awards up to $50,000 seed money to winning entries. “This competition, cited by Newsweek as the nation’s premier business-plan competition, is the flagship entrepreneurial student activity at MIT. More than 200 teams campus-wide competed in 2000. Nearly 60 companies have been launched by entry teams since the founding of the competition in 1990.”83 But Sloan is one among many institutions that offer business plan competitions. Yale University, New Haven, Connecticut offers a $50,000 business plan competition. The competition is sponsored by the Yale Entrepreneurial Society which is part of the Yale School of Management.84 The University of California launched a business plan competition in 1999. Teams compete for more than $50,000 in cash and prizes.85 Private universities also offer business plan competitions.

In 2000, Robert Motion co-founded an MBA student entrepreneurship club at Southern Methodist University, Dallas, Texas. Like many private universities, a small portion of SMU’s endowment is allocated for venture capital investments. The student approached the director of the Cox Venture Capital fund with the idea of student involvement suggesting that students who won the business competition award be invited to apply for funding from the Cox Venture Fund. Motion took an independent study course to conduct research of university venture funds across the United States, examining their operating structures, determining which structures work best and recommending increased student involvement in Cox’s Venture Capital Fund.86

There is at least one business plan competition per state and many of the larger states have several competitions. Prize money ranges from $5,000 to $25,000 for the first place winner. Some competitions claim that the winning plans get exposure to real venture capitalists who serve as judges. Some of the competitions include: San Diego State University Venture Challenge, Carrot Capital Business Plan Challenge, MBA Jungle Business Plan Challenge, National Social Venture Capital Competition, MOOTCORP® competition, Babcock Elevator Pitch Competition, and Venture Capital Investment Competition.87

84 [http://www.mba.yale.edu/it/it.html](http://www.mba.yale.edu/it/it.html) accessed on October 7, 2002.
INC magazine found that seven institutions offered $143,200 annually in business plan prize money and that since 1996, 72 companies had been formed as revealed by their table below.  

<table>
<thead>
<tr>
<th>Institution</th>
<th>Total Annual Prize Money</th>
<th># of Companies Launched since 1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIT*</td>
<td>$50,000</td>
<td>20</td>
</tr>
<tr>
<td>University of Texas</td>
<td>$18,000</td>
<td>15</td>
</tr>
<tr>
<td>(Austin)*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvard University</td>
<td>$25,000</td>
<td>12</td>
</tr>
<tr>
<td>University of Arizona</td>
<td>$52,00</td>
<td>11</td>
</tr>
<tr>
<td>University of Oregon*</td>
<td>$14,000</td>
<td>6</td>
</tr>
<tr>
<td>University of Chicago</td>
<td>$30,000</td>
<td>5</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>$1,000</td>
<td>3</td>
</tr>
</tbody>
</table>

* Hosts intercollegiate Competition

The above list is only a sampling of business plan competitions in the United States. In 2002, the Center for Entrepreneurship at the University of Washington Business School hosted 52 teams (202 students) from six Washington universities. The Center provided more than $75,000 in prize money and nearly $32,000 in pro bono legal services to the winning teams.

Even though 50 fewer business plans were submitted in 2001, Stanford University's E-Challenge expects to award $75,000 in prize money to five or six teams, up from $60,000 among seven teams in 2001. "Somehow the gene pool's getting stronger," says Tom Kosnick, who runs the E-Challenge. Business plan competitions can result in connecting student's aspirations with investors. For example, Sol Kanthick, participated in the University of Chicago's New Venture Competition last spring while working on his M.B.A ignored the fads and concentrated on building a less glamorous business called Brightroom which sells photographs it takes at marathons and other corporate-sponsored and charitable events. Another student raised the $800,000 he needed relatively painlessly from angel investors associated with the university.

San Diego State University sponsors a business plan competition that involved 50 submissions from over 700 MBA students enrolled in their program in 1998.

While some of the business plan competitions are sponsored by a particular university, some business plan competitions represent a collaborative effort to foster local economic development. One example is taken from Pittsburgh, Pennsylvania. Several universities and businesses formed EnterPrize which awards $115,000 in prize money. The group describes their goal as: "The primary aim for the competition is to increase the number of start-up businesses in Pittsburgh. Statistics show that start-ups are the largest driver of new jobs in metro areas. Thus, increasing the number of start-ups in the region will aid job creation and improve Pittsburgh's growth. EnterPrize is designed to be an

88 http://depts.washington.edu/cte/CTE_BPC_Overview_Short.shtml
22
annual event that encourages individuals with a business idea to become entrepreneurs, giving them an efficient conduit to local business people (coaches), management talent, and sources of capital. Building a business environment that facilitates such networking is a key component of highly dynamic regions, such as the Silicon Valley and Austin, Texas. In the long term, this competition is intended to create an entrepreneurial buzz about Pittsburgh, which will compel start-ups to build businesses here; attract and retain managerial talent; and establish local universities as hotbeds of entrepreneurship.92


This initial survey of business plan competitions reveals that over $3 million dollars of prize money and over 55 institutions were involved in sponsoring business plan competitions in 2001. The survey was based on using internet search engines to identify business plan competitions and then going to the web sites of each. Not all the web sites provided information on neither the total number of business plans submitted nor the total number of student competitors. But, it is apparent that this type of activity involves significant numbers of potential entrepreneurs vying to attract the attention of potential investors.

Foundation Support for Education in Entrepreneurship and Other Non-Profits

The largest foundation in the world dedicated to promoting entrepreneurship is the Ewing Marion Kauffman Foundation. The foundation was created 1986 but was fully funded after Ewing Kauffman died in 1993.94 The Foundation's web page states: "In 1950, following service in the Navy during World War II and several years as a pharmaceutical salesman, Ewing Kauffman founded Marion Laboratories Inc., operating out of his modest Kansas City residence. He used his middle name, rather than his last name, so customers would not perceive him as a one-man operation. By 1989, when Marion Laboratories was sold to Merrell Dow, it had become a global diversified pharmaceutical giant with annual sales of nearly $1 billion."95

By the end of 2000, the value of the foundation exceeded $2 billion.96 The foundation only gives grants for use in the United States. It is divided into two divisions:

92 http://www.enterprizepgh.org/overview/index.html
93 http://www.enterprizepgh.com/
94 http://www.emkf.org/pages/33.cfm
95 Ibid.
“The Youth Development work focuses primarily on programs in the Kansas City’s bi-state urban core communities. The Foundation supports programs that promote children’s development by funding and providing technical assistance to build quality programs and services in the areas of family support, early childhood care and education, urban K-12 education, out-of-school activities and neighborhood development. Youth Development grants are designed to nurture healthy families, create safe and healthy neighborhoods and advance educational achievement.” The Kauffman Center for Entrepreneurial Leadership strives to accelerate entrepreneurship in America by operating programs and making grants around the nation to help create an entrepreneurial society. Programs sponsored by the Kauffman Center train people who want to start or expand their own businesses. The Center encourages the entrepreneurial spirit by teaching the skills and values of entrepreneurship to students from kindergarten through adults. The Center also helps nonprofit organizations and communities learn to apply entrepreneurial practices to build stronger and more vibrant organizations. A review of the 2000 Annual Grant making Report showed that over $100 million was donated to support entrepreneurship education.

Many of the foundation’s funds are awarded to university Centers of Entrepreneurship, private foundations and universities for a variety of programs. The grants fund research in entrepreneurship, internships program costs for students to work in start-up firms, funding of conferences, scholarships for at risk students to attend summer camps devoted to teaching entrepreneurship, to provide funds for teachers to attend courses on how to teach entrepreneurship from elementary through college level, and funding for centers to provide counseling and advice to underserved entrepreneurs.

Perhaps the next best known foundation for supporting entrepreneurship education is the Price Institute which is funded by the Price Foundation. The Price Institute provides nearly eighty percent of the funding required for an annual program called SEE – Symposium for Entrepreneurship Education hosted by Babson College. This conference invites college professors to attend a workshop/conference to promote the teaching of entrepreneurship with the case method and in using actual entrepreneurs to assist in teaching. Started in 1984, the program has trained hundreds of college professors. This particular program is open to professors outside the United States. Annually, one professor is selected for the highly prestigious Edwin Appel Award.

“One of our shining examples of SEE program involves tremendous leverage and exposure to the education community.” noted Tim Jones, President of the Price Foundation and Vice President of the Price Institute. A father and son, Louis and Harold Price established the foundation in 1951. According to the foundation’s web page, Louis was a founding partner of the Joe Lowe Corporation. The John Lowe Corporation operated a bakery and ice cream supply business which become famous for the promotion of the Popsicle. Harold joined the Joe Lowe Corporation in 1928 upon graduation from the University of Pennsylvania Wharton School of Business where he

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97 http://www.emkf.org/pages/50.cfm
98 Ibid.
99 www.emkf.org/pages/241.cfm
100 The Co-editor of this book, Prof. Dr. Hab. Stefan Kwiatkowski received the award in 1998.
101 Telephone interview with Mr. Tim Jones, President, Price Foundation and Vice President of the Price Institute on October 22, 2002.
obtained a B.S. degree in Economics. From his original position of purchasing agent, Harold rose through the ranks to the position of Executive Vice President. As Executive Vice President, Harold was responsible for the successful merger in 1965 of the Joe Lowe Corporation with Consolidated Foods Corporation, now known as Sara Lee Corporation. Through shareholdings in Sara Lee Corporation, Louis and Harold funded their foundation and guided its existence for many years as respective Presidents. Since its inception, The Louis and Harold Price Foundation has distributed millions of dollars to U.S. based charities in the areas of community welfare, health, and education, as well as support of programs in Israel.\textsuperscript{102}

In 1979, Harold established the Price Institute for Entrepreneurial Studies with the objective of furthering the understanding of the entrepreneurial process and stimulating MBA Programs and curricula development to encourage and support those students with entrepreneurial aspirations. The Harold Price Foundation has between $80 and $100 million in assets meaning the foundation distributes between $3.5 and $4.5 million per year. The Institute obtains about half of that fund for the promotion of entrepreneurship education. Gloria Appel wife of Eddie Appel was the second operating officer of the institute and ran the institute for almost 10 years.

The Price Institute also supports local Centers of Entrepreneurship at NYU, University of Colorado, UCLA, UC Berkley and Stanford. Their support is not restricted to a project but is used for general operating funds. At Wake Forest, the Price Institute sponsors fellowships. “We also have a small fellowship program which we run through six to eight different universities: including USC, George Washington, and Wharton.” added Tim Jones.\textsuperscript{103} The Institute helped fund a Center of Entrepreneurship for the College of Music at University of Colorado. With less than one percent being able to earn a living with a symphony, the center helps musicians understand the process of setting up home-based music education/teaching. In the future the institute may focus more of its funding toward entrepreneurial philanthropy and educational programs aimed at disadvantaged children.

There are at least 165 organizations that in some way involved in entrepreneurship programs.\textsuperscript{104} Some of these organizations are foundations which sponsor research such as the Center for Women’s Business Research. The Center for Women’s Research is a non-profit research institute which sponsors research on women business owners and their firms worldwide.\textsuperscript{105} Many of the organizations listed operate local economic development centers which offer assistance and training to aspiring entrepreneurs while others promote entrepreneurship in schools, or are focused on particular segments of society such as offering entrepreneurship courses for low income, rural community, disabled or minority entrepreneurs.

There are a large number of organizations whose main mission may not be the promotion of entrepreneurship, but whose activities include entrepreneurship education. The Girl Scouts of the USA, for example, have some districts that sponsor “up-start”

\textsuperscript{102} http://www.pricefoundation.org/history.htm
\textsuperscript{103} Telephone interview with Mr. Tim Jones, President, Price Foundation and Vice President of the Price Institute on October 22, 2002
\textsuperscript{104} www.guidestar.org provides a database of philanthropic foundations and organizations in the United States. A search under ‘entrepreneurship’ revealed 165 organizations.
\textsuperscript{105} http://www.guidestar.org/servlet/SearchServlet
programs or camps on how to start a business. That practically every Girl Scout has gained some experience selling ‘Girl Scout’ cookies to raise funds certainly qualifies as ‘selling experience’ which is a key component of entrepreneurship. The United States Junior Chamber of Commerce (Jaycees) was established in 1920s to “develop personal and leadership skills through service to others…” Jaycees helped establish Airmail services in the United States with Jaycee Charles Lingburgh and they raise millions of dollars per year for such causes as Muscular Dystrophy Association and the March of Dimes.\textsuperscript{106} The Jaycees offer a seven-part program that gives participants the basic skills and knowledge to start a small business.\textsuperscript{107} Certainly one can argue that these examples are not directed toward ‘intellectual’ entrepreneurs, but the fact that they expose hundreds of thousands of participants to the basics of starting a business suggests that they should be counted as contributing to America’s economy.

Another major sponsor of entrepreneurship program is the Coleman Foundation located in Chicago, Illinois. Founded in 1951 with the estates of Dorothy W. and J.D. Stetson Coleman, the foundation is sponsor of many entrepreneurship programs. The Institute for Entrepreneurial Studies, founded in 1982 at the University of Illinois in Chicago, receives funding from the Coleman Foundation. The Institute sponsors a Hall of Entrepreneurs program which recognizes local entrepreneurs, sponsors research conferences for academicians, publishes a newsletter, and offers courses in entrepreneurship.\textsuperscript{108} The Coleman Foundation has funded chairs in entrepreneurship at University of Illinois at Chicago – (1981), Elmhurst College – (1982), Illinois Institute of Technology – (1982), DePaul University – (1985), Beloit College – (1986), Marquette University – (1987), Saint Louis University – (1991), North Central College – (1998), California State University Fresno – (1999), Purdue University Calumet – (1999), and at Columbia College Chicago – (2002).\textsuperscript{109} Since 1981, the Coleman Foundation has granted over $24 million to support educational and community programs promoting entrepreneurship awareness.\textsuperscript{110} The Coleman Foundation has decided to employ the United States Association for Small Business and Entrepreneurship, a non-profit organization developed to continuing management education for entrepreneurs and small business, to distribute their grants for educational programs in entrepreneurship.\textsuperscript{111}

The Young Entrepreneurs’ Organization is a volunteer group of business professionals, all of whom are under 40 years of age and are the owners, founders, cofounders or controlling shareholders of companies with annual sales of $1 million or more. YEO has 2,400 members in 94 chapters around the world. One of their most popular activities is “Forum” in which members get together for confidential discussions on how they can better manage their companies. YEO chapters hold eight to twelve educational events per year covering such topics as mergers and acquisitions, lessons from the edge, meetings with leading politicians, etc. The organization’s focus is in helping those who have already started their own businesses.\textsuperscript{112}

\textsuperscript{106} www.jaycees.org/aboutus.htm
\textsuperscript{107} Ibid.
\textsuperscript{108} http://www.uic.edu/cba/ies/ies_history.html
\textsuperscript{109} http://www.colemanfoundation.org/index1.html
\textsuperscript{110} http://www.colemanfoundation.org/index1.html
\textsuperscript{111} http://www.usasbe.or/about/awards/index
\textsuperscript{112} http://www.yeo.org/
The National Business Incubation Association, headquartered in Athens, Ohio, is an organization of those who run business incubators. In 1980, there were 12 business incubators in the United States. In 2002, there are over 900 business incubation programs! According to Impact of Incubator Investments Study conducted in 1997, 87 percent of incubator graduates remain in business!\textsuperscript{113} The organization sponsors educational programs for the staffs and administrators of business incubators.

Students in Free Enterprise is an organization that promotes education in the free market system by awarding over $400,000 to student chapters who enter competitions over which chapter developed the community outreach programs to help their local communities. SIFE Teams establish a variety of community outreach programs that teach free enterprise such as teaching concepts of budgeting, marketing, etc. SIFE Chapters are found at more than 750 campuses.\textsuperscript{114} With Wal-Mart as a major sponsor, more than 170 top corporate executives sit of the SIFE Board of Directors (a large number of them represent companies that supply products to Wal-Mart!). College professors are encouraged to organize chapters and may receive a stipend and designation as a Sam M. Walton Free Enterprise Fellow if the chapter fulfills its outreach requirements. While this program is aimed at promoting free enterprise, it also serves to inspire entrepreneurship among its student members.

Another organization which promotes business education is Junior Achievement. Junior Achievement was founded in 1919 by Horace Moses, President of a paper company; Theodore Vail, past President of AT&T; and Sen. Murray Crane of Massachusetts. It started as a collection of small, after-school business clubs for students in Springfield, Massachusetts. During school year 2001-2002, Junior Achievement claims to have reached some 4 million students in the U.S. and 1.2 million students world-wide through after-school programs. They offer courses in personal finance, career planning, economics, success skills and a business simulation game. While their emphasis is on developing future business professionals, their educational programs also promote an understanding of entrepreneurship. Their mission is stated as "To educate and inspire young people to value free enterprise, business, and economics to improve the quality of their lives. ... To ensure that every child in America has a fundamental understanding of the free enterprise system."\textsuperscript{115} The organization has 121 offices throughout the United States and operates in 100 other nations. The US organization spends about $121 million on their programs. They sponsored 176,211 classes in 12,970 elementary schools, 2,719 middle schools, 2,846 high schools, and 20,641 other non-school sites during 2001-2002 school year.\textsuperscript{116}

Fertilizing Intellectual Entrepreneurs

There is clearly a correlation between entrepreneurial education and entrepreneurial activity, but the extent to which other economic factors also contribute or detract from entrepreneurial activity makes the assessment somewhat complicated. The infusion of entrepreneurial education in programs in engineering, medical, science, and

\textsuperscript{113} http://www.nbia.org/whatis.html
\textsuperscript{114} http://www.sife.org/usa/index.html
\textsuperscript{115} http://www.ja.org/about/about_who_vision.shtml
\textsuperscript{116} http://www.ja.org/about/about_who_stats.shtml