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Entrepreneurship Education at 1890 Land Grant Institutions: A Profile of Programs and Consideration of Opportunities*

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ABSTRACT Entrepreneurship education at U.S. universities formally began at Harvard University in 1947 with a single course and most significant efforts began in the past 30 years (Katz 2003). This paper provides entrepreneurship education profiles of top ranked programs, emerging campus-wide programs, and 1890 Land Grant Institution programs. Entrepreneurship Centers (ECs), typically in Schools of Business, are components of entrepreneurship education at many institutions. ECs have programs and services from research to academic instruction to community outreach and programming. This paper introduces a typology of ECs predicated upon their academic programs and community outreach. Detailed program information on and recommendations for the 1890 Land Grant Programs is provided.

The importance and spirit of entrepreneurship has been a core value of the United States since its founding. The first recorded entrepreneurship course was taught in 1947 at Harvard University (Katz 2003). In 1970, researchers reported 16 entrepreneurship courses while there were over 1,600 schools offering at least one entrepreneurship course in 1997 (Katz 2003; Solomon, Duffy, and Tarabishy 2002; Vesper and Gartner 1999). Universities and colleges in the United States began opening Entrepreneurship Centers (ECs) in the 1970s with the establishment of the Caruth Institute at Southern Methodist University and have continued to do so ever since. Today the Kauffman Foundation lists 123 centers on its Internet site (Ewing Marion Kauffman Foundation 2004), Vesper and Gartner

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list 128, (Vesper and Gartner 2001) and the National Consortium of Entrepreneurship Centers lists 62 college and university members (<http://www.ncec.org>). There is a combined total of 127 U.S. college- or university-based Entrepreneurship Centers. Individual memberships in the United States Association for Small Business and Entrepreneurship (USASBE) stand at 685 and organizational memberships at 30 (www.usasbe.org).

While the number of ECs has grown significantly and research on entrepreneurship education flourishes, comprehensive research on the products and services offered by ECs in Historically Black Colleges and Universities (HBCUs) is thin. This paper attempts to provide a compilation of key attributes and services of ECs and entrepreneurship education at the 1890 Land Grant Institutions (1890s) subset of HBCUs, those 17 colleges and universities plus Tuskegee University that were established as land grants after abolition. The paper includes a typology of ECs based upon the intensity of their focus on academic programs and community outreach. It also provides recommendations for the 1890s.

Entrepreneurship Centers, typically university centers for entrepreneurship education and/or research situated within business or management schools, vary in mission, size, role, products, services, and funding sources. Some are primarily responsible for entrepreneurial education and research within the university. Others provide training and consulting services for local, regional, or national customers. Still others may combine these roles and add services to the mix.

Review of Research on Entrepreneurship Education

Among the research categories on entrepreneurship education, one emphasizes the components of successful programs. Sandercock explores entrepreneurship education at universities in the following six categories: influential parties, internal and external; interdisciplinary programs and recognition; specialized entrepreneurial offerings; entrepreneurship skill development; real-life entrepreneurial opportunities; and technology implementation (Sandercock 2001). Within these categories are programmatic components, such as local community benefit, health-care related programs, accelerated offerings, social entrepreneurship, and local technology entrepreneurship within specialized entrepreneurial offerings. Sandercock identifies

business plan evaluation, internships, and resources as components of entrepreneurial skills development. Starting “live” businesses and acting as investors are part of real-life entrepreneurial opportunities, and distance learning and case study development are part of technology implementation. Within this framework, Entrepreneurship Centers fulfill roles as influential internal parties. Other researchers suggest specific skill building to include in entrepreneurship education. Some topics include: leadership and creative thinking, negotiation, new product development, and exposure to innovation (McMullan and Long 1987).

Another category of research is the compilation of lists of entrepreneurship centers. The previously noted list of 123 centers (Ewing Marion Kauffman Foundation 2004) provides information on many of the programs and includes one 1890 Land Grant Institution. In addition, Jerome Katz has produced a list of 181 universities with majors in entrepreneurship or small business culled from a variety of written sources (Katz 2004). George Washington University researchers have conducted three nationwide surveys of entrepreneurship education in the United States and have another survey in progress that includes vital information about centers (Solomon et al. 2002; Solomon and Fernald 1991; Solomon, Weaver, and Fernald 1994).

Best practices. Prior research on entrepreneurship centers identifies key learnings of Entrepreneurship Center directors and provides descriptive information from programs. The National Consortium of Entrepreneurship Centers’ project resulted in the “Successful Experiences of Entrepreneurship Center Directors” report (Upton 1997). This report provides a best practices guide from nine of the “best” U.S. programs. In addition to suggesting practices consistent for good practices for all enterprises, there are several that are specific to the ECs. Among those for directing are: a committed champion with practical experience in entrepreneurship as director; support of the president, dean and board of trustees; faculty support in and outside the school; and alumni used as a resource (Upton 1997:29-30). Funding best practices include: having endowments, grants and contracts and outreach sources; not having funds diverted; not starting on an inadequate budget (average of \$250,000 per year); having a well-developed long range plan, and giving consideration to an endowed chair (Upton 1997:31).

The EC Directors suggest that best practices for curriculum include: an excellent core curriculum of four to five classes; a strong first course; blending experiential exercises with theory and research; building on faculty strengths and engaging the community; not waiting for funds to teach a course, and integrating material across courses (Upton 1997:32). The best practices continue with those for managing and marketing. Of particular note are: use of advisory boards; governance varies with most ECs in a department and directors reporting to a business school dean for outreach and a department chair for curriculum and research, and numerous recommendations for quality outreach (Upton 1997:33-34). Showing students how to behave entrepreneurially and introducing them to people who might be able to facilitate success is another recommended practice (Ronstadt 1987). Others emphasize that experiential learning is widespread and diverse in application (Solomon et al. 2002). They identify the following types of learning tools: business plans; student business startups; consultation with practicing entrepreneurs; computer based training; behavioral and computer simulations, interviews with entrepreneurs, and environmental scans.

How entrepreneurship looks in universities. In addition, published proceedings from the 1999 Conference of University Entrepreneurship Centers includes a description of a range of program structures and processes of integrating entrepreneurship (Camp, Cox and Smilor 1999). The panel, including directors from the University of Colorado, Cornell University, Harvard University, and MIT, provides specific descriptions of each program and panel leader Dennis Nock states,

(O)ur comments centered around how different many of the programs in the room are and the different approaches that have been taken. Some are relatively new, some, such as Harvard's, have been doing entrepreneurship for fifty years. Some, like USC, use a totally clinical faculty, some use only tenured faculty. Some use both. Some, like Wharton have extensive outreach programs. (Camp et al. 1999:1)

Noteworthy is the connection forged through entrepreneurship between generally distinct areas of the universities, such as

business and engineering. The inclusion of tenure track faculty (making faculty/academic connections), advisory boards, and community guest speakers are advocated. Also, the University of Colorado named their EC in 1998 with an endowment of three million dollars and has an endowed chair. (Camp et al. 1999).

This discussion of integrating ECs is synergistic with the overall concept of broadening entrepreneurship education across campuses. Researchers, practitioners, and funders alike have taken up this notion. According to one report, "With a firm foothold established in many business and engineering schools, champions of entrepreneurship education are now scanning the rest of the university for opportunities to reach attract students with their programs" (Streeter, Jaquette, and Hovis 2002:7). Entrepreneurship Centers are not isolated to business schools, rather they are venturing into other domains (Sandercock 2001). "Spreading the seeds of entrepreneurship education across the campus" includes entrepreneurship minors, new courses and degree programs, and are complementary to technical disciplines such as engineering and applied sciences (Sandercock 2001).

Streeter et al. (2002) developed a classification system for institutions with entrepreneurship education that defines them as either "focused" or "university-wide" depending upon the availability of courses to students outside of business and engineering programs. They further define magnet models and radiant models depending upon whether entrepreneurship is offered by a single entity or is diffused across the institution, as well as where resources are located. Within the radiant model, students outside of the business school can take entrepreneurship courses and non-business faculty may teach them. A mixed model includes university-wide programs only at the graduate or undergraduate level. Figure 1 illustrates the model and the classification of the studied programs.

Entrepreneurship Centers may fall anywhere within the models defined by Streeter et al. However, most centers have traditionally been located within schools of business and have included students from outside of business to differing degrees. Because most business owners are not formally students of business, those institutions which reach across boundaries to include non-business students and faculty are most likely to serve more future business owners.

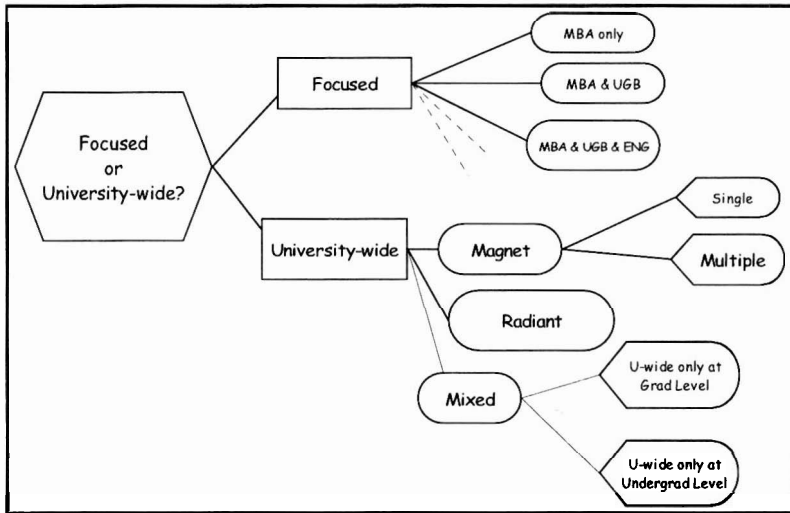
A recent development is the discussion of issues and models specifically of Entrepreneurship Centers. A panel discussion at the 2004 National Consortium of Entrepreneurship Centers Conference noted seven types of center models and eight key variables in defining a model (Morris et al. 2004). The types of models identified are: the external center (outreach); the extra curricular center (campus); the niche center (technology, women, rural initiatives); the research center; the academic center; the comprehensive center, and hybrids. The key variables defined are: structural autonomy or tie-in with academic departments; location in or out of business school; budgetary independence; involvement of tenure track faculty; responsibility for curriculum; involvement of students; responsibility for applied academic research; engagement on campus versus off campus, and participation in venture start-ups.

The present research addresses several issues of importance in entrepreneurship education and in the operation of entrepreneurship centers. It presents a comparison of programs, including the 1890s and addresses specific programmatic aspects of the 1890 Land Grant Institution entrepreneurship education efforts. It creates a typology of entrepreneurship education based upon academic emphasis and community outreach. It then provides recommendations to enhance the 1890 Land Grant options.

Research Design & Methodology

The goal of this research is to identify the salient features of entrepreneurship education via Entrepreneurship Centers in the United States and to understand their distinctive and core competencies with particular emphasis on the 1890 Land Grant Institutions. This applied research project assists in understanding a range of features and benefits offered through entrepreneurship education. It consists of several components. It examines a sample of 36 Entrepreneurship Centers or Programs through primary and secondary research to determine what the roles of ECs are within U.S. universities. It further explores the question of how, if at all, 1890 Land Grant Institutions differ. This exploratory research provides an opportunity for benchmarking by centers so that they can more readily understand where in the continuum of designs they fall and where they may wish to be positioned in the future.

Figure 1: Classifying Entrepreneurship Programs Using Framework.



Source: Streeter et al. 2002.

The research uses mixed methods consisting of quantitative and qualitative components to identify and quantify products and services offered. It is concurrent nested research and consists of the following components:

- Review of literature on entrepreneurial education using content analysis;
- Identification of the universe of Entrepreneurship Centers via Internet and trade and professional association materials to specify data to be collected and to determine the purposive sample for further research;
- Program data from public domain sources to answer the research questions to the extent possible for the purposive sample of leading centers, Kauffman Foundation grantees, and 1890 Land Grant Institutions, and
- Survey data from a comprehensive survey of 1890 Land Grant programs plus Tuskegee University, with emphasis on those funded by the United States Department of Agriculture through the

Rural Business Cooperative Service - 1890 Land Grant Institutions
Rural Entrepreneurial Program Outreach Initiative.

These data collection methods are several due to the exploratory and applied nature of the research questions. Because the full extent of program approaches is unknown, the research questions are examined across programs and stakeholders and through various methods for greater understanding.

Given that there are over one hundred Entrepreneurship Centers in the United States, inclusion of additional sites would be preferable in order to make the results more appropriate to generalization. However, the realities of resource constraints and the demands of the research time frame do not permit nor require this. For this purpose, this research and analysis is appropriate. All 1890 Land Grant Institutions were afforded ample opportunity to participate. The results and findings are not capable of generalization to the entire population of Entrepreneurial Centers in the United States. At the same time, the analytical framework and recommendations for 1890s is created from an analysis of the data and may stand on their own design.

Findings

The 36 Entrepreneurship Centers studied include large research institutions, medium-sized institutions, and small teaching institutions. The data obtained in the public domain and through surveys reveals that among the institutions studied, programs varied considerably in breadth and depth. Table 1 shows the programs studied and summarizes the key components of the entrepreneurship education programs. The literature and program data suggests that there are several key aspects of ECs that assist in categorizing them. These include: placement within the university; academic emphasis in the form of degrees, majors, minors, concentrations, and/or tracks; full time, dedicated faculty or shared faculty; Endowed Chairs/Professors of Entrepreneurship or Entrepreneurial Studies; presence of a business incubator for commercialization; community courses (workshops, training courses, speaker series and the like for members of the broader community); counseling, and youth programs.

Table 1: Selected University-Based Entrepreneurship Centers.
 Source: Compiled from institutional websites, program surveys, and 1890 Land Grant USDA applications.

Program and Placement in University	Academic Emphasis	FT Entrepr. Faculty	Endowed Chair/Prof.	Incubator	Community Courses	Counseling	Youth Programs
Alabama A& M University*** School of Business	No	No	No	NA	NA	NA	NA
Alcorn State University*** Coop. Extension	No	No	No	Yes	NA	Yes	Yes
Babson College* Arthur M. Blank Center for Entrepreneurship	MBA, Major, Concent.	Yes	Yes	Yes	Yes	Yes	No: Teacher progs only
Columbia University* Eugene M. Lang Ctr. for Entrep., Business School	MBA	No	No	Yes	No	No	No
Delaware State University*** School of Management	No – courses only with undergrad option	No	No	In prog	Yes	Yes	Yes
Florida A&M University*** Extension & Outreach Program	No	No	No	No	Yes	Yes	No

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Program and Placement in University	Academic Emphasis	FT Entrepr. Faculty	Endowed Chair/Prof	Incubator	Community Courses	Counseling	Youth Programs
Florida International University** Global Entrep. Center	Cross curriculum	Yes	No	Yes	Yes	Yes	No
Fort Valley State University*** Rural Business Outreach Inst., Office of Advancement & Research, Public Service Ctr	No – courses only via Business & Economics	No	No	Yes	Yes	Yes	Yes
Harvard University* Arthur Rock Ctr. for Entrepreneurship, School of Business	MBA elective curriculum	Yes (31)	Yes	No	No	No	No
Howard University** Institute for Entrepr., Leadership & Innovation, Office of the Provost	Creating undergrad minor & graduate concentration	NA	No	In prog	Yes	Yes +	No
Kentucky State University*** Cooperative Extension	No	No	No	No	Yes	Yes	Yes
Langston University*** Center for Outreach, College of Agriculture	No	No	No	No	Yes	Yes	Yes
Lincoln University in Missouri***	No	No	No	NA	NA	NA	NA

Program and Placement in University	Academic Emphasis	FT Entr Faculty	Endowed Chair/Prof.	Incubator	Community Courses	Counseling	Youth Programs
MIT* Entrepreneurship Center, Sloan School of Management	MBA Track	Yes	Yes	Yes	No	No	No
North Carolina A&T State University*** School of Business & Economics plus Dept. of Natural Resources & Agribusiness	Certificate Program	NA	NA	No	Yes	Yes	No
Prairie View A&M University*** Cooperative Extension Program – Economic Dev. Department	No	No	No	Yes	Yes	Yes	Yes
South Carolina State University*** 1890 Research & Extension – Adult Leadership & Community Development	NA	NA	NA	NA	Yes- via SB DC	Yes	Yes
Southern Univ. & A&M College *** Center for Rural & Small Business Dev., Agricultural & Extension Center	NA	NA	NA	NA	Yes	Yes	No
Stanford University* Center for Entrepreneurial Studies, Graduate School of Business	No – 15 graduate courses offered	No	No	No	No	No &	No

Program and Placement in University	Academic Emphasis	FT Entrep. Faculty	Endowed Chair/Prof.	Incubator	Community Courses	Coun ling	Youth Programs
Tennessee State University*** Cooperative Extension Program	Minor	NA	NA	NA	Yes	NA	Yes
Tuskegee University*** Rural Business & Economic Dev. Program -College of Agriculture – Coop. Extension	No	No	No	In prog	Yes	Yes	Yes
U. Arkansas -Pine Bluff*** Economic Research & Dev. Ctr., School of Business & Management	No – courses only	Yes	Yes	No	Yes	Yes	Yes
U. California –Berkley* Lester Center for Entrepreneurship & Innovation, Haas School of Business & Center for Entrepreneurship & Technology, College of Engineering	MBA – Certificate in Entrepreneurship	No	No	Yes	No	No	Yes
U. California – Los Angeles* Harold Price Center for Entrepreneurial Studies, School of Management	No – MBA elective courses	Yes	Yes	No	Yes	No	No

Program and Placement in University	Academic Emphasis	FT Entrepr. Faculty	Endowed Chair/Prof.	Incubator	Community Courses	Counseling	Youth Programs
U. Illinois -Urbana Champaign** Technology Entrepreneur Ctr., College of Engineering	Yes – Certificate program	No	No	Yes	NA	NA	NA
U. Maryland Eastern Shore (UMES) *** Rural Dev. Center, MD Extension	No	No	No	Yes	No	Yes	No
U. N. Carolina -Chapel Hill** Center for Entrepreneurship at the Kenan-Flager Business School & the Carolina Entrepreneurial Initiative	MBA concentr.; undergrad business concentr.; Arts & Sciences minor	Yes	Yes	NA	NA	NA	NA
University of Pennsylvania* The Wharton School	MBA concentr., undergrad major and concentr.	Yes	Yes	Yes	Yes	Yes	Yes
U. Rochester** Rochester Center for Entrepreneurship	NA	NA	NA	NA	NA	NA	NA
U. Southern California (USC)* School of Business	Degree, major, concentr.	NA	NA	NA	Yes	NA	NA

Program and Placement in University	Academic Emphasis	FT Entrepr. Faculty	Endowed Chair/Prof.	Incubator	Community Courses	Counseling	Youth Programs
U. Texas – Austin* Herb Kelleher Ctr. for Entrepreneurship & IC ² Institute	M.S. - Science & Technology Commercialization	Yes	Yes	Yes	NA	NA	NA
U. Texas – El Paso**	No	No	No	NA	NA	NA	NA
Virginia State University*** Virginia Rural Entrepreneurship & Business Dev. Program, Coop Extension	NA	NA	NA	NA	Yes	Yes	Yes
Wake Forest University** Angell Center for Entrepreneurship Babcock School	Primary & Secondary Concentr.	No	No	Yes	Yes	Yes	No
Washington U. in St. Louis** The Skandalaris Entrepreneurship Program – Olin School of Business	Concentr. or major in each Olin degree program.	Yes	Yes	No#	Yes	Yes %	No

Program and Placement in University	West Virginia State University*** Rural Business Services - Division of Agriculture, Consumer, Environmental, & Outreach Progs, Coop. Extension	Academic Emphases	No - course	FT Enterpr. Faculty	No	Endowed Chair/Prof.	No	Incubator	No	Community Courses	Yes	Counseling	Yes	Youth Programs	NA
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* U.S. News & World Report ** Kauffman Foundation Multi-million Dollar Grantees *** 1890 Land Grant + Tuskegee
 #- works with RCGA Incubators
 %- MBA Practicum & Internship Initiative
 ^- via Family Business Center
 &- MBA field projects
 +- Student consulting

As would be expected, the larger research institutions and those specializing in entrepreneurship show a greater level of academic entrepreneurship education. The recent grantees for creating entrepreneurial campus environments have a mixture of academic and community foci. The 1890 Land Grant Institutions, being primarily small teaching universities and having their programs in agriculture areas rather than business, emphasized outreach and community to a greater extent. Table 2 provides a summary of Entrepreneurial Education at the study institutions.

The top-rated institutions often have an endowed chair or professor in entrepreneurship, full time entrepreneurship faculty, and an undergraduate or graduate major or concentration in entrepreneurship. Six of the top ten have endowed chairs or professors in comparison with two of the Kauffman grantees and one of eighteen of the 1890s. At the same time, six of the top programs have full time faculty with three and one respectively for the Kauffman grantees and 1890s. Only two of the top programs do not have an entrepreneurship track, concentration or major at either the undergraduate or graduate level. UCLA has MBA elective courses and Stanford has 15 graduate courses. The top programs all include entrepreneurship courses while the Kauffman grantees appear to be developing curricula. The 1890s include five institutions with courses.

The entrepreneurship education programs at 1890 Land Grant Institutions are primarily directed toward their outreach mission and are generally a part of the Agricultural Extension programs rather than the business schools (South Carolina State and Delaware State are the only exceptions). Five of the 1890s (27.8 percent) report offering academic courses in entrepreneurship. The University of Arkansas at Pine Bluff (UAPB) is the only institution with an endowed professor of entrepreneurship, and offers a total of three entrepreneurship classes serving approximately 120 students per year. However, UAPB offers no entrepreneurship degree or concentration. Delaware State University offers an undergraduate entrepreneurship track within the School of Management with four classes consisting of over 200 students per year. Fort Valley State University offers an undergraduate entrepreneurship course in the College of Arts and Sciences. North Carolina A&T State University has a certificate program in entrepreneurship. Tennessee State University

offers a minor in Entrepreneurship and West Virginia State University offers one single course.

Business incubators, often involving internal and external constituents, are distributed among the range of institutions. The top ten entrepreneurship institutions include six with incubators. The Kauffman Foundation grantees include three existing incubators and one in progress. The 1890s include four existing and two in progress incubators.

The presence of community courses and workshops, business counseling, and youth entrepreneurship programs are community outreach and education efforts. Babson College, UCLA, USC, and the Wharton School are the four top schools offering community courses or workshops. Babson and Wharton are the only ones of the group to provide business counseling services. The University of California – Berkeley and the Wharton School offer youth entrepreneurship education programs and Babson offers a teacher training program. Based upon data obtained, the Kauffman grantees are mixed with respect to community outreach. Four provide community courses and workshops and the same four provide counseling. None offer youth entrepreneurship programs.

The 1890 Land Grant Institutions have considerably stronger community entrepreneurship roles. Thirteen of the 1890s have community entrepreneurship education programs in the form of non-credit and continuing education courses or workshops and training programs. Fourteen provide business counseling services and ten offer youth entrepreneurship programs. This represents a significant commitment of resources for relatively small institutions. Community entrepreneurship classes and workshops at the 1890s have common and divergent elements and service various constituencies. The 1890s (13) reported serving hundreds of participants through classes and workshops in fiscal year 2004. The programs often have a multi-week course for aspiring entrepreneurs. The total number of hours for a course or workshop ranges from 1.5 hours to 28 hours. Curricula vary from self-created to formal Kauffman Foundation courses. Other workshops offered include: Selling on e-Bay®; QuickBooks®, Market Research, Marketing on a Shoe String, Cooperatives 101, Alternative Enterprises for Farmers, Low Cost Technology for Mushroom Production, and Customer Service Essentials. There is little to no consistency in course offerings, materials, or content between the institutions. Program fees vary from

Table 2: University-Based Entrepreneurship Centers – Community Outreach & Academics.

	Academic Emphasis			
	High		Medium	Low
Community Outreach Emphasis	High	Babson* Wharton*	Florida International** Wake Forest** Delaware State*** Fort Valley*** U. Arkansas – Pine Bluff***	Alcorn State*** Langston*** Prairie View*** South Carolina State*** Tuskegee*** Virginia State***
	Medium	MIT* UCLA* Washington University in St. Louis**	Howard** UC Berkeley** NC A&T*** Tennessee State***	FAMU*** UMES*** West Virginia State***
	Low	Harvard* UNC - Chapel Hill**	Columbia* Stanford* Univ. IL – Urbana**	Alabama A&M*** Lincoln Univ. in Missouri***

* Top 10

** Kauffman grantee

*** 1890 Land Grant Institution

\$0 to \$200 and class sizes generally are relatively small (under 20 participants). Classes are most frequently held on campus, at community centers, Small Business Development Centers (SBDCs), and government facilities. Most programs promote via viral marketing, partner organizations and flyers. Public relations, newspaper advertisements and direct mail are used less frequently.

The fourteen 1890 programs providing counseling services (77.8 percent) each have unique delivery and content components. For some, such as South Carolina State, technical assistance is structured into four weeks at one hour per week, then one hour per month for six months. Others provide counseling services weekly, monthly, or on an as needed basis. The average number of hours per

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client per year ranges from 4 to 30 with an unweighted mean of 13 hours. Technical assistance sessions are held at a variety of locations with the most prevalent being on campus (8), at businesses (7), and at community centers (7). Small Business Development Centers (5), government facilities (5), satellite campuses (3), and online/web counseling are other options. None of the institutions charges for these services. In total, the 10 institutions reporting hours of services provided approximately 8,500 counseling hours in fiscal year 2004.

The ten 1890 Land Grant Institutions that provide youth entrepreneurship education offer conferences, day camps, and in-school and after school programs, primarily for secondary school students. In fiscal year 2004, eight schools reported serving 1,572 youth for an average of 196.5 students each. The Kauffman Foundation's "E-in-Me" and "Making a Job" curricula are used by some programs as are the National Foundation for Teaching Entrepreneurship (NFTE) curriculum and self-designed curricula. Programs are held in middle and high schools, on university campuses, in community centers, government facilities, and churches.

Youth entrepreneurship programs serve multiple purposes within universities. They not only introduce entrepreneurial skills and concepts to students at a formative stage, but also introduce the universities and their programs to secondary school students through campus visits and competitions. For example, South Carolina State and Delaware State offer scholarships to high performing entrepreneurship students.

In addition to the main categories identified previously, universities may offer business plan competitions, entrepreneurial internships, speaker series, mentors, and student clubs. Three of the 1890s (Delaware State, Prairie View and South Carolina State) sponsor business plan competitions for youth and Delaware State also offers competitions for university students and community members. None of the 1890s offers a formal entrepreneurial internship although Tuskegee University has a work/study program in rural business development activities and Delaware State is planning an internship program. Five programs have a entrepreneurial speaker series and two have formal mentoring programs. Three of the 1890s have entrepreneurship clubs with Collegiate Entrepreneurs Organization (CEO) and Students in Free Enterprise (SIFE) being most common. In addition, Tuskegee University succeeded in

working with a community development corporation to fund a business incubator while Fort Valley manages a loan pool.

The data show that the top-ranked university-based entrepreneurship programs, the Kauffman grantees, and the 1890 Land Grant Institutions have many common elements as well as points of divergence. The ranked programs tend to have a strong to medium academic emphasis with medium to low community outreach emphasis. The Kauffman grantees cluster around the middle-ground along both attributes. The 1890 Land Grant Institutions fall primarily in the high category for community outreach and low to medium for academic emphasis. Given the factors of placement within the university, types of institutions, and funding sources, these differences are expected. However, there is opportunity to strategically reposition individual programs.

Implications of the Research and Recommendations to 1890 Land Grant Institutions

This research suggests some interesting implications for the 1890 Land Grant Institutions. To a large extent, the 1890 Land Grant Institutions are ahead of the curve by their placement outside of the Schools of Business or Management. At the same time, they are behind in terms of connections within the universities and with outside networks. Tendencies to focus only on the outreach function and far less at “inreach” and curriculum do not serve them well. This situation is appropriate and expected in light of the traditional role of cooperative extension in land grant institutions. However, it is an anathema in terms of modern, mature entrepreneurship education and resources. Even with relatively limited funding, greater interdisciplinary coordination and cooperation could be fostered.

The ranked programs and those in the Kauffman Group have far greater breadth and depth and financial and institutional support. With the Agricultural Extension role at 1890 Land Grant Institutions, entrepreneurship education is necessarily an outreach effort. Cooperative Extension is not charged with academic curriculum development. While the 1890s have entrepreneurship education roles outside of the curriculum arena, there are considerable opportunities to enhance academic and community outreach activities, sometimes without substantial new investment.

A key step is to gain institutional (internal) and funder (external) support to move toward university-wide involvement (Streeter et al. 2002). Internal champions can make strategic connections with areas outside of agriculture including business, social work, education, engineering, and the arts. Internal support of administrators can be increased via positive publicity and proven performance. While 1890 institutions may not wish to add full time entrepreneurship faculty, endowed chairs, center or entrepreneurship degrees, and majors or concentrations, they may want to offer cross-cutting courses or other student opportunities. External support can be facilitated by increasing visibility and emphasizing measurable, positive outcomes and success stories.

The field of university-based entrepreneurship education has expanded exponentially and the participating institutions in this growth have substantial accumulated knowledge. The literature contains abundant information about course designs, pedagogies, and effective strategies. Associations such as the United State Association of Small Business and Entrepreneurship (USASBE), the National Coalition of Entrepreneurship Centers (NCEC), and the Association for Enterprise Opportunity (AEO) have considerable information available to members and hold annual conferences for the exchange of information and peer networking. The 1890s can learn from these experiences so that barriers are minimized.

Moreover, the outreach-focused institutions can learn from one another and achieve economies through the process. Before working at the program design level, the 1890 Land Grant Institutions would be well served to work collaboratively to identify desired outcomes and impacts as a group while recognizing that each institution has differing strategic drivers and resources. Use of logic models (Hatry 1999) to create and define inputs, outputs, and outcomes combined with a review of the microenterprise field generally and Aspen Institute's Microtest measures (Doub 2004; Doyle 2001; Edgcomb, Klein, and Clark 1996; Nelson 2000; Schreiner 2002) could serve as a starting point for discussions.

Annual 1890 Land Grant USDA grantee information exchange workshops are of significant value. However, more frequent and focused communications would foster more rapid and valuable learning. For example, 1890s may want to collaborate to create a core set of products and services with a menu of options for individual institutions so that each does not "reinvent the wheel" where

knowledge exists within the institutions. “Sharing” tables can be instituted at 1890 workshops for all curricula, research, publications, and marketing materials with 1890 materials and materials from ranked institutions. Resources can be pooled to hold train-the-trainer sessions as a collaborative effort.

In order to maximize the potential for entrepreneurship education along academic and community outreach lines, 1890 Land Grant Institutions may opportunistically use the resources available to them and may build upon their existing networks to enhance performance. By looking inward and outward, they can establish realistic mutual outcomes objectives as well as institutional objectives. They can build stronger bonds with the broader entrepreneurship education networks that are established and reduce their learning curves. They can collaborate to reduce start up and operating costs for services. Integration of the work with that of other schools and colleges within each institution could benefit the students, the 1890 institutions and their communities.

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