

# ICSB Gazette

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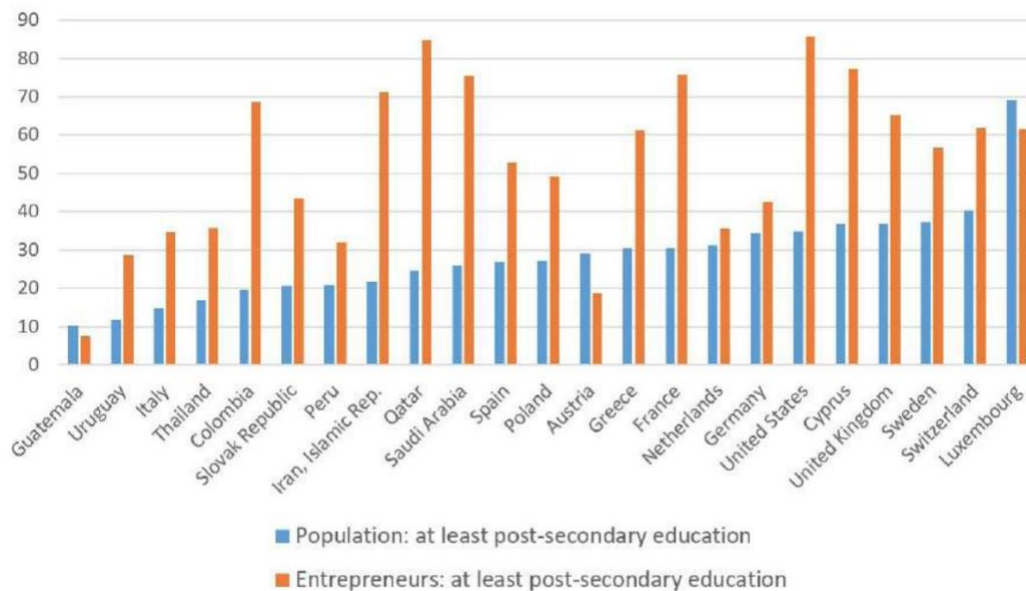
## HOW TO EDUCATE TOMORROW'S ENTREPRENEURS: THE ROLE OF UNIVERSITY ENTREPRENEURSHIP ECOSYSTEMS

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The notion that starting one's own business is a substitute for college, or at least that college isn't consistent with the idea of entrepreneurship, has not been true since our grandparents or great-grandparents' generation. Yet we hear more about how Steve Jobs, Bill Gates and Mark Zuckerberg dropped out of college than we hear that other very successful entrepreneurs like Elon Musk, Jeff Bezos, Jack Ma and Ariana Huffington actually graduated from one. Just google "successful entrepreneurs who went to college"; you'll instead get a number of links to entrepreneurs who never finished or never went to one in the first place.

While the legend of the billionaire college dropout entrepreneur makes for a good news story, this is far from the norm. Figure 1 shows percentages, among the adult population and among entrepreneurs, who have completed a post-secondary level of education in 23 countries. As this figure demonstrates, the majority of countries have a much higher proportion of entrepreneurs with a college degree compared to the general population. In fact, more than half exhibit twice the percentage of college educated entrepreneurs as does the general populace. With our entrepreneurial hats on, we can surely say this represents an opportunity. If so many entrepreneurs have gone to college, can we increase their preparation for this endeavor during their studies? In so doing, we can enhance their skills and confidence in ultimately building impactful, long-lasting businesses.



**Figure 1: Percentage of the Population and Entrepreneurs completing at least a post-secondary education.**

Source: Global Entrepreneurship Monitor and World Bank World Development Indicators

## **Entrepreneurship Education in Universities**

The university environment represents a comparatively safe context for prospective entrepreneurs to learn and practice. Entrepreneurs must act under high uncertainty and insufficient information, charting a way forward when the path is far from clear, and somehow securing financial, human, technology, and other resources to accomplish their goals. This endeavor can be unforgiving, particularly for those with big ideas but who lack sufficient knowledge and connections to enact them. But on a college campus, students can experiment with their ideas inside and outside their classes, working with professors, peers, staff and those in the community to develop their understanding, abilities and confidence for entrepreneurship.

Entrepreneurship education is increasingly understood to be a combination of effective curriculum and pedagogy, and co-curricular and community learning-by-doing. It is not enough to focus on what happens in the classroom, with little connection to what students do outside class meetings and coursework. In addition, the curriculum needs to move beyond learning from the teacher to not just learning from others, but to also learn from oneself.

The case teaching method, originating at Harvard in the 1920s and proliferating across the curriculum of nearly all business schools, exemplifies learning from others. Guided by the instructor, students identify critical issues, discuss solutions, and make recommendations, including how these might be implemented. There is no right answer, so in this way the method is designed to put students in the role of decision maker in the real world, applying classroom concepts to a real life situation, rather than guessing the one best way. Guest speakers also connect the students to others' experiences, enabling them to learn from the decisions and actions of those who have actually started a venture, grew a business, funded entrepreneurs, or served in some other stakeholder role.

But as effective as these methods can be, entrepreneurship requires more than lessons from the teacher and from others. There can be some gap between putting oneself in the role of a case protagonist, pondering what they should have done, versus really imagining being in that place. And guest speakers may not always be someone the student could imagine emulating. To truly walk in the shoes of an entrepreneur, one should try as much as possible to wear those shoes.

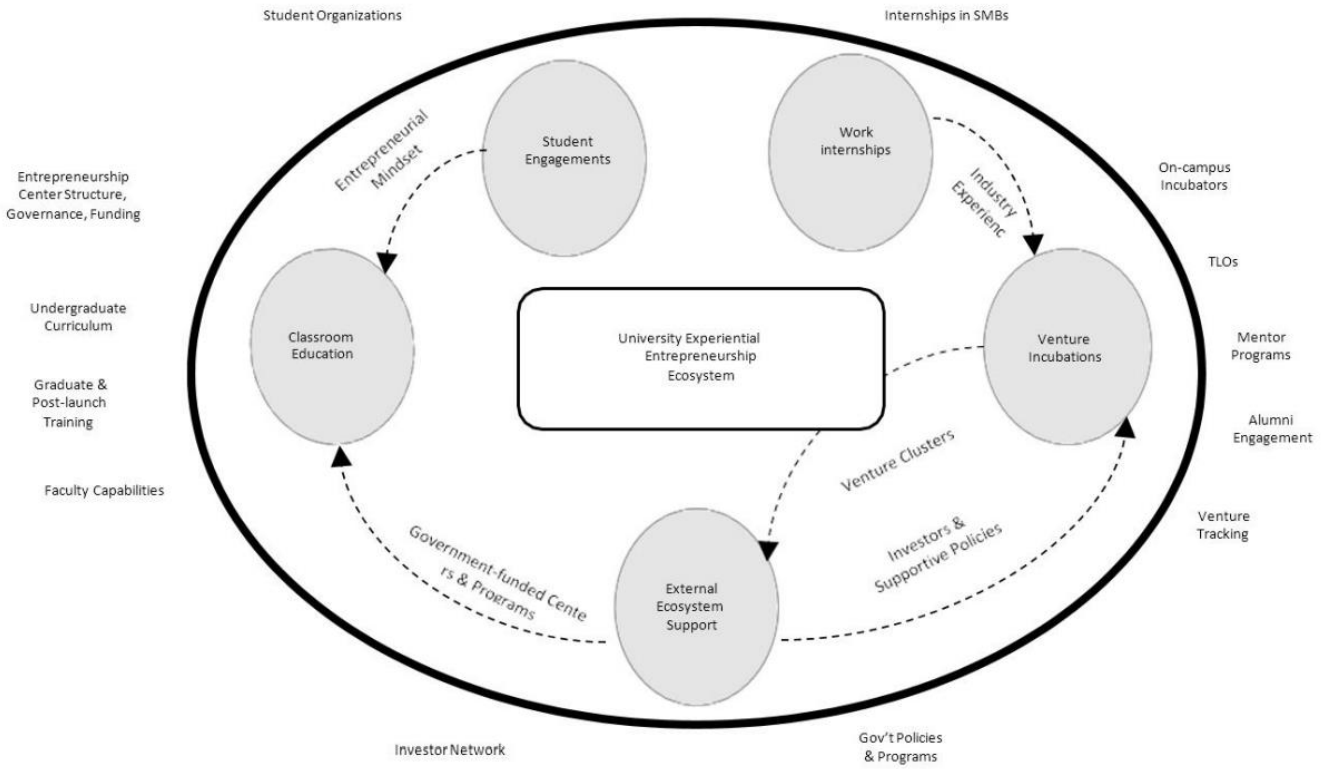
There are both curricular and co-curricular methods to accomplish this. First, the classroom uses as much experience-based learning as possible. When students apply frameworks and work through exercises with a business they can imagine starting, or that they are actually starting, they internalize the learning much more effectively. When they give feedback to their peers and receive the same from others, they broaden their learning by playing different roles and assessing other types of ventures, while reflecting on this experience and how it relates to course concepts. Continual pitching and presenting refines skills and build confidence, particularly in a community where everyone is learning.

Second the co-curricular, or out-of-classroom, learning happens through programs, events, and any other arrangements that allow students to experiment and interact with each other. This is genuinely experiential in immersing students in the startup world. It can involve interacting on a personal level with entrepreneurs, who not only share their experiences but mentor student entrepreneurs. Students can also work in paid internships for venture companies, and they can explore and start new ventures in an on-campus incubator.

As students increasingly engage in both classroom and out-of-classroom learning, it will be important to integrate these experiences. Students may participate in pitch competitions or engage with an on-campus accelerator. It's obvious that these are practical learning experiences, but they don't necessarily need to be considered something one does on their non-academic time, or to supplement classroom learning. These could be complementary where, for example, students can engage in reflection to internalize the learning, connect their experiences to classroom concepts, and instructors can bring these experiences into the classroom.

The components discussed compose what is increasingly being known as the university's entrepreneurship ecosystem. While a region or city (ie. Silicon Valley, Boston) may have conditions, actors and activities that foster and support entrepreneurship, we can also consider the ecosystem serving particular communities, such as a low-income neighborhood, women, and students on campus. These focused communities operate within the broader ecosystem in which they come in contact. The important point, though, is to recognize that these communities require attention to their own ecosystem, conditions that specifically foster and support their efforts, whether or not they can also draw on elements of the broader ecosystem that intersect with their communities. We next present components of this ecosystem, illustrated in Figure 1, with suggestions for assessing and guiding actions to enhance entrepreneurship education and the building of ventures on campus.

**Figure 1: University Entrepreneurship Ecosystem Dimensions**



## The University Entrepreneurship Ecosystem

The primary stakeholders in an university-based entrepreneurship ecosystem are logically the entrepreneurs (who may be undergraduate students, graduate students, research staff, faculty, and alumni returning back to the university for help starting their companies), teaching faculty, professional staff responsible for venture incubators, venture investors, university leadership, and the government policy decision-makers. There are also alumni who might fund entrepreneurship ecosystem activities, as well as corporations that have an interest in the technologies developed by the entrepreneurs.

Dimensions of the university entrepreneurship ecosystem can be physical, such as an incubator space, or nonphysical, such as entrepreneurship courses and noncurricular learning. These are assets that university officials can design, resource, and promote. Collectively, they are endogenous entrepreneurship ecosystem system factors. In assessing these factors, we can posit ways to operationalize 97 insights about the ecosystem into concrete action steps for learning and building support for venture creation.

Exogenous ecosystem factors are those requiring partners or composing actions or conditions over which the university has less control but can—and should—influence. However, these are also important to assess in

order to determine what benefits the region provides to entrepreneurs, that makes these less necessary for the university to offer, but that the university can leverage or complement with their own assets or practices. On the other hand, awareness about barriers or a lack of resources or support signals a need for the university to fill these gaps.

Next, we discuss endogenous and exogenous factors representing specific tangible and intangible infrastructure-related assets that our experience and observation has shown to be potentially beneficial to university-based entrepreneurship.

### **Endogenous Ecosystem Components**

Endogenous ecosystem factors include: 1) classroom education, 2) “student engagement”, which can be seen as an antecedent to actual venture incubation, 3) on-campus venture incubation and 4) work internships with companies, whether these are early stage venture companies or venture capital firms and other types of investment vehicles. It should be noted that work internships are seen as endogenous in particular if they are a formal part of an entrepreneurship education curriculum – such as what may be found in “cooperative” education schools. In all, these meta-groups represent the major types of activities occurring within and around a university-based ecosystem, including courses, student clubs and events, and actual venture creation/incubation. This might also include university seed-stage financing in the form of grants for prototype development and early customer acquisition.

Based on the literature and our own experience building entrepreneurship programs, the five major components for assessing the classroom education subsystem with the university ecosystem model include: (1) undergraduate entrepreneurship curricula, (2) graduate entrepreneurship curricula, (3) postlaunch skills training, (4) faculty capabilities, and (5) entrepreneurship center structure and resources. These components warrant a much more detailed discussion than is possible in this relatively brief article, but this subsystem is arguably the underlying foundation of a university’s entrepreneurship ecosystem.

Student engagement in entrepreneurship is a necessary antecedent to actual venture incubation, whether this occurs before or after graduation. It lies in between the classroom and the actual venture activity. This engagement may also occur in one’s family business prior to college. For most college students, however, such engagement comes in the form of student clubs and events. Student organizations enhance the entrepreneurial culture within the university. They can bring alumni and the business community on campus to interact with students, but also foster the exchange of ideas among student peers and help them build networks that will benefit their efforts even beyond graduation. In all, these organizations serve as a seeding ground for new ventures.

On-campus venture incubation provides students with venture management and advising, access to business and industry mentors, and seed funding. A university’s technology licensing office (TLO’s) may also become involved with this activity. Many colleges help students find internships, typically over several months during a summer session, and these may or may not be paid arrangements. Work internships, generally known as “co-ops”, represent a more serious form of experiential learning, not just a step up from short internships to longer duration paid co-ops, but those that are specifically focused on work in a startup or growing venture company.

Exogenous Ecosystem Components Exogenous ecosystem factors include: 1) the broader and typically local or regional business and industry support and 2) specific government support of campus-based entrepreneurship learning and activity.

The region around and even beyond a university may have conditions, activities and stakeholders that can benefit entrepreneurship on campus with business and industry support. This may include organizations and meetings, events on topics related to entrepreneurship or the types of businesses they are starting, and people students may reach out to for information, expert advice, market research, or even value chain partners (suppliers, technology developers, prototyping facilities, etc.). Another component of the local ecosystem

includes accelerators designed to serve entrepreneurs in general, but also students and alumni of universities in the city or region. Some of these are privately funded, while others are funded by federal, state, or local government agencies.



In addition, the investment community's interest in investing in university-based startups has continued to increase over the past decade, with dozens of universities having served as a launchpad for ventures which have exited for in excess of \$50M USD. The presence of a local or regional investor network, their activity level, and the extent first-time entrepreneurs can access that network will be important in assessing the extent this can benefit students. Government policies and programs can include licensing and permits, tax policy and other requirements for operating a business. This also involves government-based support in the form of training programs, advising and other types of assistance.

Government policies and programs can vary substantially across countries but also across regions within a country, in terms of the extent entrepreneurship is fostered versus impeded. Additionally, some governments seek to explicitly influence entrepreneurship, while others are more likely to take actions that enable the activity to flourish without direct intervention.

### **Assessing the Entrepreneurship Ecosystem**

We designed an assessment tool to reflect our research and applied experience developing university-based entrepreneurial ecosystems. It takes the form of a survey, each reflecting a component of the framework described above, with outside experts coding the answers to reflect the current state of these conditions. Overall, the assessment is targeted toward identifying areas of strength that can be leveraged and areas where the university can focus their attention, in their efforts to expand their entrepreneurship ecosystems. The components of the assessment include the following:

1. Entrepreneurship center organization, and governance
2. Student engagement in entrepreneurship outside of classroom
3. Undergraduate entrepreneurship curriculum
4. Graduate entrepreneurship curriculum
5. Faculty capabilities for classroom education
6. Work-internship design and intensity for experiential learning
7. On-campus student startup incubator organization and activity

8. Post incubator skills training
9. Commercializing technologies from research labs
10. Mentor programs
11. Alumni engagement for mentoring and fund-raising
12. Venture development activity tracking and reporting systems
13. Investor network in the region
14. Near-campus business scale-up incubator organization and activity
15. Government policies and programs

This assessment can be used for continual improvement and assessment over time, where actions can be taken to address needed areas, and subsequent assessments providing feedback. In addition, with multiple universities participating, the assessment can serve as a basis for benchmarking and sharing of experiences and best practices. The overall aim is to continually build the entrepreneurship ecosystem to better prepare our graduates to have the confidence, inclination and knowledge to start businesses that can have positive influence on their societies.



## About the International Council for Small Business (ICSB)

The ICSB Gazette is a weekly edition of a key topic that ICSB will showcase. The content is varied from research, practice, policy, and education. The editor of the ICSB Gazette is Mr. Kyle Lyon, ICSB Junior Project Manager. He will be soliciting ideas and articles from ICSB members world-wide.



### Kyle Lyon

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#### Comment:

This Gazette issue is from the 2019 MSME Report.

Dr. Ayman El Tarabishy

### Contribute:

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