CAWG Snapshot of Student Experiences

Innovation and Entrepreneurship

University of Maryland

2020 – Issue 4, April

This Campus Assessment Working Group (CAWG) snapshot reports findings on junior and senior students' perceptions regarding Innovation and Entrepreneurship. The data represent results from the University of Maryland Student Survey (UMSS), an annual survey administered by the CAWG Assessing Campus Experiences Subgroup (ACES). Respondents completed the survey during the 2019 spring semester in Professional Writing courses.

Project Context and Definitions

Given the university's prioritization of Innovation and Entrepreneurship (I&E) and its inclusion as an Institutional Objective, CAWG focused on this theme in the BSS 2016, UMSS 2017, and UMSS 2019 surveys. UMD earned Top 10 rankings in *Entrepreneur Magazine* and in *Princeton Review's Best Colleges for Entrepreneurship* for the fourth year in a row as a top school for entrepreneurship studies (2019).

I&E is woven throughout UMD's ecosystem, providing students with a wide variety of avenues to explore and learn these concepts through living-learning programs, competitions, research, hackathons, areas of study, and courses. Members of CAWG met with UMD faculty and staff whose work relates to I&E before developing survey questions and discovered that the terms "innovation" and "entrepreneurship" mean different things to different people. For the purposes of the survey, CAWG defined I&E as follows:

Innovation: Innovation is knowing how to creatively solve complex problems.

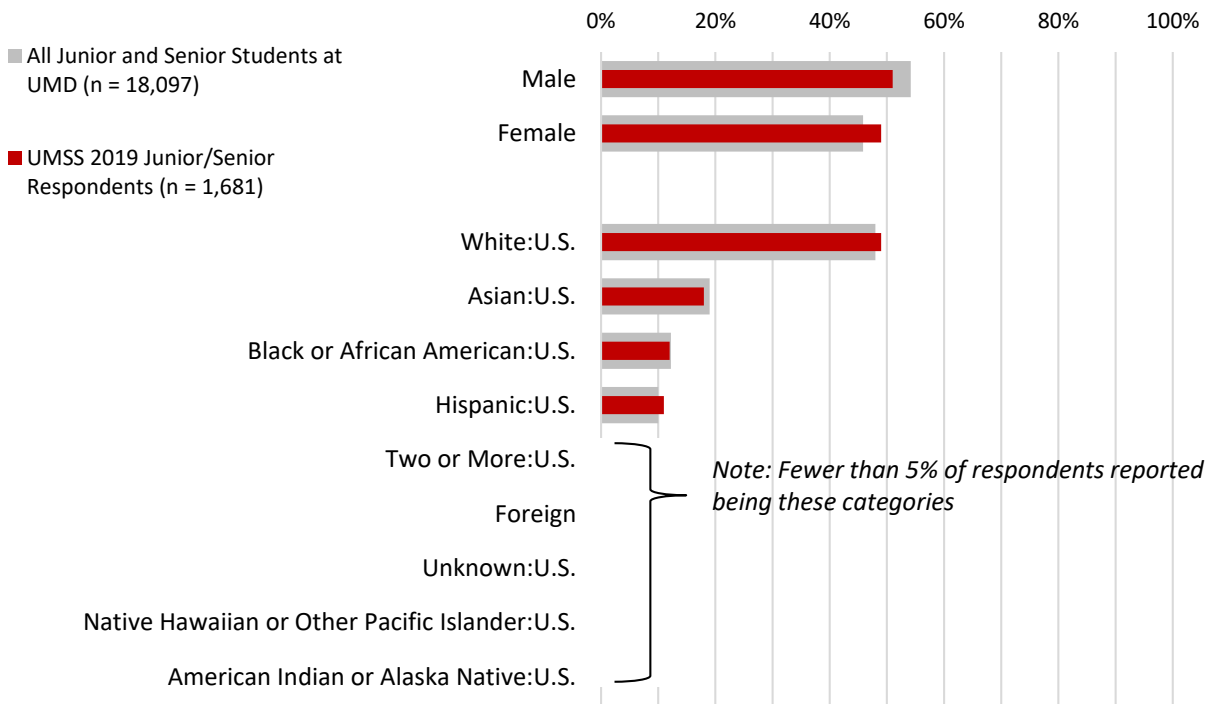
Entrepreneurship: Entrepreneurship is knowing how to scale solutions to maximize the number of people affected.

The Campus Assessment Working Group (CAWG) regularly gathers and exchanges information about UMD student and alumni experiences. The group is charged with developing a campus "Culture of Evidence". For more information, to view past reports, or to join a CAWG subgroup, please visit http://ter.ps/CAWG.

Respondent Demographics

During the spring semester of 2019, 52% (1,834) of juniors and seniors who were enrolled in Professional Writing courses completed the survey. However, demographics were only available for 92% (*n* = 1,681) of these survey respondents. The demographic breakdown of respondents generally reflected that of all juniors and seniors.

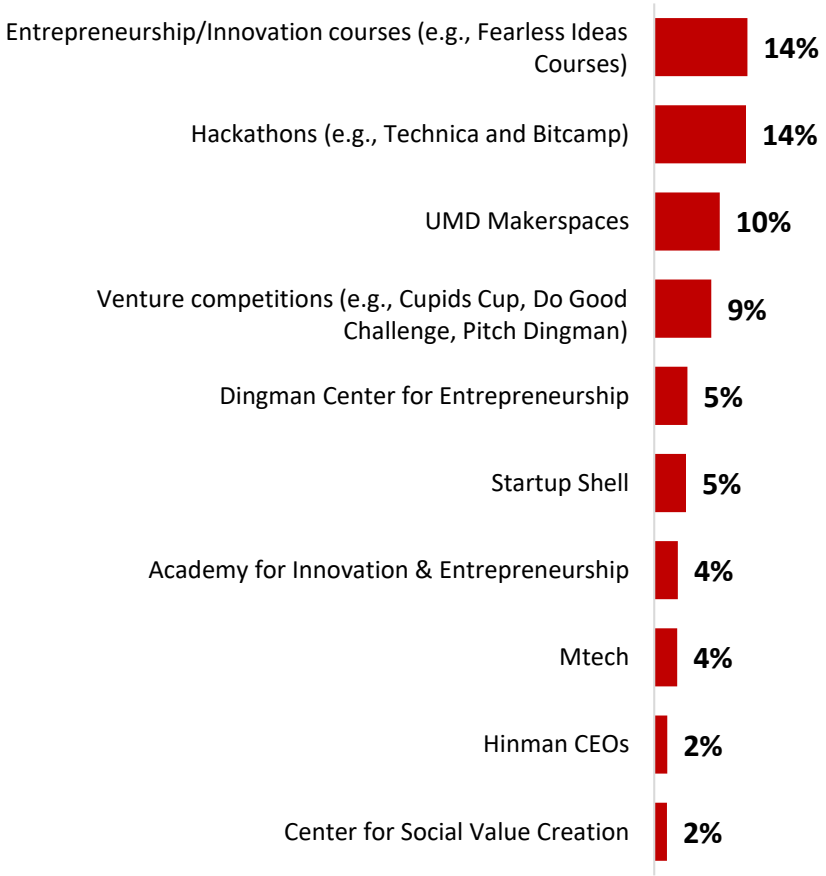
The data in this snapshot represent only survey respondents, not all UMD students; therefore, use caution when generalizing. Percentages may not sum to 100 throughout the report due to rounding.



Entrepreneurship Resources Used By Students

Students were asked if they have used any innovation and entrepreneurship resources available on campus.

Indicate if you have used each of the following resources on campus:



n = 1,789 – 1,799 depending on item

Overall, 36% of respondents reported using at least one of these resources. The most popular resources were hackathons and entrepreneurship/innovation courses (14% each), followed by UMD Makerspaces (10%).

Questions to consider

Might there be important distinctions between students who have used a resource once and those who use them regulary?

What are students' perceived incentives to participate in these campus resources?

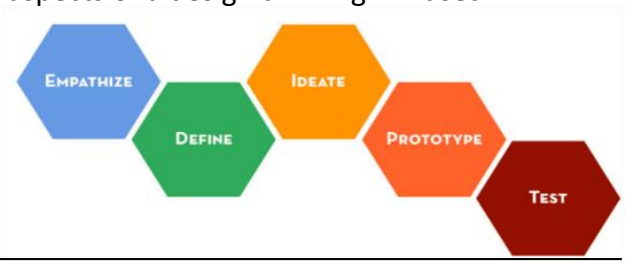
Are some of these terms, such as "hackathon" and "makerspace," becoming generic terms for many different events across campus?

Should the university encourage more students to use more of these resources?

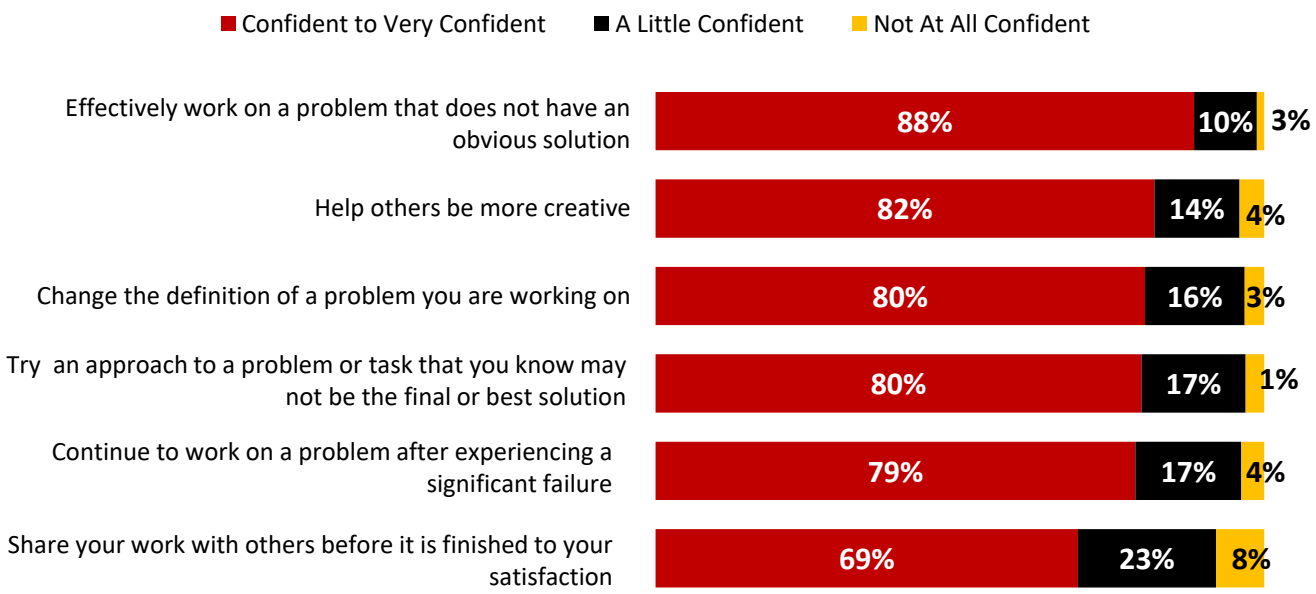
Design Thinking

Design Thinking is one way to approach creative problem solving. This mindset for innovation begins with empathy to define and understand problems and needs. Students with a diversity of skills, experiences, cultures, and viewpoints work in teams to ideate by generating many ideas that build on each other. Teams then prototype by creating inexpensive mockups and test them in the field. Key lessons from what worked and what didn't are captured, and the whole process is repeated. The results of Design Thinking aren't just physical products; they can be solutions, systems, services, or even experiences. The items below measure key aspects of a design thinking mindset.

Text adapted from:
http://innovation.umd.edu/about/design-thinking/



Indicate your level of confidence in your ability to do the following:



n = 1,797 – 1,807 depending on item

Most respondents expressed confidence in effectively working on a problem that does not have an obvious solution (88%). Fewer respondents expressed confidence in sharing work with others before it is finished to their satisfaction (69%).

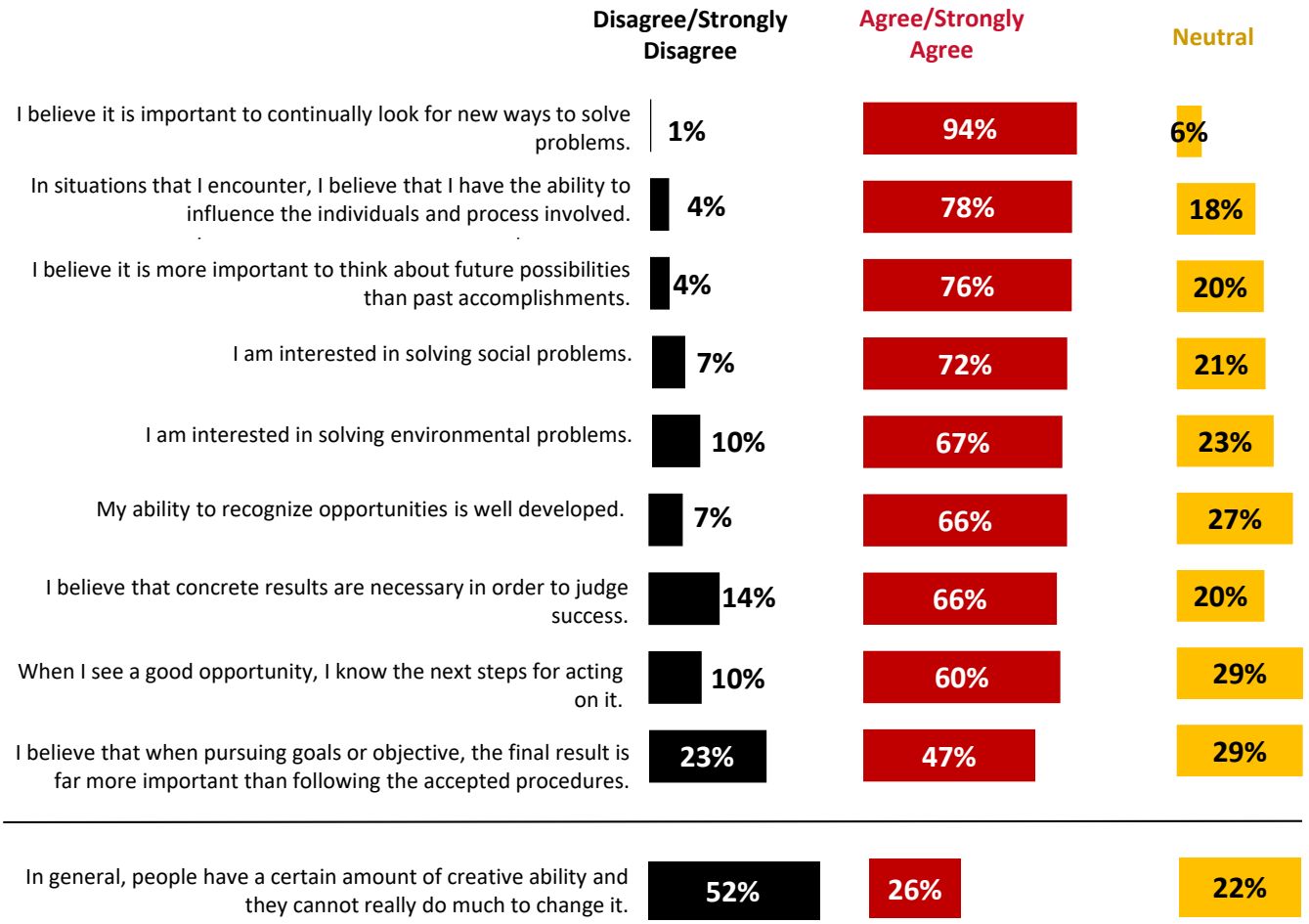
Questions to consider

Why are there fewer respondents who feel confident they can share their work with others before it's finished, compared to the other six abilities? How might this impact entrepreneurial thinking?

How do we instill confidence in trying new approaches to problem solving?

Student Perceptions of Innovation and Entrepreneurship

Students were asked if they agreed or disagreed with a series of statements that measure some form of innovation and entrepreneurship.



n = 1,778 – 1,790 depending on item

Between 67% and 72% of respondents show an openness to innovation in problem solving, which is a skill that can applied to any field. Additionally, 23% of respondents disagreed when asked if the final result is far more important than following accepted procedures when pursuing objectives.

Questions to consider

What do these data suggest about students' comfort with outside-the-box entrepreneurial thinking? How can we help students become more comfortable in taking calculated risks to increase the likelihood of finding an innovative solution?

The percentage of neutral responses was higher in this survey compared to prior UMSS surveys on other topics. What does the large percentage of neutral responses to these statements say about students' entrepreneurial perceptions?

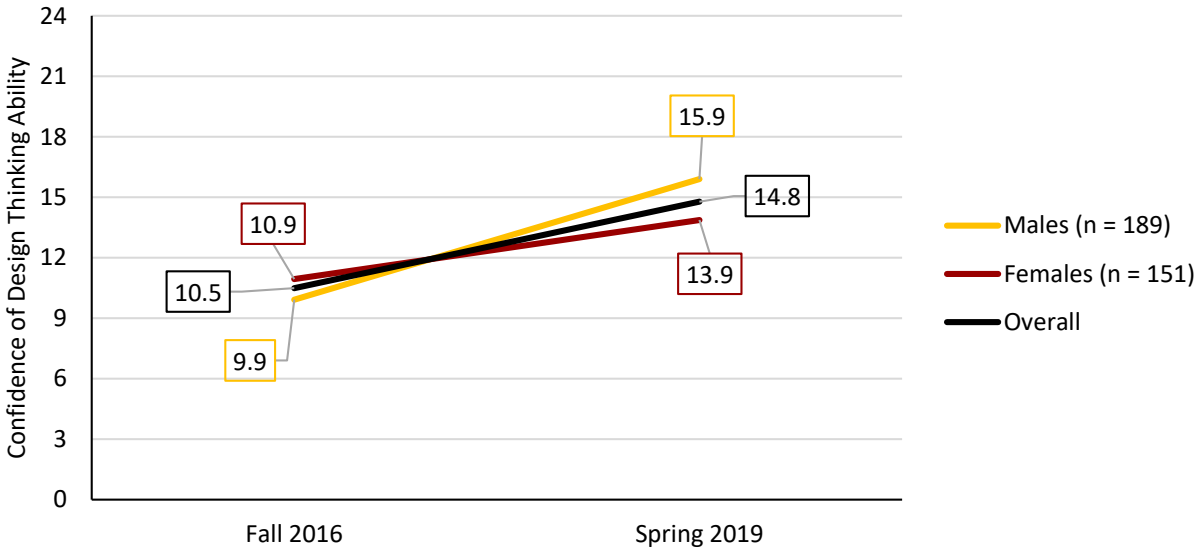
Change in Students' Perspectives Over Time

Finally, we investigated whether change in entrepreneurial attitudes among UMD students is related to participating in on-campus activities related to innovation and entrepreneurship, and whether males' attitudes change more or less than females' attitudes. To do this, we identified respondents in Spring 2019 (UMSS2019) who also took the new student survey in Fall 2016 (BSS2016). A total of 340 students responded to both surveys.

We created a "perceptions of innovation and entrepreneurship" score (ranging from 0 - 40) and a "confidence in design thinking ability" score (ranging from 0 - 24) by summing the responses to the items on pages 4 and 5, respectively. We then subtracted the Fall 2016 scores from the Spring 2019 scores in order to obtain a difference score (a positive difference score reflects a positive change in attitudes or confidence). We investigated whether being in a Business major, whether taking courses related to innovation and entrepreneurship, and whether reporting participating in entrepreneurship resources (see page 3) were related to change in perceptions and confidence over time.

We found no significant growth or decline in perceptions of innovation and entrepreneurship. However, we did find that, on average, students' confidence in their design thinking ability increased by 4.3 (17.9%) points (10.5 in 2016 to 14.8 in 2019).

Change in confidence of design thinking ability from Fall 2016 to Spring 2019



Students' confidence is increasing while at UMD, but it is hard to isolate where and when this is occurring given the data. Males' confidence grew more than females' confidence but participation in different innovation and entrepreneurship activities did not significantly predict change over time.

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