

# Towards a professional development approach to teaching undergraduate biology students the ins and outs of obtaining a summer research opportunity

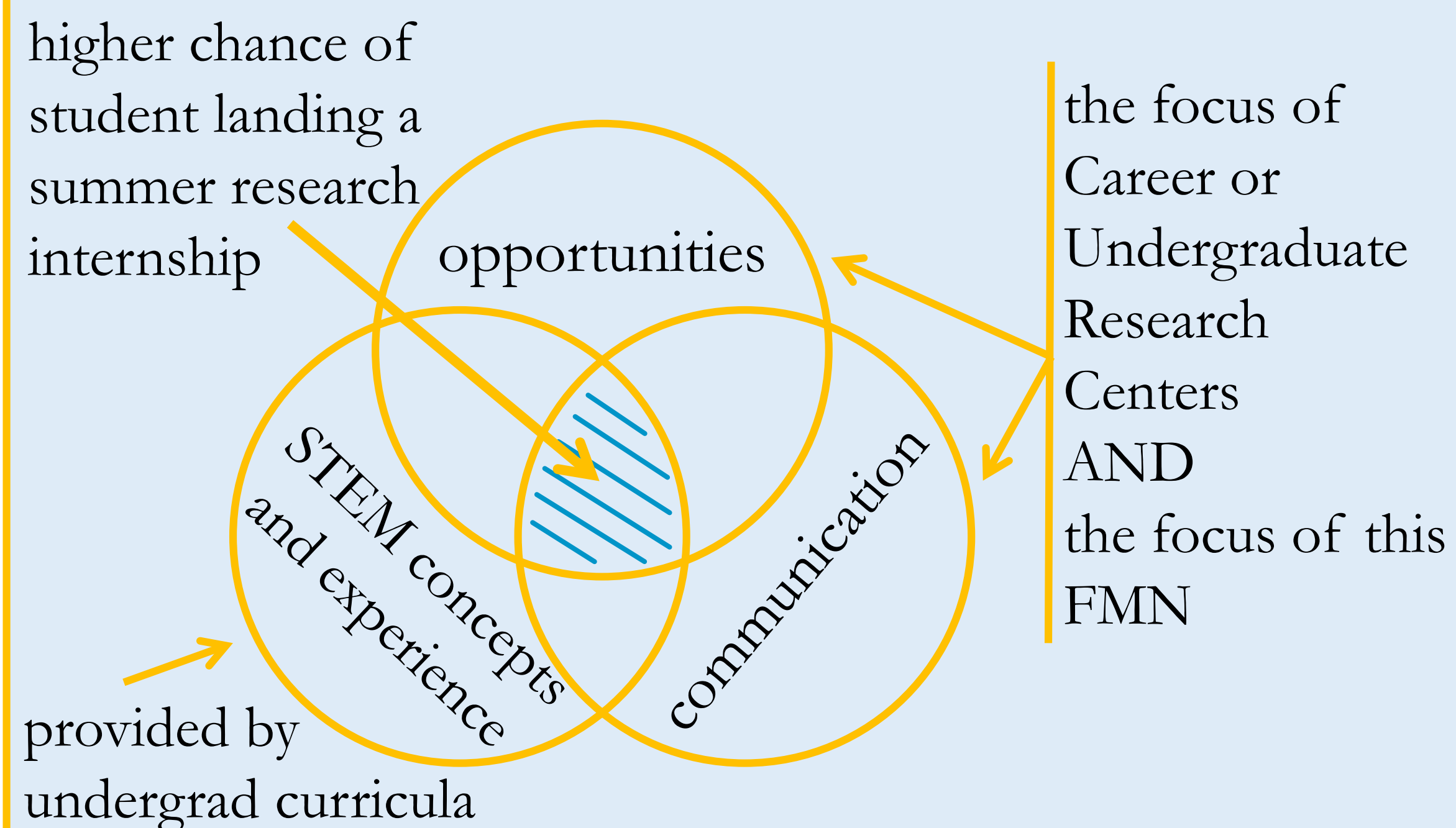
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JOIN OUR FMN THIS  
FALL 2022!

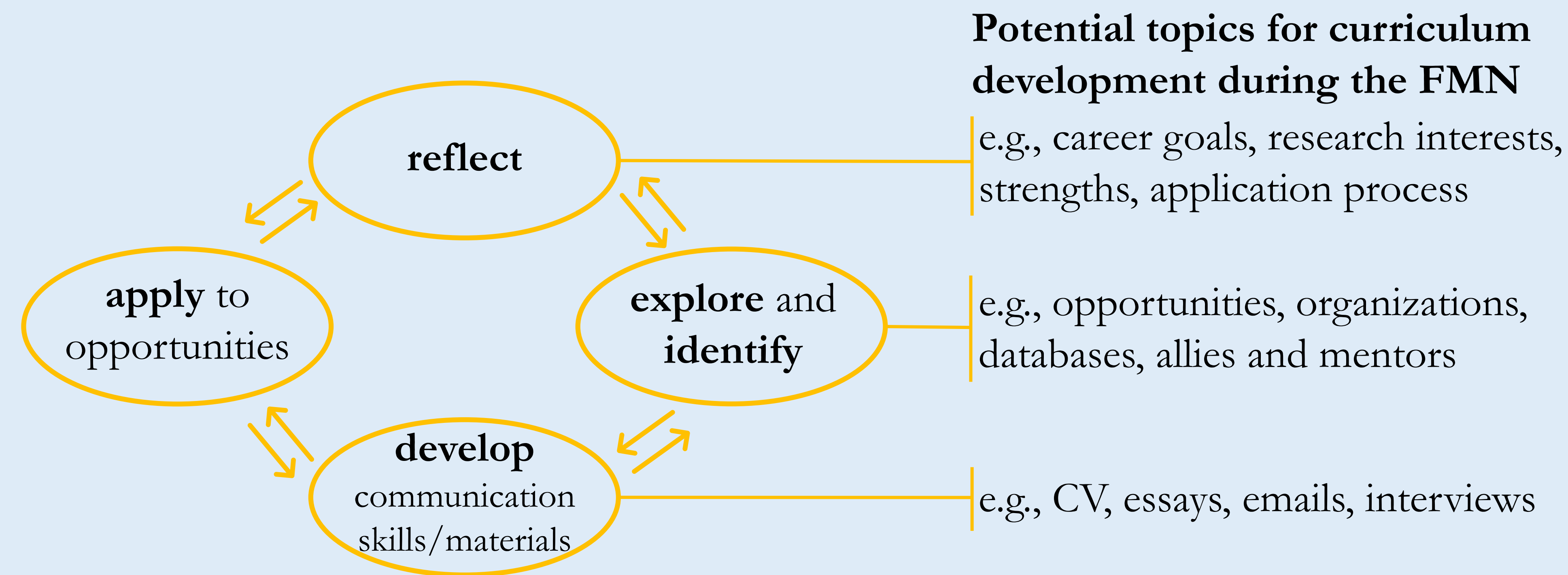
Undergraduate research opportunities help foster a science identity and increase retention in STEM majors and workforce – with stronger results for underrepresented minority students. However, most undergraduate STEM curricula is focused on scientific content and knowledge and rarely focuses on skills needed to pursue STEM opportunities outside of classroom settings, such as research internships, jobs, and career development. Yet it is knowledge at the intersection of science, opportunities, and communication tools that increases a student's chance of obtaining an outside-of-classroom experience, such as a summer research internship (Fig. 1).

Here I introduce a Faculty Mentoring Network (FMN) for developing professional development modules to be incorporated in undergraduate science curricula with the goal of increasing literacy in students regarding summer research opportunities and guidance for crafting and navigating the application process.

## Fig 1. Knowledge spheres involved in students joining summer research programs



## Fig 2. Using the professional development framework to identify and develop undergraduate curricula for summer research opportunities



## Example of a module: NSF REU informational workshop

The NSF REU program informational workshop is aimed towards undergraduate students to become familiar with these opportunities, learn how to access them, and share best practices towards navigating the application process and materials. The image in the right shows an activity presented to the participants to help narrow down their research interests. This workshop also includes a panel of previous NSF REU students and advisors. Other topics that can be developed through this FMN are described in Fig. 2.

### ACTIVITY: NARROWING DOWN YOUR SEARCH

- Which classes have you enjoyed?
- Is there a subject or field of study you are curious about or you find interesting?
- Is there a skill you want to gain or further develop?
- Lab work | Computer work | Field work | No preference
- Do you want to stay close to USD or travel somewhere else?



## FALL 2022: QUBES Faculty Mentoring Network Opportunity

**FMN Goal:** support faculty wanting to adapt and create modules to teach professional development skills to apply to summer undergraduate research programs, with a focus on NSF REU Programs

**Application deadline:** Friday, August 26, 2022

App: <https://forms.gle/2gE8RWgxoS9KdAbQ9>

**Space limit:** 8-12 people

**Dates and location:** September 12 – November 11; meeting virtually every-other-week

### Benefits:

- ✓ Explore ways to assess how a student's science identity changes through each of the developed modules
- ✓ Learn tools used in professional development modules and incorporate them in various learning settings
- ✓ Become part of a supportive network of like-minded people
- ✓ Receive feedback and work towards the implementation of developed modules

**Expectations:** Attend all meetings, participate in discussions, read assigned literature, present a draft of your module, develop your own module by the end of the FMN, and use twice your module(s) during Fall 2022 or Spring 2023.

If you have any questions or thoughts please message me at [wrecartgonzalez@sandiego.edu](mailto:wrecartgonzalez@sandiego.edu)