Engaging and Empowering High-Impact Educational Communities through Cross-Disciplinary Liaisonship

Alex Carroll & Jennifer Garrett

High-Impact Education, Broadly

- Aims to expand how we define “student success”
- “Retention and graduation are best described as partial indicators of student success—necessary, but scarcely sufficient”
- “The college degree is meaningful...only when it represents forms of learning that are both valued by society and empowering to the individual”

High-Impact Educational Practices

What kind of experiences promote this level of student learning?

- Living-Learning Communities
- Undergraduate Research
- Service Learning & Community Based Learning
- Co-ops and Internships
- Study Abroad
- Entrepreneurship Initiatives

If our institutions want students engaged in high-impact educational experiences, then librarians need to integrate themselves into those experiences.

It's one thing to say we need to do this.
Can we actually deliver?

New and Classic Challenges for Liaison Librarians

DSVIL DATA SCIENCE AND VISUALIZATION
INSTITUTE FOR LIBRARIANS

The NCSU Libraries, the **Coalition for Networked Information** and **Data Science Training for Librarians** are partnering to offer the Data Science and Visualization Institute for Librarians (DSVIL). Hosted by the NCSU Libraries, the Data Science and Visualization Institute for Librarians is a week-long course providing the opportunity for librarians to immerse themselves in learning about data science and visualization in collaboration with academic peers.

New and Classic Challenges for Liaison Librarians

The image displays four overlapping screenshots of various online databases and services, illustrating the challenges faced by liaison librarians in managing diverse information resources.

- PubMed:** The top-left screenshot shows the PubMed homepage, featuring a search bar, navigation links (Resources, How To), and a sidebar with links to "Using PubMed" and "Latest Literature".
- Engineering Village:** The top-right screenshot shows the Engineering Village homepage, highlighting a "Quick search" bar and a sidebar with links to "Using PubMed" and "Latest Literature".
- Web of Science:** The middle-left screenshot shows the Web of Science homepage, featuring a "Search" bar and a sidebar with links to "Using PubMed" and "Latest Literature".
- FDA Premarket Approval (PMA):** The bottom-right screenshot shows the FDA Premarket Approval (PMA) website, featuring a "Search Database" form and a sidebar with links to "Using PubMed" and "Latest Literature".

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Note: If you need help accessing information in different file formats, see Instructions for Downloading Viewers and Players.
Language Assistance Available: Español | 繁體中文 | Tiếng Việt | 한국어 | Tagalog | Русский | العربية | Kreyòl Ayisyen | Français | Polski | Português | Italiano | Deutsch | 日本語 | العربية | English

In the midst of developing new technical skills,
we also need to expand our traditional skill sets
to meet the needs of cross-disciplinary initiatives.

How can we possibly do both?

NCSU Engineering Entrepreneurs Program

- “The hub of the technology entrepreneurship ecosystem at NC State”
- Students need to find be able to:
 - Identify promising materials and best practices in design
 - Evaluate the intellectual property landscape
 - Conduct market analyses and create target market segments
 - Develop a business plan to bring their device to market
 - Synthesize these diverse threads into a cohesive “pitch” presentation

Who on our campus can answer all of
those questions?

No one.

Well, not no one.

But no single person.

Our Approach

- Jennifer's expertise in business development and market research
 - Competitive landscape
 - Consumer demographics
 - Market segmentation
- Alex's expertise in applied science and innovation
 - Technical literature
 - Intellectual property
 - Supply chains

ECE/MAE 482

Engineering Entrepreneurship & New Product Development I

Alex Carroll

ajcarro4@ncsu.edu

Jennifer Garrett

jigarret@ncsu.edu

Our focus: what questions can each data source answer for you?

What types of information can I use to figure out...

- Who is spending R&D funding in this space?
 - U.S. Patent and Trademark Office
- How large is the total adjustable market for this device?
 - American FactFinder & Mintel Reports
- How do we know that this technology actually works?
 - PubMed & Web of Science
- Where can we source our raw materials from?
 - IBISWorld & ThomasNET
- What do the profit margins look like for companies already in this space?
 - Business Source Complete & Nexis U

Benefits of this Approach

Meeting the Diverse Needs of these Communities

Ingenuity with a twist

August 14, 2013 | jhorr

Jar with a Twist

Jar~with~a~Twist is a problem-solving product that works similarly to a deodorant stick that twists on the bottom while moving the contents of the container to the top.

chemical engineering majors, respectively; and Stephen Smith, now a senior in mechanical, electrical and computer engineering, met in Engineering Building I on NC State's Centennial Campus.

The scenario was the same.

On the kitchen counter sat an open, half-full jar of peanut butter, but reaching in to gather the contents left Michael Bisette's knuckles covered in the buttery spread. It was the same for mayonnaise and salsa — a mess.

The problem resurfaced last spring while Bisette, now a senior in chemical engineering, brainstormed with his teammates from the Engineering Entrepreneurs Program (EEP). The team, recent graduates Sean Echevarria and Spencer Vaughn, mechanical engineering and

Communities of Practice and Co-Learning

Building Sustainable Relationships

Classic Liaison Model

Community Members

Library Staff

Cross-Disciplinary Liaison Model

Community Members

Library Staff

Reaching Our Whole Community

Finding High-Impact Educational Communities in Need

- Identify high-profile, cross-disciplinary areas within your community
 - What's the provost talking about?
 - What areas is your university hiring for?
 - What communities are identified in strategic plans?
- Identify that community's areas of need
 - Which of those are you well-suited to address?
 - Which of those are you sort of equipped to address, but could use help with?
 - Do they know that it's a need? If not, how will you convince them?

Questions?

Alex Carroll: ajcarro4@ncsu.edu

Jennifer Garrett: jigarret@ncsu.edu