

Supporting Student Career Development of Undergraduate Engineering

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Abstract—Preliminary findings from the Professional Engineering Pathways Study, a study of career placement processes of undergraduate engineering majors at six diverse US institutions will be presented, and small group discussions guiding the application of the findings to the institutions represented by the audience will be led.

Keywords—career placement, career services, undergraduate engineering students

I. GOALS OF THE PANEL SESSION

The goals of the panel session include the following:

- To provide a brief summary of the research to date on the NSF-funded Professional Engineering Pathways Study (PEPS), including preliminary results and future work.
- To illuminate the contextual aspect of career services from the viewpoint of different universities.
- To actively apply preliminary findings from the research to the audience members and their institutions and engage in discussion and summary of current practices.
- To document the results of the session for dissemination.

II. DESCRIPTION AND RATIONALE

As engineering graduates prepare to enter the workforce, they must navigate an increasingly complex process of knowing where to look for a job, how to look, and how to get hired. Furthermore, 40% of engineering bachelors degree recipients leave engineering within three years of graduation. In order to build a diverse and highly skilled workforce, research is needed to better grasp the students' decision-making process and the ecosystem of resources and supports they draw upon as they seek their first post-undergraduate job.

To address these concerns, the NSF-funded Professional Engineering Pathways Study (PEPS) is undertaking a three-

year, longitudinal, mixed methods study with six diverse U.S. institutions. The study has conducted interviews with student advisors, engineering faculty, and career service staff, i.e., university influencers (UIs), about their perceptions of engineering students and the career resources available on their campuses. Subsequently, student surveys were administered to juniors and seniors at all six institutions to obtain their viewpoints on various aspects of the job search experience, followed by phone interviews to flesh out the details of the survey results. The student surveys are longitudinal, and follow-up surveys will be conducted at the end of their job search with consenting students. The work is guided by the Expectancy-Value Theory [1] and the Cognitive Information Processing Theory [2]

The session will open with a brief summary of the results to date, including the results from the UI interviews, student surveys, and student interviews. This will be followed by a panel discussion and Q and A to illuminate the contextual nature of career services at various types of institutions. Participants will then be organized into small groups to engage in discussion and evaluate the research findings in the context of their own institutions. The outcomes from the small group discussions and workshops will be documented and disseminated to attendees, and will inform the researchers on the PEPS project and their future work.

The rationale for holding a panel session for this topic is that the active application of the research findings would not be possible in a Work In Progress paper.

III. ANTICIPATED AUDIENCE

The topic will be of interest to a broad range of university personnel serving engineering majors. This group includes: faculty engaged in major advising/mentoring, department chairs, associate deans and deans, student affairs, including student services staff, and career placement staff.

An understanding of current challenges and best practices in placing engineering graduates is of interest to the FIE community. The research may influence advising/mentoring, career placement services, and curricular and extra-curricular offerings.

REFERENCES

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