COVID Information Commons (CIC) Research Lightning Talk

Transcript of a Presentation by Guan Saw (Claremont Graduate University), December 9, 2020

Title: RAPID: Collaborative Research: Electronic Mentoring to Address Challenges in Engineering Graduate Programs During the COVID-19 Pandemic

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Transcript

Slide 1:

Thank you, Katie, and thank you for the opportunity. So, I'm presenting on behalf of a team between Claremont Graduate University and University of Kansas. My colleague Chi-Ning Chang, he is actually on the zoom too so he will help if answering questions if you have some burning question that you are asking. So, our project focused on the electronic mentoring among engineering graduate students during the COVID-19 pandemic, and it was funded by the NSF [National Science Foundation] RAPID program as many other presenters here.

Slide 2:

So today, I'm going to just focus on a subset of the study that we conducted back in June. So, we are focusing on 566 engineering graduate students sample in our study. It is part of the National Study of STEM Faculty and Students. We do have like more than one thousand faculty samples and three thousand undergraduate students so we are still digging into the data. It is cross-sectional and we are thinking about- to do a follow-up survey and interview in the spring to see.

Slide 3:

So, the sample was diverse. One thing is, it was a difficult time, we will try to get more minority students but at least we get about 14 percent of Black, Hispanic, and Native American students, and in terms of

gender or disability or SES [socioeconomic status], it's kind of like quite diverse samples that we have here.

Slide 4:

Okay, so first we're going to present three set of student outcome, that we care about. First, we in the spring, at least a quarter of student, graduate student, say that they might be delayed their graduations due to the pandemic, and we saw that Ph.D. students tend to report higher level of that- higher rates and low SES compared to a master's student.

Slide 5:

And in terms of job search, they say like because they are confident in finding a job that they are prepared for or they are qualified for. We see overall across the board, there's a decline in the confidence and what is concerning here is female students, low socio-economic status students, students with disability, they all have- they reported a significantly lower level of all these indicators.

Slide 6:

And then another set of indicators is mental health. We use the same set of depression and anxiety indicator used by U.S. census. There's a household- a post-survey conducted in from April to July. We are able to compare our sample to the general population. So, the good news is our graduate student sampler- they report better than the general population because they are not the frontline workers or they less likely come from low-income family or what. But within this group, again underrepresented group students, female, low SES, and student with disabilities, and international students tend to report higher level of those mental health issues. So, this is something that we would like to highlight here.

Slide 7:

So, our focus is can e-mentoring address some of these challenges?

Slide 8:

So, one pattern that we saw- and I think this is common sense. We know during the pandemic, most communication of being on video conferencing or email so it's more likely that. And a few were, much fewer hours in face to face, and it makes sense. So, this speak to the experience that we have in academia too.

Slide 9:

So, and we conduct- we collect a lot of surveys skills indicator that we are we perform structure equation modeling here to look at the relationship across different indicators. So, what we found here is e-mentoring frequency predicts both instrumental support and psychosocial support from the mentor. So instrumental support tends to be like, their mentor help them to complete their assignment, or their writing or presentation is more instrumental or more technical, and psychosocial support is more about address that concern: anxiety, talk about their future career options, something like that. So, we see that the more frequently they interact, even through an electronic platform, would have positive impact. And those lead to higher level of mentoring satisfaction and also lead to more positive outcome that I just mentioned in the past few slides.

Slide 10:

And we also look at how e-mentoring attitudes will predict e-mentoring frequency too. So, we ask them whether they think e-mentoring through email or video conferencing would be more effective or equally effective as face-to-face. So those who have more positive, I mean experiences or perceptions of e-mentoring, they tend to interact more too and I think this is I mean it's predicted by the theory.

Slide 11:

So, and lastly Nick, Chi-Ning Chang my colleague here, his area is in individual development plan. So, we were interested in those registers who have IDP [Individual Development Plan] before pandemic- do they interact more with their mentor? Indeed, we found that that is the case. Among our sample there are about 30 percent of the students- they say that they have IDP with their current mentor, and so this finding is very important. That means that infrastructure, a program like this, before a crisis like pandemic or any other crisis would facilitate or promote positive interaction and outcomes when we hit any- we have any crisis coming up.

Slide 12:

So lastly, we want to talk about that mentoring while social distancing is challenging, because in our sample in our study both from faculty and students, generally they think face-to-face is still more effective than e-communication. Back then, this is more June, and we hope to see this attitude would change. Now they are being forced to do a lot of e-communication and probably they are getting used to it. But even with the sample that we have from June, about 25 to 50 percent of faculty and students- they believe that email e-communication could be equally effective as face to face in certain areas, including like- especially like, helping them in terms of writing skills or preparing their job applications, or something like that.

Slide 13:

So, this is something that promising that is important. So, with that, I want to thank you and thanks for the opportunity.