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**Speaker 1 [00:00]** Okay, so you may have to speak up a little bit loud, so it's here, but it's a pretty good little tape recorder and then we have a second one in case one of them. doesn't work. So, we have a few things and that we're here to work collaboratively, collaboratively, and effectively as a team. We respect each other's time to speak, although if you have a urgent something to say, you know, just make sure that I'm aware of it. So I immediately call on you after the person before you speaks. Respect each other's rights to share thoughts and agree or disagree. So it's your opinion that matters. It's not your agreement that matters. Is everyone familiar with the sheep effect? You see it a lot actually in the military, where if the leader says something, everyone agrees with it, right? Or you see it a lot in among assistant professors because they wanted to be tenured. And so if the department chair says something they say, yeah, it's a really great idea. When under their breath they're saying, what is that guy have his screws on backwards? But we want to avoid the sheep effect and so have respect each other's time to talk, but also don't feel like you have to [Pause], agree with them.

**Speaker 1 [00:01:38]** And then that this is completely confidential. That is a who is here and what was said will not go out beyond the four of us as part of the research team. Because of the institutional review board, we're protected. So if, the Department of Justice says that this is part of the Mueller investigation, you know, it's sort of like a confidentiality thing between you and your priest. Unless they start pulling our finger nails or something of that nature. So any questions before we start? [Pause] Alright! So we basically have five questions and you have the survey in hand just to refresh your memory. So let's just take five minutes to just go over real quick and, and we'll start the questions in a few seconds. But just remind yourself, how long ago did you take this survey?

**Speaker 2 [00:02:27]** It's been two or three weeks at least three weeks.

**Speaker 1 [00:02:20]** So, everything's pretty cloudy right now, I imagine. Okay, so Stacy is the notetaker who's doing the notes on a tablet. Grace has a pencil and paper.

**Speaker 2 [00:03:04]** Grace is doing pencil paper and Erica is our passive observer.

**Speaker 2 [00:03:10]** So, it's quite unfair.

**Speaker 1 [00:03:12]** Oh! by the way, if you guys know of an old Porsche, some barn Eric is looking for one to rebuild. [not relevant to interview]

[00:03:19]

[long pause]

Speaker 1 [00:05:59]

Alright, so I repeat. The purpose of our research is to improve the retention and graduation rate of all engineering students; but in particular veteran students who return to college and pursue an engineering degree and it's funded by the National Science Foundation. So, the first question, did you find any items confusing when you try to respond? Recalling it back to the way you responded. Was there anything that you thought wasn't crystal clear?

Speaker 3 [00:06:35]

Okay. On the first question, how important are contemporary issues for professional engineer? Define contemporary.

Speaker 1 [00:06:44]

Okay, good point. Did anyone else share that? Sort of like what is a contemporary issue?

Speaker 4 [00:6:55]

I just took it as like, issues that affect is nowadays. I don't know if that's what contemporary means, but that's what I took as.

Speaker 1 [00:07:03]

Present day.

Speaker 4 [00:07:04]

Yes

Speaker 1 [00:07:05]

Yeah. Not something that happened during the great depression or something of that nature. But something has happened, so like a contemporary issue, but you know, I'm not here to define it. But I'm really here is to say if you had that question that I bet you a lot of other people had that question too. So that's, that's a really good point. Anything else that you thought that could have been worded better or made it a little bit more ????. Sometimes people think that contemporary issues are related to marriage or related to social issues; that we were not necessarily thinking in that term. We're thinking maybe broader, maybe a so

Speaker 3 [00:08:14]

Okay. Like I said, it's been a while since we all took the survey. I of course I'm not a veteran. So I checked no. So I didn't receive any of those questions. So on this page before that, I think it's before that in the survey when it says, I think I've lost. It says service should not be an expected part of the engineering profession. Does that mean like community service or military service?

Speaker 1 [00:08:40]

Yeah, it, it meant community service. It applied to everyone. [Pause] What was it number on that question, Jack?

Speaker 2 [00:08:54]

Oh, I don't have numbers on here. Made it flow better. Print out. Sorry. [Laughter] So the numbers skip around a little bit.

Speaker 3 [00:09:02]

First question of professional ????? the ?????.

Speaker 1 [00:09:07]

The number one?

Speaker 3 [00:09:49]

yeah. And also how important it is to help others who are having a difficult time. Is it maybe? Does that in itself say that you don't help people who aren't necessarily have a difficult or is it should be just say how important it is to help others? Would that

have made it clearer or doesn't matter?

**Speaker 3 [00:10:13]** I don't know?

**Speaker 1 [00:10:13]** That doesn't matter.

**Speaker 3 [00:10:40]** So there's a question here, courses have not helped me see the connections between engineering and how it affects society. From my major, that's a little weird to see because we don't really have any connection to society as much as some others. So this one was a little challenging for me to question and just because I haven't like had professors or individual come up to me and say if you do it this way, it's going to affect this way and society or some form of, of that.

**Speaker 1 [00:11:14]** So what's your major?

**Speaker 3 [00:11:16]** Computer Science.

**Speaker 1 [00:11:17]** You don't talk about unintended outcomes

**Speaker 3 [00:11:20]** So we do, but it's one specific class and it's not necessarily. It's not gonna be in our overarching classes. So like our ethics class for instance, we'll talk about stuff like that, like what happens if you ethically program this incorrectly or what have you. But we don't necessarily [Pause] None of our classes are like if you design a bridge this way it's going to collapse, you know, like civil class could be or something. So it's kind of hard for some majors I would assume to answer this question.

**Speaker 1 [00:11:52]** Okay, any suggestions how it might be rewarded? Which I should have asked about your questions.

**Speaker 3 [00:12:01]** Maybe just say some courses. I mean, I don't know, make it a little bit more ambiguous I guess

**Speaker 1 [00:12:08]** Okay. How's it read right now?

**Speaker 3 [00:12:11]** It says courses have not helped me see the connections between engineering and how it affects society. So I guess I'm still kind of worded a little bit like the courses that it was just challenging. I remember for me to answer that one.

**Speaker 1 [00:12:26]** Okay

**Speaker 3 [00:12:26]** And I think as long as you pay attention to people answering this and what their major is, that might be something to pay attention towards.

**Speaker 1 [00:12:34]** So you know, when we analyze the data, you know, we'll be able to aggregate it out according to major. Like if you're a freshman, sophomore, junior, senior or things of that. So we can aggregate it in different ways but. But still it's an important point that you made and that maybe some courses rather than all courses. Because that can be interpreted both ways. All courses are no courses or at least that's what I hear you saying.

**Speaker 3 [00:13:07]** Yeah. To me that makes more sense. Not saying you have to do it or anything, but it's

just like, to me it's a yes or no in that regard and it was a little challenging

**Speaker 1 [00:13:09]** Okay. Okay.

**Speaker 3 [00:13:21]** And for my two questions, I guess the service one could be fixed by simply saying community service. Just make sure it's absolutely clear

**Speaker 1 [00:13:29]** Rather than military service?

**Speaker 3 [00:13:31]** Right! Or just, you know, as it says service, which makes it. Like I didn't know, I guess when I signed up, I didn't know this had any sort of connection to the military at all. Maybe the I just didn't read that's probably better.

**Speaker 1 [00:13:50]** Yeah! And that's good that you probably didn't know. but you know typically a military student or a veteran student is a little bit older and has it come straight out of high school and jumped into college. And so there's a transition period that they experienced, that many students don't experience. But that, those, that's good community service or military service or might there be another way of phrasing that?

**Speaker 3 [00:14:17]** I think no, I think community service is fine. Something to keep in mind

**Speaker 1 [00:14:25]** And what about the other question that you brought up?

**Speaker 3 [00:14:29]** Can separate ???? of people taking the survey probably just Google that. And I'm hoping that people would understand

**Speaker 3 [00:14:38]** I just did think..

**Speaker 4 [00:14:43]** like what they say day to day.

**Speaker 1 [00:14:43]** Or present day contemporary and/or present day issues?

**Speaker 3 [00:14:47]** Or this might not look as good, but you can do parentheses. And then give real examples

**Speaker 4 [00:14:52]** I'm not really good with words. So I don't know how you would say this, but when the service question that he's talking about, I took it as after you graduate you have an obligation, like a service to your society to do your job correctly. That's how I took it. So I didn't really. I can see how he's saying community service for military service. I took it as a service to people to after you graduate. So I guess it's a little bit of different take on that question and it's interesting to see how you took it. But I don't know if that's, that's how I took it so I could see why there'd be confusing in general anyways.

**Speaker 1 [00:15:54]** Well, you know, I think that's a really good point though. Maybe that's something we need to discuss. But you know, a service to your employer for example, or. I remember the first job I got was with the Gulf Oil. I was a professional geologist to my manager brought me in and he said, just remember whatever you do that benefits you, that keeps you at your highest level of professionalism is also good for a company. So I sort of made the connection. So I can see your point very easily. That

you don't want to get labeled as doing average work.

- Speaker 4 [00:6:17]** [I can see what he's saying though, depending on how, what kind of, what kind of answer you expected from that question know be if you wanted it to be like community service or professional service or whatever. So I could see some clarification on that question
- Speaker 1 [00:16:37]** I think we need to discuss that. What, what is the, what is our intent is it community service, professional service.
- Speaker 2 [00:16:49]** Do you want my find back on that?
- Speaker 1 [00:16:49]** We can discuss it later, but yeah, if you want to give you feedback,
- Speaker 2 [00:16:52]** What we meant more community service and professional service; we discussed should we make it specific military service. That's not what we intended. But we decided we wanted to leave it like that so you could just make your decision, kind of take it however you want and see how that. And maybe we could add a follow up question on it to clarify what, how did something to clarify what they meant by that. So I think we want it to be open ended.
- Speaker 1 [00:17:14]** Clearly, we have two lines of services but identified professional and community. So that's. Obviously, we need to at least revisit that question. Any others is a really good, by the way,
- Speaker 2 [00:17:28]** Professional conductiveness; There's another one that says service. I don't know if it's the same thing you were talking about. Whatever you use service should not be an expected part of the engineering profession. Again, I guess going back to the few that we have listed, military service, community service, professional service; I don't know if you want to do whatever we're talking about this one as well.
- Speaker 1 [00:17:50]** What number is that?
- Speaker 3 [00:17:52]** It's, there's again, no numbers but under professional conductiveness, its number one about three pages in our pages. I think that was what I was talking about.
- Speaker 4 [00:18:02]** Oh yeah, I was like, I hope that's the one you were talking about.
- Speaker 3 [0018:06]** Oh I'm Sorry, I zoned out there. My apologies. [Pause] I thought there was another one there.
- Speaker 2 [00:18:19]** I think there's two separate questions in there.
- Speaker 3 [00:18:20]** Is there? Let's go figure this out.
- Speaker 2 [00:18:36]** Or I deleted those or we cut them out.
- Speaker 1 [00:18:44]** So he had a chance to look them all over. Okay. Let's go onto the second question then. Where there items that appeared to be irrelevant or inapplicable to your experiences as an engineering student? So really looking for it irrelevant questions. Questions that just seemed irrelevant. Not whether or not we think they're irrelevant.

But whether you thought they were relevant. [Long Pause]

- Speaker 3 [00:20:07]** Okay. The question that says, well it's not a question. There are needs in my community. I'm not really sure what the purpose is of the question. Is it just to just see how aware people are of the issues in their community? Because I felt a natural like, oh surely everybody's going to say at least agree, you know, but I guess how much people can agree be ??? or how many, how many, how many needs people think our community has like the important.
- Speaker 4 [00:20:40]** I would say that question just needs to be a little bit more refined, specific applies.
- Speaker 1 [00:20:27]** So any suggestions on how you refine it or...
- Speaker 3 [00:20:51]** I don't know if you want to add more questions as far as like, there was a homeless population in my community. How many people go hungry? I don't know how you'd word that, but.
- Speaker 1 [00:21:03]** Okay. So broaden the categories or.
- Speaker 4 [00:21:08]** Yeah. I can't imagine too many people put disagree or strongly disagree for their needs in my community.
- Speaker 1 [00:21:20]** No, that's another thing we can do with our analysis...is once we've given it out, now we get a couple of hundred responses. We can actually identify ambiguous questions based on their responses and stuff like that. But, but so we're trying to do is preempt that. So everything in there is, is finely polished and, and usable. [Cough] Let's go through that question just real briefly. So what are the categories we have now?
- Speaker [00:21:56]** Strongly disagree, disagree, neutral, agree.
- Speaker [00:21:59]** It doesn't, doesn't get specific examples. It just says are there needs.
- Speaker 4 [00:22:03]** There are needs in my community.
- Speaker 1 [00:22:04]** There are needs in my community. So what you're saying is maybe we should identify needs, you know, whatever it might be, homelessness, hunger, lack of teenage activities, things like that. No Skate Park.
- Speaker 4 [00:22:25]** Because I'm way less knowledgeable than that as opposed to the blanket statement of needs.
- Speaker 1 [00:22:23]** Right. Good point.
- Speaker 3 [00:22:36]** Is there an option at a text box in that location or would that not be anything? Does it need to be strongly agree or does it need to be liked as does this need to be defined as an.
- Speaker 1 [00:22:46]** Or have another box that says other and then have a text box there. Okay.
- Speaker 3 [00:22:52]** It will help explain that, maybe.

**Speaker 4 [00:22:55]** Because like you want someone else to explain.

**Speaker 3 [00:23:01]** Well it wouldn't be like, other than explain. It would be like instead of instead how strongly disagree, disagree, and then all the way to strongly agree, just have. Are there problems? Yes. No. And then a text box saying if there are, do you want to explain them? If not, okay, cool. What have you, is what I'm suggesting? But I don't. I don't know if that's going to mess with the way that they're gathering the data or how do you want to use the data? That can be a problem.

**Speaker [00:23:34]** I think it needs to be more specific. If you want people to answer on a survey.

**Speaker 1 [00:23:43]** Yeah, I mean from experience, we know that we have a text box; someone might say yes, there's no doubt if you say explain probably two thirds of the people are going to explain why they're just going to move on through. But it doesn't mean that we shouldn't have a text box because of, even if we get 30 percent of the other respondents filling that out, it still might be useful information. You know, one thing have to remember is that we get one shot at this. It's not like we're going to send it out to 500 students and than; oh, we missed a question. Let's send it back out to them and we can we get one shot. So the better we can get this picked apart now the better the survey will be.

**Speaker 4 [00:24:29]** So, if you put what are the needs in your community and then in text box?

**Speaker 1 [00:24:35]** Yeah. Or our list like five or six that are pretty common.

**Speaker 4 [00:24:42]** And then at the bottom say other, something like that. What do you, what do you think are the needs of you and your classmates see in your communities, and I know it's, we just have a small sample here.

**Speaker 4 [00:24:55]** I think just based on life, financial planning,

**Speaker 1 [00:25:00]** financial issues, financial stress

**Speaker 4 [00:25:03]** It's just mismanagement of money. That's the community wide.

**Speaker 1 [00:25:08]** The others mismanagement, money,

**Speaker 3 [00:25:12]** drugs where I'm from.

**Speaker 1 [00:25:13]** Drugs.

**Speaker 3 [00:25:15]** The others.

**Speaker 4 [00:25:20]** Do you think drugs are a like? I don't know what to call it. They're not the necessarily the root cause, but the effect of problems

**Speaker 3 [00:25:32]** but they are not the root cause. But they are a problem.

**Speaker 1 [00:25:38]** What, then root cause it'd be the lack of quality jobs or..

- Speaker 3 [00:25:41]** The root cause and just being [pause] well coming from a social standpoint, I won't go through my background. Coming from a social standpoint, there's not a lot of, like you were saying earlier, activities for children that grow up in. It's a poor community. So they turn to drugs or gangs or whatever because of that. So that would be a big, a big problem. And that one I would assume would be the root cause. And the Kansas City area in general is just a hub for drugs. Because of how you have access to the highways just in every way. So that's reasoning as well.
- Speaker 1 [00:26:25]** Other issues that we might want to list? [Pause] That you think would be pretty common?
- Speaker 4 [00:26:34]** I think it's just their general priorities, what they value over other things where they put value on.
- Speaker 3 [00:26:48]** There's something I've noticed, and this is gonna kind of change the topic here. But abilities question one: reads my contribution to society will make a real difference. And then if you read connectedness question two, it says I am responsible for doing something about improving society. I read question one, the my contract contribution to the society will make a real difference as like am I going to improve society? Then the next page I get asked am I given an improved society? So like how I answered these questions would probably always be the same. Because I took this as, okay, I'm contributing to society and I'm going to make a real difference. And then I read, well I'm responsible for doing something that will improve society. So if I make a real difference in society and improving it. So also like these are very similar.
- Speaker 1 [00:27:38]** so, so, so that's a really good point. So how might we reword that?
- Speaker 3 [00:27:48]** You see where I'm at?
- Speaker 4 [00:27:49]** Yeah I see it. I'm not, I don't know if I totally agree. I would say the first question is a person measuring how much did they think they will, not if they should be obliged to or they don't feel obligated to.
- Speaker 3 [00:28:03]** Oaky
- Speaker 4 [00:28:05]** So for let's say
- Speaker 3 [00:28:08]** So, you would will say my individual contribution to society and make a real difference and then I am responsible for doing something.
- Speaker 4 [00:28:15]** You can be responsible without thinking you're going to make a, you can feel responsible without thinking you're going to make a
- Speaker 3 [00:28:22]** Change,
- Speaker 4 [00:28:22]** A change.
- Speaker 1 [00:28:24]** So do you think on that one question: say I have the capacity to make change or I have the skills to make change.
- Speaker 3 [00:28:33]** Yeah

- Speaker 1 [00:28:33]** And then the second one is, because it seems like if I hear you correctly, you see one as sort of a, I have the ability to make a change. And the other one is, do I feel responsible to make a change?
- Speaker 4 [00:28:45]** Yeah. Like ability. That's not necessarily I will, but I can if I need to or asked, I could. Um, I guess I guess I see where you're coming from with, with the regards to this is the ability as a, do I have the knowledge to. And then the next question would be, do I believe that I should.
- Speaker 1 [00:29:10]** Yeah, it just needs to be a little bit more articulated, better, better defined.
- Speaker 3 [00:29:16]** Yeah. And I think what you said it because you can look at the title and the ability and so you think that in the context of that, okay, it must be talking about my ability. But I think in a question if you did say and how you said it, I have the capacity or the ability to, you know.
- Speaker 1 [00:29:34]** Well, the other thing I need to remember, I mean, you may not have taken as many surveys as I do. But sometimes I take a survey, I read the first half of the sentence; then I said, oh, I know what the answer is. Because I'm moving fast. And I, and I don't sit there and reflect on these questions so they have to be written in such a way that; I think the majority of people when they go through a survey, they read them fast and they don't sit and say, oh, that's an interesting question. I think I'll think about it for a second. They don't do that very often. Rather they, you know, they see a tail and they think, well that's an elephant and it might've been a rant. Because they're not ????? myself included. We don't carefully read these questions. So we need to be as crystal clear as possible.
- Speaker 2 [00:30:30]** I should have cleared the title blocks are not on the survey. [inaudible] ????? awhile ago. It's just how to identify how we organize them based on the type of questions. When you are reading into seeing the word ability that wasn't there. It was just a slew of them.
- Speaker 1 [00:30:45]** Yeah
- Speaker 3 [00:30:47]** Do you want that to be there?
- Speaker 4 [00:30:51]** Yeah, for sure.
- Speaker 1 [00:30:54]** Just out of curiosity, did any of you read a question twice when you, if you recall back to when you took the survey?
- Speaker 4 [00:31:00]** I read a couple of them twice.
- Speaker 3 [00:31:04]** All the military one's ??????. ?????? ?????? answer? Because I can understand why you'd asked them. Because I could see how it would affect the results, but not, not answer those at all.
- Speaker 1 [00:31:15]** You just skip over them?
- Speaker 3 [00:31:16]** I always do yeah.

**Speaker 1 [00:31:17]** Okay. So let's talk about the ones that you think were you. So you're saying that they're irrelevant.

**Speaker 3 [00:31:23]** I don't think. No, I think they're, I think they're very relevant to the results and I can see how they greatly affect them, but it's not something I would ever tell anybody.

**Speaker 4 [00:31:31]** So it's like

**Speaker 1 [00:31:32]** Private!

**Speaker 3 [00:31:34]** Yeah! Like I have been told not to tell it. So it's hard to say when you're told not to say it so I can see why you guys would like to know, but like it's, I don't know, it's hard to put them in there.

**Speaker 1 [00:31:46]** Do you have a specific question that...

**Speaker 4 [00:31:49]** probably on the last four

**Speaker 1 [00:31:52]** The last four and you just take them out or is there a way we can...

**Speaker 4 [00:31:55]** Well, I think you should leave them in because I think they are important for your results and I could see how the different answers could, really give you a wider range and give you a view. I'm just saying like if it wasn't for Dr. Kuleza asked me to do this, I wouldn't have answered them. Because if I don't know who was asking you, I would not answer them.

**Speaker 1 [00:32:15]** Yeah, yeah. Now there will be a cover letter with well cover note, just like you read that will say who this is doing it, who's doing it in and that if you have questions you can come back and you know,

**Speaker 2 [00:32:35]** There are two things about that there's a cover note. I know James. I don't know the rest of them, so they might not know who I am even though it might recognize my face closer and civil. They probably wouldn't know who I am. So it might not be as meaningful. That's why we tried to send it through canvas and things because it goes an email coming from someone you didn't know. My followup question to you would be, do you mean the last four about your, your military service or the ones connected engineering to Military service

**Speaker 3 [00:33:01]** No just to the military service the engineering ones are fine.

**Speaker 2 [00:33:03]** Because we have some very specific. But we also only asked you all that connected your military experience to school.

**Speaker 3 [00:33:07]** No I like those to know, look at that. Those are interesting. But the ones like your MOS, your years of duty and when you were discharged and combat experience like; I mean branch, military on such a common question doesn't really matter, but the other ones, I don't know. I might have skipped them about [inaudible].

**Speaker 1 [00:33:27]** So if we leave up in there, we should not be surprised if there's a fair amount of mistakes about it.

**Speaker [00:33:33]** And I mean, you might, you might, you might be surprised who does and doesn't answer those, but yeah, you might not get any answers for those ones.

**Speaker 1 [00:33:41]** Yeah, yeah.

**Speaker 4 [00:33:41]** I can see it, but I think usually ??????. Because I think it's helpful as far as I'm seeing where people come from and who joins into engineering. I think it's really, it will give a good clear picture. But you don't be surprised if they're not answered.

**Speaker 1 [00:33:54]** Yeah

**Speaker 5 [00:33:55]** So what we do to actually

**Speaker 3 [00:33:59]** I think you could even modify them a little bit like as far as the MOS one, don't ask for like the numbers and just be like, well what did you do? And a lot of people will just give you a general overview of what they did.

**Speaker 1 [00:34:12]** Like infantry or armor?

**Speaker 3 [00:34:12]** Right, exactly. And I think that would go better. A lot of people usually a lot more accepting of that than being like I need to know exact details. They don't really like that.

**Speaker 1 [00:34:23]** Good point.

**Speaker 3 [00:34:24]** Years, I guess that's probably okay. But discharge, I would probably just maybe just do like, is it over a year or two years or three years kind of thing?

**Speaker 1 [00:34:55]** and especially when it comes to some of the gender issues. I mean I had a couple so most of my students had Fort Leavenworth and majors obviously, and I have a couple of women who quote unquote our combat, but the transport or logistics and they were in combat the whole time, but quote unquote, they're not encumbered.

**Speaker 4 [00:35:14]** Yeah. And see it's like, it's, it's a hard, it's such a yes, no question, but it's not a yes, no question to a lot of people. It's not a yes, no question. I don't know if it will just always talking about it at all. Whether you've been in combat or not been. They're not done anything or whatever. Yeah, I can see how it helped. The results are really. I do, but

**Speaker 1 [00:35:33]** I don't know. I think, um, Christmas from long stacy and Eric, but I think one of the things we're trying to get at is does someone who's been in combat or a theme or deployed primarily to, uh, Iraq or Afghanistan or some other place of.

**Speaker 2 [00:36:02]** I like that

**Speaker 1 [00:36:06]** if they have, if they're more likely to stick with the program, then somebody who served at a base in Germany, so like that, and maybe it's just not a good question, but I think that might've been our intent.

**Speaker 4 [00:36:26]** Yeah, I can see you. Like I said, I think it's a good question. I just, [pause] You could probably modify it somehow thinking of changes, but I think you could probably

modify it in a way that would come across or you could get those results.

**Speaker 1 [00:36:40]** I think that, what are you deployed overseas?

**Speaker 4 [00:36:42]** Yeah, yeah, yeah. That would work. Or because even going to Germany or Japan, Korea and a lot of those ways is still kind of, it's not the same, but you're still away from the family. Yeah. So it still kind of does some of the same things to you. So if you're just deployed and because everybody in the military knows what diploid means, it doesn't just mean that record cancer like it means to be or Germany or whatever. So I mean. No, no they won't. I don't think there'll be confused. They might be, but I don't think so. That could. And if those results that you're looking for to see kind of what, you know, what it will do as far as sticking with it, I think that. I think that could give you the same results.

**Speaker 1 [00:37:42]** What do you think of that ?????

**Speaker 2 [00:37:25]** I think it's good. I mean we tried to and it might not have been clear that you don't have to answer every question either in the survey. We'll let you keep moving ahead and so we could also make that more clear at the get go you don't feel because it says it in there, but it's kind of that statement is super long. So I didn't read it, but then it again

**Speaker 4 [00:37:42]** You could even just. I mean that would just solve all the problems that you could even just right before. Any questions that you think might be like too much? You could just put that note in the survey rather than. Yeah, I'd probably be the easiest solution honestly. Is that it changes names,

**Speaker 5 [00:38:01]** Maybe we can add a emphasize parties. We're not. We're not really.

**Speaker 1 [00:38:08]** I didn't quite hear what you said.

**Speaker 5 [00:38:10]** Aggregated data. That's the only the data we use for analysis. We're not launched. Yeah, I guess that was being the very beginning. You know, once you kind of go through a survey you don't, you kind of forget that

**Speaker 1 [00:38:26]** Our analysis can handle missing data. It's not. Do you know like some surveys that I've done that if they're not completely filled out you have throw it away and that's not the way this is. That's a really good point. Any others related to the military? [pause] That might've been a red flag. [long pause] Okay. Let's go on to our next question and this. This is sort of related. We're there and we've talked about this. Were there items that you were unsure if you understood what was being asked and we've addressed that in many ways. Go back to those questions you had to read twice, if you recall. Unrelated to this as the fourth question, did you find the choice or the options for your answers not making sense to you? So there's two parts of this. Were the questions that you're unsure of and where did you find also that the, the choice or the options that you were given didn't make full sense to either.

**Speaker 4 [00:40:10]** So one that I had trouble with answering was engineers who have a positive impact on society. Because there's things negatively that engineers have done on society as well. so I was like, well, I think it's more, more good than harm. So that's why I had to read that one twice.

- Speaker 1 [00:40:34]** Any suggestions on how to rewrite that? Could it be as an engineer, I want to make a positive impact on society
- Speaker 4 [00:40:43]** Yeah, that's asking what do you
- Speaker 1 [00:40:45]** I mean you're not going to find anywhere to say I want to make a negative impact on society? Yeah, maybe. Yeah, maybe they're all like you, but, but . So what you're saying is that not everything that engineers do will have a positive impact. You know, most things. Well, you know what I mean? If we improve the pavement on the highway that last an extra 10 years that's positive or bridge or, or a computer program that, you know, saves work and labor or design.
- Speaker 4 [00:41:35]** I'm thinking more on the biological side and that might be my personal opinion, but
- Speaker 1 [00:41:43]** Do they have a bio-engineering program here?
- Speaker 2 [00:41:52]** Yeah, kind of. There's a little bit of an N double E. There's a little bit of chemical are kind of scattered.
- Speaker 4 [00:42:52]** There's going to be a new department, I think coming up here soon that's going to be environmental or something similar to that.
- Speaker 2 [00:41:58]** Yeah, they're trying, they're trying to form some things together. That way we can have programs like that because it was very diverse in new field, so it should come from everywhere.
- Speaker 3 [00:42:07]** I think the Dean's office is that in. If you walk by the recruitment, there's that little statue of the departments are going to add another one to that little. That's, that is biological here, so that'll be bad.
- Speaker 3 [00:42:28]** I remember going through the section with under the base knowledge here with all the little sections or whatever, and I was thinking while I was during this, how wildly different my answers would be if I was a freshman compared to now and depending on what, like electives I taken, like so like business knowledge for example, like I'm taking a business class now and I know how helpful it will be, but if you would ask me last semester I would have said it was worthless, but now I know it's complete opposite. Yeah. Um, and so I think it'll be interesting and I think it's a good question, but I think if I was a freshman, a lot of my answers, especially when it comes to design or creativity or communication or leadership or any of these would just be well different than after going through all the classes and being like, well, I've done all this and I need them all and they're extremely important now.
- Speaker 1 [00:43:17]** Do you want to hear a little related to this? Very closely. In fact, I'm, uh, I'm involved with another little project and that most corporations that hire engineers tend to promote those same engineers in the leadership, in their business, you know, and most of those engineers have never had a leadership or a business course, you know, so the people who are majoring in business would be a second choice because they want people that understand the content and the process and the nature of the business. So this idea of leadership in businesses, it wouldn't surprise me usually it's within the first five, 10 years, but it wouldn't surprise me if many of you at this table,

we ended up in a leadership position. rather than doing your specialty all the time,

**Speaker 2 [00:44:14]** Most fortunate 500 companies are run by engineers and they're not engineering firms.

**Speaker 1 [00:44:18]** Yeah

**Speaker 2 [00:44:20]** They just like the way we teach them how to think.

**Speaker 1 [00:44:24]** My Dad has this interesting story. My Dad's ancient and he's sort of housebound now, so he watches a lot of news and he says, you know, Jeff, you know, most of our politicians or lawyers, do you know what they are in China? I said, no, engineers and scientist. What does that tell you about our society?

**Speaker 4 [00:44:44]** We know to stay away from politics.

**Speaker 1 [00:44:48]** Their political on it has a different intent. They want to get things done rather than litigate it.

**Speaker 3 [00:45:03]** I've found the second survey question, so it's under initialization and it says a professional, a professional engineering pathway for continuing. My one thing to serve via community locally, nationally and globally. So it's not necessarily like serve how we talked about it. It's served like the global world.

**Speaker 1 [00:45:34]** So that one. Would you argue it is clearer than the first one?

**Speaker 3 [00:45:39]** Yeah, this one for sure. This one by far is a lot more clear.

**Speaker 1 [00:43:53]** So I wonder if we could rewrite the first one that sort of had that kind of clarity.

**Speaker 3 [00:45:59]** Yeah, this one's definitely more like makes you think because it actually says globally locally, like it starts small and gets bigger. You think that you would serve a smaller community. I feel like it's a little more guidance.

**Speaker 4 [00:46:08]** so you, you're, you're saying that you think it's more community service or.

**Speaker 3 [00:46:14]** Well that's still up in the air

**Speaker 4 [00:46:16]** Like what kind of...

**Speaker 3 [00:46:18]** That boils down to what you want. Okay. Sir. How do you specifically want to serve with your engineering degree is how you would rate this. Um, so your rating would be different than my rating would be different.

**Speaker 4 [00:46:32]** Right. Could you split it up into two questions to ask community service versus professional?

**Speaker 1 [00:46:39]** That's what we've talked about. The other one,

**Speaker 3 [00:46:41]** Right? The thing I noticed about this one though is it's surrounded by questions about service directory,

**Speaker 1 [00:46:53]** but it's so, so, so the veteran too.

**Speaker 3 [00:47:00]** Yeah

**Speaker 1 [00:47:01]** So there's four of five d. When you took that question, did, did it make sense to the four of them?

**Speaker 4 [00:47:07]** I made me rethink the other one. Now that I'm thinking about it because I was like, wait, what? What was it talking about with wanting to serve with the other one? Because this one was based on, I thought was military

**Speaker 1 [00:47:19]** You thought this one was more, had more of a military service tone to it. to the second question

**Speaker 4 [00:47:26]** because of how it was surrounded.

**Speaker 1 [00:47:29]** And really, I think our intent was people go into military because they want to serve, you know, um, do you want to continue that surface as an engineer? Not necessarily military service.

**Speaker 4 [00:47:45]** Hmm

**Speaker 1 [00:47:58]** Do you have any thoughts on this, Ravi?

**Speaker 3 [00:48:02]** Not right now. No.

**Speaker 1 [00:48:05]** That's the other thing is if you go back to your office or your room and you have something, we just, that you think we might've skipped just email stacy. So, so back to the third and fourth question, or they're unsure of things that you didn't think you were unsure of what they meant when you're asked him, did you feel like the answers were not adequate? They didn't find a choice option to the question that it made sense to you?

**Speaker 1 [00:48:56]** So here's the hardest question. Do you have anything else you'd like to share with us in addition to the questions that we've asked today, but also is there a question that we might've missed you? That's a really hard one. Is there some general comment like the tone of the survey?, you know, like your point about those four questions not being answered. That's a tone question, you know, because that goes into something that's very personal, you know, and we don't want to get into that. But is there a, is there a, the, the tone of it seemed pretty neutral. We want to be neutral, we don't want to have leading questions. We're not trying to get everyone to answer in a certain way. Also, is there a question that we might've asked that might've sort of strengthened this servant?

**Speaker 3 [00:49:51]** Sorry, this last point again.

**Speaker 1 [00:49:53]** Well, so there's two questions here. Did you feel like the tone of the survey was pretty neutral that we weren't trying to lead you into a certain direction and that you know, that's really important and then the second thing is is there a question that we should have asked or could have asked that would have actually strengthened what you. Because now you have a better understanding what the results were. We're trying to get at that. What has helped strengthen us getting toward that goal?

- Speaker 4 [00:50:21]** I think you could ask. I don't know how to word it. [pause] I chose an engineering degree so that I could make a change or something along those lines.
- Speaker 4 [00:50:34]** Good one. yeah
- Speaker 1 [00:50:35]** Good
- Speaker 1 [00:50:56]** Right
- Speaker 3 [00:50:56]** But as a freshman, I see tons of people who are there who just don't care about anything and are probably going to only in it to make money. Realistically, lot of those people get dropped out.
- Speaker 1 [00:51:06]** Drop out, right?
- Speaker 3 [00:51:08]** But go to business the people in charge, uh, but some of those people still may persist and that I'm not gonna argue with this or. Right. But let's definitely identify what those people's purposes. We're also, as you were saying earlier, with military service, maybe that might be so good thing to know. I don't understand anything about military, but that might be something to ask is what the purpose.
- Speaker 1 [00:51:53]** Well, I mean, I'll be honest, of course the eyes raised during the end of the Vietnam era and uh, uh, but I had a couple of friends that, uh, you know, so 73, which would have been right after a lottery, um, joined the military because it was their best option out of the community. You know, they didn't think about service and they ended up, both of them ended up having sort of a full career and really like the one was coast guard and his life was a little different. But um, but the point being is that, you know, it's not all for service. There's a lot of people say this is an opportunity for me to help get my education paid for. It's an opportunity for me to see the world. It's an opportunity to get out of town, you know, and it's the same way with engineering, you know, a lot of people joined it become engineers because they think they can make a difference and a lot of people don't because they think they can get a job versus say art history.
- Speaker 1 [00:52:45]** I mean, so there's different motors and really donate to question their motives. We just need to know what their motives are. Could you have a, like a ranking system may be a question of like, I chose engineering for this and this and I can't think of what I want to say. Or a, you could have chosen engineering for pe. I chose engineering for like rank the job security. Yeah. Or yeah, since this is talking about change changing society, I chose engineering to make a difference. Yeah. I chose engineering because I'm, I'm good with my hands or I'm good with mathematics or you know.
- Speaker 4 [00:53:35]** So yeah. I don't know if he could have like a ranking thing
- Speaker 1 [00:53:38]** We, we will definitely, we can do that. That's actually good. And then it sort of broad is people. That's why we're not forcing them to say no, I didn't choose it to make a change. And then you feel sort of like a chump.
- Speaker 4 [00:53:53]** Lot of qualtrics surveys also. I opened the box at the end and um, if you're wanting to know why they stick with it, you could just put that there. You can just ask them. I don't feel like in every class I've ever taken we will. Not every class, but most of the

classes they always ask you why are you taking engineering? And everybody's, nobody wants to talk in front of the class, but once they're talking they're, they don't have any problem with sharing why they're doing. You're staying in engineering. So I don't if you put a text box at the end that just said like what has made you stick it out in engineering, I mean if you're a freshman maybe you don't really have much to say, but if you're looking for sophomore, junior senior that have pushed through it and they'll, I think people will answer you. People really aren't afraid to share. So James help help us with the word.

**Speaker 3 [00:54:39]** So I think it usually goes something like what has made you stick with. It's not, it's not stick with engineering, it's like usually starts off what has made you. And then it usually ends with like do you want us to continue to pursue is usually something like that. Continuing to pursue engineering and I mean if you could probably just leave it at that. Honestly my English teacher were telling me to cut it right there, box the box and put it in their words. Yeah. And I know you said like maybe 30 percent of answer, but I mean I think. I think people would answer. Yeah. And rather giving them choices. Just leave it as a box because we give them choices. They're most likely, they're more likely to pick a choice. Yeah. And I'm like, I'm not discrediting their question. I think they can have both questions like, um, like why I chose it.

**Speaker 3 [00:55:53]** I actually think it wouldn't be two questions, like you were saying. I think it would be like, I know I decided to come here differently than anyone probably in this room. And then I know I probably also stuck with it for other reasons in this room. So everyone's going to ask, which is I think what you guys are looking for. There's five of you in this class and there's probably five different reasons. Yeah, exactly. Yeah. You could say seven engineers know why she became an engineer to teach because her mom said that you need to get a really good job when you get out of this house.

**Speaker 4 [00:56:23]** Told me that I was going to play soccer in college and my all my parents, my whole family's engineers, and they said, you're allowed to go into engineering, medicine or law or we're not going to help you out because this will allow you to have a life theory used to be able to stay myself. I'm not depending on her husband. My parents are divorced. It might have also shifted a little bit with that because my mother, good go back to engineering, which she going to stay at home mom for 10 years. Flexibility, man. Independence, independence.

**Speaker 1 [00:56:55]** These are really good comments. These back, there's a couple of really popped out at me. I mean the, the individual questions when we address that block of questions that you said are problematic. These types of things that, these two questions at the end, it's a. and you know, we can ask this of everyone, not just the veterans, everyone and uh, you know, they sort of tie it, tie it all together in a nice bow. So I think we've gotten some really, really, really great feedback. So Stacy, because we've gotten some good feedback, do they get a little bit extra money?

**Speaker 2 [00:57:38]** I tried guys two coffees and a salad today to get those fives. I haven't,

**Speaker 4 [00:57:45]** I don't think these are necessarily a problem. I think you should just be prepared that you might get some very. Yeah. Yeah, I think it's worded fine and I think it's clear. Makes Sense. I'm just saying like you might see a senior say businesses useless because he never took the business elective stuff. Maybe. And do you want to come back to that? Does your algorithm or whatever you guys are using for judging or like grabbing the data, does it take that into effect or maybe put a question like freshmen,

sophomore, so on, in here for demographics issue. You're, you're, you're great. Okay

- Speaker 1 [00:58:27]** So we can, we can aggregate all the freshmen or the sophomores, all the seniors.
- Speaker 2 [00:58:34]** But you are right. I can change the question if someone answers that they're freshman. That's how I had the extra questions up here that everyone doesn't see. They kind of pop out later. That's why I gave it this version. Numbers come out jumbled dependent what you pick clumped together. So that's a good point. We could and we could even simplify it a little bit for the freshmen
- Speaker 3 [00:58:54]** Yeah, it's probably best. I'm a freshman that I don't. I went through this thinking like, oh, I have good opinions on these, but I don't really not angry. Not just what I thought or what I was taught that that was important.
- Speaker 4 [00:59:07]** I think you realize you have, you've learned a lot as you go through
- Speaker 2 [00:59:10]** You do!
- Speaker 4 [00:59:10]** the different years and
- Speaker 2 [00:59:13]** it's the point of college and will be a as to freshmen in their first semester or two or three weeks into the semester in the fall. So they really have no idea.
- Speaker 1 [00:59:22]** And also even though like you'd say you're a freshman or when you had little exposure, you bring a different voice to this table of five people. So your comments are equally as valuable. Anything else for the good of the cause?
- Speaker 5 [00:59:49]** Can i get everyone's major? So I can make a note here for civil construction, science, biological systems, computer science, computer science. Thank you. Do you need any other information, Joe? Oh, okay. So you were just talking about the year, so if you guys don't mind telling me which year. So yeah, junior, junior, senior. Thank you. Think we're good. Thank you guys for any other emails.