Evaluating a High School Engineering Community of Practice: The Perspective of University Liaisons (Evaluation)

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Abstract

The NSF-funded research study Engineering For US All (e4usa) aims to broaden participation in engineering by providing engineering curricula and professional development for high school teachers. e4usa also engages in building and maintaining a Community of Practice (CoP) which includes high schools and various community partners. This paper focuses on evaluating the experiences of one type of community partner in the CoP: university liaisons. Liaisons voluntarily commit their knowledge and expertise to support high school teachers during professional development and curriculum implementation. The goals of this study are to: 1) capture aspects that are currently viewed as exciting or challenging for university liaisons, and 2) understand ways in which e4usa could facilitate further involvement of university liaisons in the CoP. After obtaining IRB approval, we conducted virtual focus groups with five liaisons from distinct universities who work with eight e4usa schools. Liaisons discussed their relationships with their partner high schools, resources through e4usa, and education and outreach at their universities. Two coders analyzed the focus group transcripts using an inductive approach to allow for emergent codes and themes. We found five main themes: Challenges, Excitements, Further Involvement, Suggestions, and University Benefits. Our findings provide direction on the best way to support current and future liaisons. These results may also be applicable to other programs that aim to cultivate lasting relationships between K-12 educators and postsecondary institutions.

Introduction

Despite years of research and practice, there remains a need to broaden participation in engineering. The NSF-funded research study Engineering For US All (e4usa) addresses this issue by providing an introduction to engineering curricula and professional development for high school teachers. The overarching goals are to demystify and democratize engineering for high school students and their teachers. Earlier e4usa research has established its professional development as effective in bringing in teachers without engineering backgrounds to become effective e4usa teachers [1], [2]. As more student data are obtained, this program is also being shown to be effective with all students [3] including those with autism [4].

Community of Practice

e4usa also engages in building and maintaining a Community of Practice (CoP). In a CoP, individuals who share a common concern or passion join together to share ideas, increase expertise, and improve practice [5], [6]. CoPs vary in their format; they may be informal or

formal, centrally located or geographically distributed, in-person or virtual, set within one organization or containing members from many different organizations [7].

Previous research on university personnel in CoPs often focuses on their experiences in university-level CoPs, such as CoPs for faculty development [8]–[10]. For example, Nadelson [8] formed a faculty community of practice (FCP) with the goal of supporting STEM faculty who wanted to engage in STEM education research, either in isolated projects or as part of an NSF grant. Nadelson [8] conducted a mixed-methods study to determine the impact that the FCP had on faculty members; their results indicated that participating in the FCP increased participants' knowledge of and engagement in STEM education research.

University personnel often engage with pre-college teachers via mentoring relationships in Research Experiences for Teachers [11]–[13]; however, Akerson et al. [14] reported on a professional development program for elementary school teachers that sought to create a CoP with university participants. Teachers engaged in summer workshops and ongoing discussions on teaching and science pedagogy; a university faculty member and three graduate students served as facilitators for these professional development sessions and they engaged with teachers in their classrooms. Akerson et al. [14] found that teachers benefited from the well-supported environment of the CoP and developed their views on the nature of science over the course of a year; facilitator benefits were not explored in depth.

e4usa's CoP

In e4usa, the CoP model allows for strategic partnerships to create lasting connections between high schools and various community partners. Community partners include stakeholders such as school counselors and administrators, district officials, parents, university liaisons, community liaisons, and industry representatives who cultivate a local ecosystem to support students and teachers in this pre-college engineering education initiative. Since the roles and responsibilities of community partners vary (e.g. [15]), this paper focuses on one type of partner: university liaisons.

Through e4usa, a university liaison is set up for every school and typically every individual teacher. Some liaisons apply to the e4usa program, while most are recruited by e4usa staff once a new high school is admitted to the program. Within e4usa's CoP, university liaisons voluntarily commit their knowledge and expertise to support high school teachers during professional development and curriculum implementation. We encourage them to seek ways for their university to award credit for prior learning in e4usa, though this is not required.

Liaisons were provided with a three-hour professional development session focused on their needs and then they participated in a one-hour synchronous session over Zoom during the teacher's summer professional development. Liaisons were introduced to the curriculum, given

specific suggestions for how they can support their teacher and students for each unit, and given examples of successful engineering design solutions from prior years of e4usa.

In the first two units, liaisons are encouraged to offer a visit to the teacher's class(es) where they explain what it is they do as an engineer. In later units, the liaisons are encouraged to help teachers first with engineering problem identification and later to provide relevant expertise (themselves or by finding colleagues) to help students improve their engineering design solutions. From here, teachers and liaisons are encouraged to stay in touch as they see fit throughout the academic year. e4usa staff emailed the liaison about every 4-5 weeks letting them know where in the curriculum their assigned teacher was and included specific suggestions of things that they could suggest to their teacher. For example, if a teacher was approaching the e4usa Design-a-Thon event, e4usa would suggest that they reach out to their teacher to ensure that they had the date on their calendar and that they might arrange to bring additional students and/or faculty to participate in the event. Lastly, liaisons were encouraged to participate in our Piazza-based discussion board inside our Canvas course.

Objective

Given the potential benefits of participating in a CoP, it is prudent to evaluate the experiences of university liaisons in e4usa's CoP. Our paper examines how university liaisons engage with the CoP in e4usa. The goals of this study are to: 1) capture aspects that are currently viewed as exciting or challenging for university liaisons, and 2) understand ways in which e4usa could facilitate further involvement of university liaisons in the CoP.

Methods

Participants and Data Collection

At the time of this study, there were 36 university liaisons in e4usa. Of these, 16 were female and 20 were male. Of the 25 who reported race and ethnicity, two were Hispanic/Latinx, six were Asian, three were Black/African American, 15 were White, and one preferred not to answer. They represented 19 states or US territories and 28 unique universities.

Each liaison typically supported one high school, though some supported two or three. After obtaining IRB approval, the e4usa research team used a protocol for focus groups with university liaisons to encourage reflection and discussion. Questions asked included,

- What, if any, prior existing relationships did you and/or your university have with your partner school(s) prior to your involvement with the e4usa course?
- What support resources provided by e4usa have been most helpful to you? In what ways have these resources been helpful?
- Do you have any suggestions for how to increase liaison participation?

This paper presents the results of two focus groups (lengths average 60 minutes) with five total university liaisons from distinct institutions who worked with seven total high schools and eight total teachers. For consistency, Dr. Schill conducted both focus groups. The five liaisons who consented to participate were selected as a convenience sample; Dr. Klein-Gardner determined that these liaisons were representative of most liaisons in e4usa and had the necessary bandwidth to participate in a focus group.

All five of the liaisons were affiliated with R1 universities. Of the five liaisons, two were female and three were male. The liaisons served in a variety of positions at their institutions, including assistant and associate deans, admissions officers, engineering professors, and business officers. Some liaisons had expertise in civil engineering, electrical engineering, and engineering ethics. Four liaisons were in their first year of serving as a liaison, while one was in his second. Each liaison supported one or two teachers at one or two high schools.

Table 1. Summary of university liaisons' institutions and involvement in e4usa

University Liaison (UL) Number	**Institutional Information**	**Year(s) with e4usa**	**Number of High School Supported**
UL1	Private, Mid-Atlantic	1	2 schools (2 teachers)
UL2	Public, Southeastern	1	1 school (2 teachers)
UL3	Public, Southwestern	2	2 schools (2 teachers)
UL4	Private, Southeastern	1	1 school (1 teacher)
UL5	Public, West	1	1 school (1 teacher)

Data Analysis

The focus groups were audio recorded with Zoom and transcribed verbatim using Microsoft Word Online. Two coders (the authors) coded the transcripts using Dedoose. To begin, they each coded the same transcript separately. The coders utilized inductive coding and allowed for emergent themes rather than using a set of a priori codes [16]. Following independent coding, they discussed each coded segment and engaged in a negotiated process to settle any discrepancies. In this manner, the authors developed the initial codebook. Due to the general agreement on the first transcript, only one coder primarily coded the second transcript and the second coder reviewed their work. After thorough discussion and review of both transcripts, the authors agreed on the final codebook and its contained themes.

Results

The codes that emerged from the transcripts fell into five main themes:

- Challenges
- Excitements
- Further Involvement
- Suggestions
- University Benefits

This section presents information about the codes in each theme. The sub-sections are arranged to present the most-mentioned codes first. The full codebook is available in the Appendix.

Challenges

All liaisons who mentioned a challenge named the same challenge: the Pandemic. UL4 lamented about virtual sessions "that made it really hard to connect to [the teacher's] students individually since it was there just on one big camera…that made it really hard to establish personal relationships with the students." UL3 summarized the consensus, sharing how virtual interactions were "a drag…just not the best."

Excitements

University liaisons shared various aspects of being in e4usa that brought them joy or excitement. All of them included engagement with high school students, teachers, or the larger e4usa community and local communities.

Liaisons repeatedly brought up the most common excitement: the idea of Broadening Awareness of engineering. UL5 shared how their university's goal "to get more students exposed to the world of engineering" resonated within e4usa. UL2 reminisced on "watching the progression of students' interest into e4usa" at a partner school in a rural area, which they compared to their own experience at a rural high school. Broadening Awareness also included showing students possible paths from high school to university. UL1 spoke extensively about recruitment opportunities and excitements. They expressed how their university wants "to have great talent come to our school and e4usa is one of those conduits." UL2's experience adding dual credit options at one of their partner schools helped make that school more competitive, showing students they "don't have to go to [Not Partner School], which is our top high school within the state, to get a great education, to be part of the university system." Since UL4 was in their first year of being a liaison, they "didn't really see too much of [recruitment]," but they thought "with more time that could definitely be something that this veers towards." UL5 shared their "not very well hidden agenda" of recruiting students to their university for engineering, stating, "I looked at e4usa as a method of helping expose students at the high school level to engineering and possibly be selfish that they will come to our engineering program."

Liaisons also mentioned developing a Relationship with the High School multiple times. When asked how their involvement in e4usa impacted their relationship with their partner high school, UL2 replied, “it’s helped us kind of foster a new community” as they worked with the teacher to navigate remote learning and support dual credit classes at the high school. UL3 did not plan on having a relationship with their partner school after their kids had graduated; however, e4usa “provided an opportunity to keep involved with the school and with the teacher who is trying to do the engineering aspect of this.” Furthering relationships with the high schools also expanded beyond just teachers. For example, UL1 mentioned that “we don’t just know [School’s] faculty. In one case, we know the principal of the school now who’s been involved.”

Campus Visits were the next most-mentioned excitement. UL3 expressed the importance of meeting with students personally, sharing that on-campus visits “gives [students] a better sense of what the university is like…especially for kids from [School] that is about a two hour drive, minimally, maybe three, from any four year institution in the state” because “just getting them on campus is a real eye opener for them.” UL5 has had opportunities to promote “tours to students interested in attending, engineering, or whether it be College of Engineering here at [UL5’s University] or anywhere else.” UL1’s university provided some funds to students “so they could get [Transit] passes so the students could come to events on our campus.”

Since UL1 had two partner schools, they purposefully set up events so students from both schools could visit campus together:

> We mixed up all the numbers and people had to sit at tables where they didn’t know people…It was really good and it didn’t take them too long before they jelled their teams…It was a real hoot and was nice to see that and hear people say, “Oh well, now we we have a seat at the table, too. We can make these kinds of decisions.”

UL1’s unique experience of mixing their two schools is an example of developing an e4usa Larger Community. They also shared how they had both their partner teachers present during meetings. Beyond e4usa, UL2 mentioned engagement with the Local Community, sharing that “what e4usa has really allowed us to do is get back into our community” when students engaged in engineering projects that focus on how to help the community.

Less common excitements included Design Projects and Empowerment. UL2 reflected on students’ design projects of “a drone that could plow snow…[and] an autonomous mowing system.” And UL1 shared their joy at seeing high schoolers critique college student presentations, “I think it made them feel really good…that they belonged there and there was access.”

Further Involvement

Liaisons discussed how they currently are involved with e4usa, thus providing a starting point to foster further involvement and insight into how future liaisons may be involved.

One of the most common codes under this theme was College Credit, which involved setting up/maintaining programs or pathways for high school students to receive college credit after participating in e4usa. UL1's university was in the initial stages of providing credit, sharing that "there's been a tentative conversation about giving elective credits for those students that enroll and get accepted into [U1's University]." UL2 was working on setting up more opportunities for dual credit with their partner high school; they encountered "a lot of red tape" when "getting high school systems to allow dual credit and then also getting faculty on board." Both UL3 and UL5 mentioned how any college credit at their universities students earn through e4usa are "feel good type credit" that "doesn't help reduce any of the credit load for an engineering program."

Liaisons also commonly discussed Communication. They offered two positive types (Meetings and Updates), but also one negative type (Canvas) of Communication. UL1 had "a solid hour meeting" with both of their partner teachers every two weeks "so they can report out, share their experiences as they are working through the curriculum." UL2 found it "challenging at times to make sure that you don't fall into your own routine" and used updates as "touching points to see where our people are and also knowing where we should reach out to them." UL2 also recognized that Canvas was not built into their routine and they did not use it much.

Liaisons mentioned Professional Learning provided by e4usa. UL4 visited their partner school eight times throughout the year and expressed how "it was a little unclear how we should spend each of those visits…it sounded like we're just supposed to help [the teacher] understand things and help them with projects…but it was just kind of vague." UL1 had not done any professional development "other than registering for Canvas and seeing original videos for the program and working on those things." Being a first-year liaison, UL1 felt like additional support from e4usa "would probably be a good idea because we kind of just jumped into the pool."

Liaisons discussed how they supplied Engineering Experts to help high school students on their design projects. Experts were commonly university faculty, but UL5 also utilized "grad students as well as undergrad students" to "show by example, perform experiments or even explain to the younger students what they went through, and that kind of resonates with the high school students." UL1 even worked towards getting "the Dean to come and visit and talk about his Engineering Without Borders experience."

ULs briefly mentioned After School Programs, Financial Resources, Supplemental Resources, and Summer Camps. UL5 reflected on how an after school robotics club provided a common goal to local high schools. UL1's university provided some funds to students for their design

projects, and they supplied journal articles for their teachers. UL1's university also held slots open for e4usa students in a summer camp.

Suggestions

We specifically asked liaisons, "Do you have any suggestions for how to increase liaison participation?" The liaisons offered many suggestions and often reached agreements during discussions in the focus group.

The most common suggestion was for e4usa to offer Faculty Incentives to support university faculty's involvement to assist liaisons or become a liaison. UL2 had difficulty getting tenured faculty to participate and thought that "some incentive to have faculty being more involved…would be really big for e4usa," since the faculty come from various backgrounds and having them "meet students where they are would help grow e4usa at an expedient rate." Being at an R1 university, the research faculty at UL1's institution "are just busy busy…They don't have the bandwidth." UL1 suggested tapping into NSF grant requirements of education and outreach to incentivize faculty, where e4usa could provide the high schools as contexts for faculty to support the broader impacts of their grants. UL2 summarized the importance of attracting faculty through incentives, stating, "It is who you bring to the table that dictates who's at the table and we should want people who are here because they want to be here to help, not because they're being voluntold to be here."

UL1 spearheaded the idea of implementing more Meetings with e4usa during the academic year. They recommended "a monthly contact or monthly face to face meeting with liaisons for an update…It could be 30 minutes, and here are the high points, what we should be looking to do." UL2 agreed with UL1; they were "just thinking the same thing" about how e4usa could support liaisons.

UL1 went further, proposing the creation of Regional e4usa Hubs that "can support that in different regions of the country." UL1 imagined their university could "be the hub, and the schools in [City] could be the spokes and we could support those schools and have them come to [UL1's University]."

To a lesser extent, ULs suggested e4usa could Assist with Credit and provide Funding for Travel to the High School. UL1 wanted "documentation about how people prepare [credit] proposals to go to the faculty senate to get reviewed and approved." The only support UL5 could think of was for travel because some of their potential partner schools are located far from their university.

University Benefits
Liaisons briefly, and without prompting, discussed ways that their university has benefitted from participating in e4usa.

Although most ULs did not view e4usa as a way to impact university learning, UL1's involvement in e4usa led to Changes to the University Curriculum. Their university had e4usa students participate in the junior-level engineering design class by attending two design presentations and providing critiques. The college students were told they needed to "be able to effectively communicate their ideas and projects to high school students." At the time of the focus group, the second round of design presentations had not happened yet, but UL1 assured us that "the e4usa schools are going to be able to rate [the college students] on how they've improved."

UL2 was in the unique position of Involving Alumni; their partner teacher was a graduate of UL2's university. For UL2, "it really was easy for us to tie in the same fields that he studied while he was here in school into the program itself."

Discussion

This study aims to evaluate the experiences of university liaisons in e4usa's CoP. We conducted focus groups with five representative liaisons to learn about their current experiences, excitements, and challenges. The results also provide direction for how we can improve e4usa to facilitate further involvement of university liaisons in the CoP. Some of these suggestions may be transferable to other CoPs with university-high school partnerships; however, we note that our results are limited by the small sample of liaisons and the context of our CoP.

Current Excitements and Challenges
University liaisons were eager to discuss their interactions with their partner school(s), teacher(s), and high school students. Liaisons shared their joy at broadening awareness of engineering by interacting directly with students. Many liaisons organized for their e4usa partners to visit their universities and shared stories of the "eye opening" experiences students had on campus. Taken alongside the virtual meetings between liaisons and teachers, these on-campus visits show how liaisons crafted a blended CoP [17]. During university visits, liaisons with two schools could purposefully mix students from both schools together, thus expanding interschool relationships in e4usa. Above school-level interactions, liaisons shared how their participation in e4usa bolstered their relationships with their partner high schools and the local community.

As liaisons shared their experiences, they also remarked on some larger, positive impacts that participating in the e4usa CoP had on their universities. UL1 shared how their engineering

program incorporated the e4usa high schoolers as judges for their junior design class, with high school students providing feedback to university students about the effectiveness of their presentations. UL2 shared how their partner teacher was an alumnus of their university; participating in e4usa's CoP provided an avenue for continued involvement and support for the alumnus during their teaching career.

Liaisons only mentioned one experience as a challenge: virtual interactions caused by the pandemic. This finding is in line with research on education during the pandemic (e.g., [18]). Rather than focus on impediments, liaisons seemed to phrase challenges with e4usa as areas for improvement that could facilitate further involvement. We view this phrasing as encouraging; liaisons appear to support the CoP and its future growth.

Facilitating Further Involvement

To support current and future university liaisons in the CoP, we examined the current components that work and areas that liaisons indicated could be improved.

Communication was a key component of the CoP. University liaisons repeatedly mentioned updates from e4usa as helpful. Regular, reliable monthly updates kept liaisons informed of where their teacher was in the e4usa curriculum, providing an asynchronous way for liaisons to plan how to provide support. Alongside updates from e4usa, liaisons met with their teachers regularly and noted these meetings as a way to build relationships with their teacher(s). These findings are in line with existing research on components of successful CoPs, which found that CoPs can fail when there is a low level of interaction between members [19], [20]. To facilitate further involvement, liaisons suggested adding monthly meetings between liaisons and the e4usa team. These check-ins could be used to provide informal professional learning for liaisons and develop a sense of community with other liaisons. Although liaisons had access to Canvas and its Piazza discussion board, they rarely used the resource. Unlike emails and standing meetings, Canvas was not built into liaisons' typical workdays. This suggests that to aid current and future liaisons, the e4usa team should capitalize on using communication tools that liaisons are already familiar with and use regularly.

Although university liaisons serve as the primary university contact for high school teachers, liaisons are encouraged to bring in additional engineering experts to support the teachers. Liaisons often drew on their resources, connecting graduate and undergraduate students with the high schoolers. Liaisons also mentioned how university faculty may view assisting with e4usa as a form of service. Although these experts may not officially join the CoP, they can still contribute fresh ideas and expertise, often on a shorter term basis, that can serve to strengthen the CoP [21]. Liaisons did note that faculty were often overloaded with responsibilities; faculty tended to be more actively involved with e4usa at universities where there was "buy-in" from administrators than at universities without such support. To rectify this difference and encourage faculty in

general, liaisons suggested providing incentives. They floated the idea of connecting service to e4usa with the NSF requirement of broader impacts, thus connecting faculty research efforts with e4usa. Explicitly informing faculty of this connection could lead to increased faculty involvement in e4usa, which would alleviate stress on liaisons as they search for experts to best support their teachers.

To recognize high schooler's experiences and support the growth of e4usa, university liaisons are encouraged to seek ways for their universities to award credits for prior learning in e4usa. At the time of this study, three of the five universities represented in the focus group had set up pathways for college credit. The two liaisons from universities not currently awarding credit discussed the "red tape" that they have encountered during the process; they recommended that e4usa provide guidance and template documents to assist in the approval process. Given the mix of credit-awarding and non-awarding institutions, e4usa is in the position to provide assistance and connect liaisons from different universities.

Liaisons appeared supportive of growing e4usa, as indicated by the suggestion to form regional e4usa hubs. UL1 shared that if they had more faculty involved, they could support more than two high schools. As UL1 stated, the university would be the central hub and local schools would be the spokes. e4usa leadership has also discussed regional hubs as a way to connect students and teachers from different schools, thus promoting direct interactions between various members of the CoP.

Suggestions for other CoPs

Taking a larger view of CoPs, the results of this study provide opportunities and a caution for other CoPs that involve both high schools and university faculty and staff. The sole caution provided is around choosing the right platform for asynchronous electronic communication amongst CoP members. Our data suggest using a platform that CoP members are familiar with and use often. Opportunities include a variety of types of interactions that the CoP could explore, such as involving numerous faculty, graduate students, and even undergraduate students with their partner high schools. The successes reported by e4usa's liaisons point to essential components of an effective CoP that could be emulated or replicated in other CoPs, including incorporating ample pathways for CoP members to communicate, develop relationships, and form communities. CoPs that include K-12 classroom teachers alongside university members with a goal of benefiting K-12 will benefit from educating the university members about the specific curriculum and pedagogical goals for the K-12 classroom.

Future Directions

Since holding the focus groups, e4usa has started acting on some of these themes and suggestions:

- Liaisons are sent emails every 3-4 weeks, copying the teacher. These emails tell the liaison where the teacher is in the curriculum and provide one or more specific suggestions about what the liaison could offer to the teacher in the upcoming weeks. By sending this information not only to the liaison, but also to the teacher, the teachers may feel more empowered to ask for something from their liaison.
- e4usa has begun hosting monthly optional 30 min sessions for liaisons only that allow e4usa staff to share information and more importantly, for liaisons to share successes and challenges with each other for the sake of improvement overall.

As e4usa continues to grow, we will continue to examine the CoP. Future work will focus on the experiences of other community partners, such as industry representatives, as a method to further improve e4usa and the CoP. These future research findings could be expanded to other CoPs as well.

Conclusions

In this paper, we evaluated a CoP within a high school engineering program with a focus on the experiences of university liaisons. Of note, liaisons enjoy seeing high school students visit their universities; they've been able to build relationships with the high schools by engaging the e4usa's CoP. Liaisons also discussed suggestions to further liaison involvement. We have already begun implementing some changes, including hosting liaison-only meetings with e4usa staff. Through continual evaluation and revision, we aim for the CoP to grow and provide a strong community within a high school engineering program. We hope that these findings may be useful in strengthening other CoPs that involve high schools.

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Appendix

Challenges		
Code	**Definition**	**Frequency**
Pandemic	Challenges related to issues caused by the pandemic	4
Excitements		
Code	**Definition**	**Frequency**
Broaden Awareness	Broadening awareness of engineering/STEM, showing the possible path from high school to university	17
Relationship with High School	Developing a partnership with high school teacher(s)/school(s)	10
Campus Visits	High school students visiting college/university campus	7

Code	Definition	Frequency
e4usa Larger Community	e4usa schools working with/meeting each other	3
Local Community	Being able to engage with/give back to the local community	2
Empowerment	Students find their voice, recognize their value and contributions in engineering and beyond	1
Design Projects	Excitement about engineering design projects taking place at the school	1
Further Involvement		
Code	**Definition**	**Frequency**
College Credit	Setting up/maintaining programs or pathways for high school students to receive college credit for e4usa	7
Communication: Meetings	Meetings between university liaisons and college/high school stakeholders	3
Communication: Updates	e4usa updates to liaisons	3
Communication: Canvas	Mentions of e4usa Canvas tool	1
Professional Learning	If/how university liaisons engaged with professional learning/development with e4usa	3
Engineering Experts	Supply engineering experts to help students on their design projects or to evaluate engineering design work	3
After School Programs	Students participate in other after school or co-curricular programs such as robotics	1
Financial Resources	University provided supplies and/or money for supplies or other expenses that a high school incurs in doing e4usa	1
Supplemental Resources	Liaisons supplied supplemental, non-financial resources (e.g., journal articles)	1
Summer Camps	Participating students have access and recruitment to university/industry summer camps	1

Suggestions		
Code	**Definition**	**Frequency**
Faculty Incentives	Faculty incentives to participate as a liaison/assist liaisons	7
Meetings with e4usa	Meetings during the academic year with e4usa	3
Regional e4usa Hubs	Find universities to serve as e4usa hubs in their regions	2
Assist with Credit	e4usa provide assistance to universities in getting credit approved	1
Funding for Travel to High School	Pay for travel to school when it is not near the university	1
University Benefits		
Code	**Definition**	**Frequency**
Changes to University Curriculum	Changes or additions to the college or university's curriculum	3
Involving Alumni	Connecting with university alumni as teachers and/or professionals who come to the e4usa classroom	1