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Corporation for a
Skilled Workforce

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Idaho State University Energy Systems Technology and Education Center (ESTEC)

**Providing Opportunities for Women in Energy
Related Careers**

Summary of Interview Findings

September 2017

Corporation for a Skilled Workforce

Corporation for a Skilled Workforce (CSW) serves as the external evaluator for this project. CSW is a 26-year-old national 501(c)3 organization that specializes in research and evaluation, planning and initiative development, and implementation and sustainability. CSW performs research, planning, evaluation and strategic advising, and has expertise in working closely with postsecondary institutions and workforce partners to develop a shared vision and roadmaps to success.

Evaluation Staff

Megan Elyse Williams
Policy Associate, Research and Evaluation

Purpose of the Report

This report was written by CSW to provide a summary of results from the key informant interviews conducted with incoming, current, and former students between July and September 2017. These results will be shared with key stakeholders to inform program development and next steps of the evaluation.

This report is organized by the following POWER Careers project goals and areas of interest:

- Recruit and enroll women aged 25+ into ESTEC AAS programs
- Retain students to graduation with a supportive student learning community
- Place graduates into professional jobs
- Promote a culture of mentorship to encourage women who pursue STEM technical careers.
- Experience in program as a woman
- Connection of POWER Careers with the START program

POWER Careers Project Background

The POWER Careers project is housed in the Energy Systems Technology and Education Center (ESTEC) at Idaho State University (ISU). ISU's College of Technology is charged by the State of Idaho to provide technical education in eastern Idaho. The College primarily grants Associate in Applied Science (AAS) and technical certificates. In 2006, the ESTEC was formed following an Idaho National Laboratory study that identified a regional and national need for energy industry workers with leading edge technical skills. The study noted that the aging workforce and ongoing innovation in the energy industry required a transformation in new worker training.

ESTEC's mission is to cultivate the people, educational resources and applied research capabilities necessary to improve local, regional and national availability of trained workers in occupations that support the construction, operation and maintenance of current and future energy facilities. ESTEC's educational programs culminate in a two-year AAS degree that prepares students for entry-level professional technical positions. ESTEC's approach includes involvement of community organizations to communicate with, inform, and recruit non-traditional students including ethnic minorities, women, veterans, and other individuals and groups not currently well represented in the energy workforce.

In 2015, the National Science Foundation awarded \$796,639 to ESTEC for the Providing Opportunities for Women in Energy Related (POWER) Careers project. This project aims to address the issue of underrepresentation of women of all ages and ethnicities in ESTEC, as well as the significant under-representation of women across the engineering technology sector of the energy workforce. At the time of the grant proposal, women represented about 8% of students in ESTEC energy programs, and had never exceeded 15%.

Project Goals and Objectives

The over-arching mission of POWER Careers is to achieve equity for women in energy technology career fields by increasing their successful participation in high quality, proven energy systems programs. And, by using strategies that will help retain non-traditional women students through graduation and placement into professional positions. Project efforts will primarily target non-traditional aged women (and will include under-represented populations in southeast Idaho--Hispanics/Latinas, American Indians, and military veterans). **Female students of all ages are welcome in the project.**

POWER Careers aims to employ a continuum of supports and activities across the student experience, including mentors in the form of successful ESTEC graduates. The project has indicated that it will identify and address the recruitment challenges of a technical college serving a rural area, in part by working closely with community agencies that are in contact with potential students. The project also intends to engage industry in efforts to build a more diverse workforce and create workplace environments that are welcoming to female technicians.

The POWER Careers project has identified their grant and post-grant participant outcomes as:

- 50 women enroll in ESTEC over 3 years (these students will have met math and English entry requirements)
- 44 women begin coursework as planned
- 40 women will successfully complete the first semester of an ESTEC program
- 35 will successfully complete an AAS degree, 18 will complete during the grant period and an additional 17 will graduate with an AAS degree on-time, but after the grant period (graduation date for these students will be Fall 19 through Fall 20)
- 33 women are placed in professional positions after graduation

To achieve these participant outcomes and overall project objectives, POWER Careers has outlined five key goals which are to:

- Recruit and enroll women aged 25+ into ESTEC AAS programs
- Retain students to graduation with a supportive student learning community

- Place graduates into professional jobs
- Strengthen ESTEC partnerships with energy employers to further careers for women
- Promote a culture of mentorship to encourage women who pursue STEM technical careers

Appendix A outlines the logic model developed by the evaluator for this project. This logic model serves as a one-page summary of the project, as well as a critical guide for evaluation inquiries and related activities. The logic model aims to outline the various project activities and deliverables, and particularly how these activities are expected to eventually “add up” to the intended impacts and outcomes.

Methodology

Key Informant Interviews

Interviews were conducted with 8 students, including 3 current, 2 former, and 3 incoming students July through September of 2017, for a response rate of 32%. The interview opportunity was made available to all students. Each student that indicated interest by responding to the interview request was interviewed. Semi-structured interview protocols were designed to capture more in depth, individual responses to the data collected on project goals throughout the year.

Data Analysis

Qualitative data were coded manually for themes. Quotes are provided in “grey” with only minor alteration to spelling or grammar edits for clarity, not to the wording or intent.

Limitations

While the smaller N impacts the number of students available to participate in data collection for the evaluation, the key informant interviews were meant to gain more insight into the student experience than the survey by only speaking to a couple of students from each category.

Interview Findings

Recruit and enroll women aged 25+ into ESTEC AAS programs

How Students Heard about ESTEC Programs

Interviewees were asked to provide details on how they heard about ESTEC programs to help inform recruitment strategies.

Interviewees indicated that START impacted their decision to enroll in ESTEC. They mentioned that a staff member from POWER Careers spoke to their class, which provided them with the details. Information on ESTEC was also included in the START Orientation. One interviewee stated that after a tour from the same POWER Careers staff member, she was “sold.”

One other interviewee noted that she found the program online when specifically looking for a degree that would not take four years to complete.

Three interviewees mentioned hearing about the program through family.

Reasons for Enrolling

Interviewees were asked to describe what aspects of the degree or program convinced them to enroll in ESTEC.

Three interviewees stated that they specifically appreciated that the program was “hands-on.” One of these respondents was originally enrolled in a traditional engineering program and “hated it.”

“There was no lab time and I spent a lot of time behind the desk, which is not how I learn. Way better to be in this program.”

“Professors will work with you and are fine with you asking questions. It is smaller and you get the help you need. I have always been interested in science, but what really sold me was that I get to experience all of it before deciding what I want to do.”

“I love the fact that is so hands-on.”

Two interviewees described that the many opportunities and job placement rate post-graduation convinced them to enroll. One further stated that there was a lot she could do with the degree and not limited to one thing.

The length of the program was also described as a reason for enrolling by one interviewee.

One interviewee said that scholarships helped with deciding. And another interviewee stated, “It’s not a traditional women’s career, and I do not do traditional things.”

Opportunity to Make a Difference in the World

POWER Careers staff were interested in understanding if students found that the opportunity to make a difference in the world played a role in their enrolling in the program. Interviewees were mixed in their responses.

Three interviewees indicated that making a difference factored in their decision:

“Yeah, because there are not many women in these types of careers, and I would like to be a spokesperson- it is possible and we can do these kinds of jobs.”



“There is so much I want to do to help with things that are happening in the world- solutions to problems. Knowing more about how we could fix it and how we could make possible solutions, and engineering is a good place to start.”

“It does because when you think about energy careers, they are going to be so needed going forward.”

One interviewee stated that it played a role in her original decision to do engineering but for this program, she wanted instead to get a degree that would be useful to society. Another interviewee said it did not impact her decision to enroll in ESTEC, but it did impact her decision to pursue chemistry.

Another student stated, “To me it just feels like to get in a career is the right thing to be doing and to choose something really fast...and I also have kids.”

Barriers Prior to Enrolling

The POWER Careers project was interested in understanding potential barriers students face before starting classes. Recognizing that the lag between acceptance and classes can be a vulnerable time, they were eager to learn about how to further support students.

Multiple interviewees noted that finances were a barrier to enrolling, both for tuition and living expenses, although ultimately, they planned to attend and find a way to manage expenses.

The following barriers to enrolling were also noted:

- Understanding daycare options
- English as a Second Language
- Family care issues- added stress of needing to provide care for ill family member
- Having ESTEC credits to transfer to the BA program

One interviewee was especially put off by this question as she felt that “women are encumbering themselves more and they are just as capable despite being a woman.”

Two interviewees noted that there were no barriers to pertaining to attending school or receiving acceptance as “getting into the program was cut and dry” and “the college is doing an excellent job of providing resources to everyone. I did not have the same support in my traditional university program.”

Support from Family and Friends in Decision to Enroll

Interviewees were asked to comment on if they felt supported or questioned by family members and friends when discussing their decision to enroll. The support students received from family and friends around their decision to enroll was mixed. Many students had familial support while others’ decision was questioned relating to either capacity to finish the program or if this was the right degree.

One interviewee stated that she gets a lot of “are you sure you want to do this?” from her parents and fiancé. She feels it mostly has to do with her decision to leave a Bachelors program for an Associate’s program.

Another interviewee stated that her family knows when she makes up her mind that is her decision. For the most part, her family has been supportive, although she has run into a couple of others who doubted her ability to find a job post-graduation.

A third interviewee said that her mom has questioned her decision mainly because she has started and stopped other endeavors in her past, but that has motivated her more to succeed in this program.



Another interviewee said that her husband's family has been very supportive and wonderful, although her family had some reservations. Their concerns were not about attending school, but about the type of degree- they thought something business related would be more worthwhile.

One interviewee said that while her family was supportive, friends were judgmental of her decision to pursue an AS degree with a BA degree, thinking she was choosing an easier way to receive a BA, by doing part of her credits in an AS program.

Internal Negative Thoughts

Interviewees were asked if they ever had any negative thoughts or regrets after enrolling. Interviewees were divided in their responses.

Three interviewees stated that they had no negative thoughts or regrets.

"The only thing I regret is not doing it sooner."

"No, I am really excited to start- I am doing this for myself and my kids."

"Planning is something I have to work on to make sure I have time for everything. But, other than that, the teachers have been wonderful and so many resources available."

Two other interviewees noted some negative thoughts, although nothing that would make them change their minds. One interviewee stated she was moving far from home so she was concerned about what it would mean to fail, but "everyone has been super supportive and they try hard to help you not fail."

Another student stated, "Just maybe that there is not as many women in ESTEC as I thought there would be. That could be a little intimidating but I am used to working with a lot of guys. Nothing I would be concerned about or change- just get more girls to enroll."

One student stated she had an issue with a male student who constantly questioned girls' presence or ability to be in the program, which initially caused her to have negative thoughts.

Support from POWER Careers Prior to Beginning Classes

The three incoming student interviewees were asked if they knew what the POWER Careers Project was. One student was very clearly aware of the project and resources. The other two said they had heard of it, but were not specifically aware of what it entails, although both mentioned a POWER Careers Staff member by name and indicated receiving support from her.

Interviewees were asked to describe the support they received from POWER Careers prior to starting their classes. POWER Careers was explained to the interviewees before they responded.

Multiple interviewees mentioned that they received support in the form of emails and phone calls checking in, scholarship information, tours, luncheons/ BBQs, and registration/enrollment information. Most interviewees who did not take part in the support offered were still aware of the opportunities.

The following responses were provided:

"[POWER Careers Staff member] has helped me so much."

"Just remember [POWER Careers Staff member]- she called and emailed now and then and sent me links to scholarships. She goes above and beyond what she thought she would be receiving. [POWER Careers Staff member] calls and reminds me of deadlines, emails scholarships, BBQs for introducing students- she has been great."



“[POWER Careers Staff member] helped me with things I needed to do in order to be in ESTEC and things I needed to get done like applying for scholarships. If I had any questions, I contacted her.”

“[POWER Careers Staff member] was the one who gave me the tour around the building. She was super nice and gave me the regular college tour- pretty much the same as any other college tour. She was very sweet and very nice.”

“They have been wonderful. They have little luncheons every once in a while, to make sure that we know they are there. Ice Cream Social right before classes started. I met with the students who graduated last year. They emailed to check in. They emailed about scholarships. They have given me a lot of information and help along the way.”

One interviewee noted not having the same experience as those listed above:

“There wasn’t a ton of support then because I didn’t have any struggles. I didn’t need a tour because I already knew what I was doing, I already knew ESTEC. I felt I maybe fell through the cracks a bit.”

The three incoming student interviewees were asked if they planned to take advantages of the services offered by POWER Careers. Two stated that they could see themselves being interested or wanting to stay engaged. One stated, “Yes, as much as I can. There are resources available that will make sure I am here, I stay here, and I finish, and they are just wonderful ladies, too.”

Additional Support Needed Prior to Starting Classes

Interviewees were asked what other support from POWER Careers would be beneficial or needed to keep students on track to start classes after acceptance and enrollment.

Two interviewees suggested it would be beneficial to know more about scholarships and earlier. Both felt they wish they would have known about scholarships before starting classes.

“For me, they told me about a few scholarships, but it would have been nice to know a lot more.”

“First semester was really expensive and would have liked to have known about them earlier since my loans did not cover all of my expenses.”

One interviewee also mentioned that receiving a scholarship, not just learning about the opportunities, would be beneficial to incoming students.

Interviewees also offered the following varying suggestions:

“The Western Undergraduate Program- they offer grants for students who are out of state and helps with tuition.”

“Maybe with ALEKS? Knowing or understanding what you need to know for that test would be beneficial- what expectations they had for entrants.”

“More tours around the buildings- they do some around ISU but they are too brief and would be good to know where your classes are.”

“Not for myself because I have been insanely involved. I have loved any opportunity and go for it. I noticed some of the other ladies have not taken advantage, though, so maybe make some things required?”



Retain Students to Graduation with a Supportive Student Learning Community

Support from POWER Careers

Involvement with the POWER Careers Project

Interviewees who had either graduated or started the program already were asked to describe their involvement with the POWER Careers project. Other involvement with the project mentioned by participants that is related to other goals are described in those sections.

Participants responded that they received a scholarship or scholarship support from them, including attending the Power Gen Conference as part of their scholarship. One student stated, “I am part of the Energy Scholars as well and they go hand in hand, since I have to meet with [POWER Careers Staff Member] every other week as part of that program.”

Other involvement with the project was described as:

“Not much involvement in my first semester and not much now...I occasionally go to coffee with them.”

“There are monthly events that I go to, and I have spoken at events on behalf of them.”

“[POWER Careers Staff Member] helped me when I was stressing out- I don’t know a lot about it just a little from what she and I talked about.”

One interviewee stated that she works with POWER Careers staff and was aware of the opportunities provided through her position, even if she did not take part in them.

Interviewees who had already started or completed their programs were also asked if they were connected to other resources by the POWER Careers project. The following varied responses were provided:

“[POWER Careers Staff Member] has tried. I signed up for this mentor thing but I never took advantage of it. The [POWER Careers Staff Member] approached her about it and I signed up, but I never really followed up or actively reached out to my mentor.”

“They regularly posted for job openings, and it is an open-door place, I can go in at any time, and I have even used their office for interviews when people wanted to meet on campus.”

“No.”

“Yes, both industries and counseling. [POWER Careers Staff Member] is the one that sets up the meetings and has us come and talk to the people. And, part of START is access to counseling so definitely been doing that too.”

“Not really- I think they were just trying to find other avenues of getting new resources or help. Already knew about Center of New Directions. [POWER Careers Staff Member] would make suggestions of people to speak to or tutors. Things like that.”

Interviewees who had already started or completed their programs were also asked if they received any personal support from the POWER Careers project. The following varied responses were provided:

“Not particularly- I tend to be independent and do not share my feelings with those I do not know. I get my support from my family.”

“Part of that open-door policy was when you needed to get out of class- as a woman sometimes you needed to cry- and so the emotional support and their listening so she could sit and vent.



[POWER Careers Staff Member] did a great job of being available for us in that sense. They also did this on Saturday meet ups off campus and being off campus was important to me.”

“I have been offered help but never need it.”

“[POWER Careers Staff Member] and I are very close. [POWER Careers Staff Member] helped me set boundaries with jobs and helped me to stop over boarding herself. [POWER Careers Staff Member] helps me a lot.

Additional Support Needed

Interview participants were asked to describe what other support from POWER Careers would be helpful when progressing through the program.

Interviewees suggested the following additional support. Topics included more opportunities to connect with women and more job search support.

“Think they are doing a good job providing resources – I think they are doing a pretty good job just from talking to other students.”

“I wanted them to set up times for meetings with female role models so she could ask questions. They were trying to do this but didn’t get it done while I was there.”

“If we had more involvement with all of us women that are in POWER Careers – haven’t seen a lot that has been helpful- they have a diamond but not a perfect diamond yet.”

“Maybe if we had weekly or every other week meetings as just the women during school that might be more beneficial. I know doing stuff outside of school is really hard, but I could see it being easier to attend if already at school.”

“More support when you initially got into the program- that would helpful. If I was coming in this program without this, it would be intimidating and kind of confusing. Getting that introduction and making sure you knew there was that support and help for you.”

“Not that I can think of- they do a really good job about checking in with all of the students and trying to meet once a semester, and I think the help I need comes from getting checked in on. I don’t think they are doing anything I need more of- what they are doing right now is helping me.”

“I think for most of us once you have had 4th semester, more participation as far as maybe giving us a better idea of what is out there job-wise and what we are looking at. More help trying to get out in the industry for the specific fact that we are up against so many males in these jobs. More emphasis in saying to industry we have these women, what do you want them to know. More help in 4th semester to get our names out there and let them know we are ready to go, ready to work. Although it is not their job to get us jobs.”

Future Challenges Anticipated

Current student interviewees were asked if they were anticipating any challenges ahead that POWER Careers could help them with.

“Honestly, I know what is going to be going on- same professors for the most part, and I know the ins and outs of how they grade. Maybe job hunting support or resume support?”

“The challenges will be getting a job and I definitely anticipate them being able to help with that.”



“For POWER Careers, when we have industry partners come, I would like if POWER Careers had a separate meeting for the women rather than all of the men being there. If all the girls were in one room to talk to industry representatives, then we could speak up more about our abilities- although I don’t want it to be that girls get special treatment. It would benefit me to speak with industry partners with only other girls.”

How Can POWER Careers Best Ask if You Need Support?

Interviewees were asked to describe how POWER Careers could best approach them to see if other support is needed. The responses were varied.

A number of interviewees felt that emailing or texting would be the best way to approach students to see if they need additional support. One respondent stated, “For other students, an email or text might be better- easier to reach people- but that can be hard because hard to know how someone is intending to come off in text and email, especially if you do not know them. I know I would be receptive to an email or text.”

One respondent commented, “They were promoted enough, they were able to say hey we are here, and I loved that, and because I knew they were there I could go find it. Maybe a small workshop in general to really go into depth about everything and promote it that way?”

Another respondent said that they would prefer to be asked in person while another stated: “Honestly- if I needed additional resources I would ask myself. I don’t need someone to ask me. If I am not doing alright, I will fix it myself.”

Other Thoughts on the Program

Interviewees were asked if there was anything else that they would like to share about their experience in ESTEC or POWER Careers.

“POWER Careers has done a lot to get more women into the program- they are the glue that keeps us all together. Definitely an important thing to have. We have 7 girls coming in this semester and that is huge. And, that would not be happening without [POWER Careers Staff Members]. Wouldn’t be happening if we weren’t succeeding right now with their help.”

“Everything I possibly needed help in, I was able to get support in. The only thing is all 4 semesters should be concentrated in that these women have a job or are close to getting a job. Seems like so many of my friends are struggling, and we can’t get the right job, and we are being overseen because of the men. We just have to keep trucking to make things better one day at a time.”

Place Graduates into Professional Jobs

Interviewees were asked to describe the career support they had received as part of the POWER Careers project.

Connection to Contacts in the Industry

Most interviewees who had already begun classes or graduated mentioned that ESTEC and POWER Careers bring in people from industry throughout the semester and provide opportunities to meet with and visit different companies.

“They also bring in people from industry all the time, and we go out into industries and take tours of factories- like school trips.”



“There were always opportunities to bring in companies or take tours.”

“Yes, they brought in industry members to talk to us. I got to know one or two contacts at the Idaho National Laboratory. I got to meet with them and [POWER Careers Staff Member] at the same time and got an internship.”

One interviewee stated she was not connected to contacts in the industry. “No- and I think that was due to the fact that some of the people who were connected to mentors were people in industry, and I didn’t get a mentor. I think [POWER Careers Staff Member] hooked up people who she could with those already working.”

Connection to Job Opportunities or Job Search Support

Interviewees who had already begun classes or graduated were asked if they received job search support through POWER Careers.

“In a sense- [POWER Careers Staff Member] will email a lot of people with job opportunities or she will post them to Facebook. I have a weird circumstance where I am limited to one area for my job search. I will probably ask [POWER Careers Staff Member] to look at my resume.”

“You could bring in your resume and speak with them, and they held workshops for resumes. I feel like because I was in the first year they were still establishing what to do and how to get rolling, and I think they do more now.”

“They helped me with my internship. A little bit- we are only half way through so not as much since focusing more on the students closer to graduating. I know in the 3rd semester they help you search and are really good about letting us know about opportunities.”

“We have a Facebook page for POWER Careers that has job opportunities, but since I am in the 3rd semester, not interested. They push the jobs very hard. POWER Careers’ Facebook page is where we get our job information.”

“Mostly emails- they emailed out certain industries that needed people. We all got emails.”

Graduates’ Thoughts on Career Preparation Post-Graduation

Two former students were interviewed and asked about their experiences post-graduation. One student is employed while one student is currently looking for work. Questions about employment and salary are not included in the analysis, since only one student could respond and her responses could potentially be identifying.

Prepared to Start Career

Interviewees who had graduated from their ESTEC program were asked to explain if they felt adequately prepared to being their careers.

Both former students generally felt prepared to start their careers upon graduation but noted some reservations either through the training or as a woman in the field.

“The current career I have? Yes. I did not feel confident enough to apply for some of the other jobs that came through, but also because my heart wasn’t in it for them. When you talk to other students, they were not confident they would get a job. They teach so much, in such a variety, hard to focus or to know you will have specific skills needed. If I did not have my internship, though, I am not sure that I would be working right now.”



“Umm...yes and no. Being out of work for 3 years was pretty tough cause I was out of the everyday routine [of working]. Was afraid of what I was going to come up against. Now I am a college grad in an industry that is mainly men. This didn’t scare me, but now I am in the ball park of a more advanced type of job where you run into this is all men, let’s keep hiring men. Need to prove a lot more than men when trying to get a job. Proud of what I accomplished and not letting anything that might come up against me get me down. But walking into an interview is hard knowing I am the only woman applying and there are 5 other men.”

Interviewees were asked specifically if they were prepared to handle salary and benefit negotiations. Both former graduates stated that they were prepared to handle these conversations with future or potential employers but both mentioned that they had worked before starting their ESTEC program.

“Yes-definitely. I think it was my research in the START program that set the standards. As I was doing more research in the program and meeting companies, I discovered the national average was a lot higher than the average in Idaho, and I didn’t like that ESTEC promoted the national average. Unless you leave the state, you wouldn’t get that income. I felt prepared because I knew what the local and national industries paid, and I understood benefits from previous life experience.”

“Umm yes, pretty comfortable just for the fact that I worked before. If I was one of the young kids coming right out of high school, I wouldn’t feel as confident, but since I had a lot of experience, I feel more prepared to negotiate.”

Expectations of the Degree

Interviewees were asked to describe if their expectations of the degree lined up with their experiences since graduating. Both students referred to the academics rather than the benefits of the obtaining the degree.

“Yes, I think, for the most part- even from my friend graduating in the fall vs. me graduating in May. They brought in a whole new concept that we got in the 4th semester, which was amazing. So, when [Specific Instructor] tweaks his classes the way he wants to it will be amazing. I would definitely go through again.”

“My expectations of the program and ESTEC’s expectations for students were different. I went into the program with something different in mind than what they push- my goal was never to be a mechanic or maintenance person, and that is what the program teaches and expects for the job. I just wanted to get basic training. My current position- I need to know about electronics and improvements.” This student also stated the semester they focused on the skills needed for her current position was extremely helpful.

Additional Experience Needed

Interviewees were asked to describe if they felt additional experience was needed or would be beneficial in ESTEC prior to graduation. Both former students commented on the subject matter taught and its connection to industry needs.

One student wanted to know more about the different types of opportunities in renewable energy and exposure to more career training in this area. “I went in not knowing what to expect [career], and it did not help that in the last year we had an instructor that did not know how to teach. That caused a lot of frustration. Being taught things we would never use in industry. Their teaching theory was the more you know, the more options you have [rather than focusing on specific skills].”



“More updated knowledge of what industry is actually doing- when they brought in relays- that is what Idaho Power is actually using. I understand we need basic wiring but digging deeper into what actual jobs in our area need would have been more helpful than basic wiring. You learn basics in 1st and 2nd semester- bringing more stuff in of what is actually being done would have been better prepared us.”

Impact of ESTEC Degree

Former students were asked to describe the impact the degree has had on their lives.

“Umm well, it has been positive- my kids are older and out in their own jobs, just the fact of knowing their mom could do it. Try to put a little nudge into them- you want to do it now while you don’t have kids and young. Sense of pride for myself. I had my daughter young, and I did my GED- should have just finished. So, for me to walk down and get my degree- sense of pride and accomplishment that I did something that I missed when younger. Proud to buckle down and do something so hard rather than caving and just getting another job. Lots of tears and pushing through to accomplish something.”

“Well, first of all, my children saw me able to accomplish something. They are very proud of me even though they don’t understand what I am doing or talking about. That has been great. Great to have a nice income- even for my area- so this has provided better support than before.”

Promote a Culture of Mentorship to Encourage Women Who Pursue STEM Technical Careers

Another goal of the POWER Careers project is to promote a culture of mentorship. Students are able to access mentoring while in the program in three ways:

- Mentoring with alumni through MentorNet, which provides students with an opportunity to be mentored by women already in the industry who can answer questions upcoming graduates may have about the workplace. Sometimes women are mentored by men. This is a formal mentoring opportunity.
- Third and fourth semester students mentor first and second semester students. This opportunity provides academic support as well as support in prioritizing school and life.
- Faculty to student mentoring. This form of mentoring provides students with help on life issues, as well as referrals to counselors, tutors, and disability services.

Mentoring Experiences

Interviewees who received mentoring were asked to describe who mentored them as well as their experiences with mentoring.

“To a certain degree- my professors have tried to mentor me. I had vague conversations with [POWER Careers Staff Member]. Nothing formal...except for the scholarship- you take a career aptitude class and Meyer Briggs as part of this class I had to take for the scholarship.”

“Yes, I made contact with a previous student who works in Texas. POWER careers set up the program to try to meet with other students to give them guidance and compare experiences with. That was great- things I didn’t understand as far as my experience I could talk to her about and she understood.”

“Not really...going to those brunches kind of acted as mentoring but nothing really official.”

“Yes, especially from [POWER Careers Staff] but nothing out of ISU.”



“[POWER Careers Staff Member] did do a class where all of us went down to register for the mentor program, but unfortunately there were not enough mentors for everyone, so I didn’t have one.”

Experience as a Woman in the Program

The POWER Careers project was created to support women in nontraditional careers. A key area of interest for project staff is understanding the experience and barriers the female ESTEC students face because of their gender and ways to provide additional support if needed.

Connecting with Other Women in the Program

Incoming student interviewees were divided on if they believed connecting to other women in the program would be beneficial or not- one student felt it would not be, while two felt it would be important.

“I am not really friendly and I have a feeling I will be judged. I feel like my nationality could be a barrier. I will give them a chance but keep to myself. But, if they want to come to me, we can work together.”

“Yeah, I think so- I think that having more female support will be nice. I can work with guys but there are some things I don’t want to talk to them about or things that I don’t think they will understand. Would be nice to have female support in the program.”

“It has definitely helped me connect with other students, because the other female students didn’t know where the POWER Careers office was and I did- so things like that to help each other out. POWER Careers brought us together so feel more of a community. Was able to connect and find things in common with a student at the ice cream social before coming to school.”

Current and former student interviewees were asked if they were connected to other women in the program through POWER Careers and if this was important to them.

Students agreed that many opportunities were provided to connect to other women through POWER Careers but were mixed in their feelings on if this was important to them or not.

“Honestly, the other female students are older and have kids, and it is hard to bond with those women personally, because I am younger and do not have kids. It is nice to have a conversation with the women, but I get along as well with guys and my close friends are guys.”

“Yes, absolutely. In speaking with previous students, they did not have things for women to get together but that was different for me. Good to have gatherings to decompress. It was very helpful to have other women when you have problems. It was harder in the program before she thinks for women.”

“This was not really important to me, because I have always been in jobs where there are not a lot of women, so it wasn’t something that was necessarily a major break going into the program. It has been nice to know some of the people because I can relate to some of them. We did coffee every month- meet up for brunch or coffee on a Saturday, talk about the program, talk about issues, and get support. Also, during breaks, there are art projects, you could do. I did not do the art ones because I was out of town or needed childcare. But it was good to see others in different semesters and get advice.”



“Yes, [POWER Careers Staff Member] tried to bring us together as much as she could despite studying. Definitely tried to connect us to one or other- she would do her best to help connect students who could help each other (if someone was strong in one area). Yes, it was important- when you only have that one female student ahead of you- any advice they could give could help you along the way. In 1st and 2nd semester, I was the only woman so connecting with others who went through the same or were going through the same helped ease the tension.”

One student felt that Energy Scholars was more responsible for connecting her to other women.

“Hard question- Energy Scholars is definitely prevalent over POWER Careers in my involvement. Any girl that I have been connected with was through Energy Scholars cause we all have same scholarship. [POWER Careers Staff Member] tried to make sure that girls were with girls, but all the connections are being pushed through Energy Scholars, and POWER Careers is just a side note. This year is a little different, POWER Careers is getting women not in Energy Scholars already more included in the meetings for Energy Scholars.”

Connection to the START Program

The START program has been a helpful partner to the POWER Careers project, especially in that many of the recent students were recruited from this program. It was of interest to the POWER Careers project to ask key informant interviewees about their involvement in the START program so they could best understand on how to capitalize on this partnership to increase enrollment and support students.

START Program Background

The Successful Transitions and Retention Track (START) program was funded through the J.A. and Kathryn Albertson Family Foundation (JKAF) in 2011 to address low enrollment and graduation numbers for underprepared and non-traditional students. Female START students choose non-traditional careers at much higher rates, and consistently perform above expectations in challenging technical programs. Through an intensive semester long program which includes remediation in math and English, mandatory tutoring and career counseling, and support in post-secondary enculturation, START students develop strong student and career identities which result in above average retention and completion of post-secondary credentials.

Decision to Enroll in START

Interviewees involved in the START program prior to enrolling in ESTEC were asked to explain how they came to be enrolled in the program.

One interviewee mentioned seeing a brochure and she was looking to better herself at the time. Another interviewee heard about it through a coworker while another heard about it through family members. “Thought it was silly at first, but then I saw her skills and confidence and thought, wow, I could do that, too.”

Interviewees mentioned that the opportunity to see what it was like to go back to school appealed to them, and it provided them with the chance to see that they could manage classes.

START’s Impact on Enrolling in ESTEC

Interviewees were asked to describe how START impacted their decision to enroll in ESTEC.

Overall, interviewees felt that START gave them the confidence to attend school and helped solidify the careers they were interested in. The following individual responses were provided:



“Being in a computer lab- operating it- knowing that in ESTEC I will be working on computers and determining what is wrong with the machine appealed to me.”

“[POWER Career Staff Member]’s presentation. START helped me realize I want to go to school full time and helped me realize what I really want to do and that I want to just do school. I loved [POWER Career Staff Member]’s tour.”

“I had a mentor that went through START who went to ESTEC- helped me realize I was not alone and I had help.”

“It made me feel more confident in the abilities I had because I could complete that [START]. The skills they gave me made me feel like I had more of a leg up now than I did when I was younger.”

Experience in START’s Impact on Success in ESTEC

Interviewees were asked to either describe how their experience in START impacted their success in ESTEC or how they expect it to.

Interviewees mentioned that START provided them with an opportunity to discover what their interests were and receive career advice. It also allowed them to learn how to manage their time in classes, study, remember what it is like to be in school, and interact with peers. Interviewees noted that it provided them with the chance to brush up on skills, including math.

“START was a huge help for me mostly because I am older and was dislocated worker. So, it taught me how to be a student vs. just a worker. I realized even if you work every day, you are at least home. As a student, you don’t realize your work doesn’t end at school, work ends when homework or studying is done. So, learned how to manage time and how to be successful. I wouldn’t have failed without the program but would have struggled a lot.”

Interviewees also stated that START provided them with a lot of support and either has continued to while in their ESTEC program or they know it will when they start their program.

“Everyone is very supportive about everything- they help you and there is tutoring and that is awesome.”

“START staff help with scholarships or look at papers. It is just nice to have gone to START and to know they work together [with POWER Careers], because I feel it benefits me a lot.”

“Having START as an additional support and POWER Careers’ support and them working together made my experience more positive. Would not have made it through without them as my backbone.”

Additional Support Needed from START

Interviewees who were START participants were asked what additional support was needed and none was identified. All interviewees proceeded to state how great the experience was including what it provided them.

“I was thinking about using the tutoring resource whenever I feel like something is too hard for me- so that is one great thing. No, everything has been great- asking for daycare seems too much, but that was all my problem was while going through START.”

“I like the counseling part of START- not sure if ESTEC does the same thing- I liked that they had to go to a counselor and meet with them once every month or so, and you could meet with



them more but you have the minimum amount. They help you with problems at home or if you need help in class or you want to talk, that was nice.”

“I can’t promote START enough. I loved all of their resources they have, and their counselors, and the classes they have us take to make us prepared for college. I feel like they were essential. When I got to ESTEC, I felt like I was way prepared and I liked that.”

“No- I think it is an amazing program- I think it gave me the tools for everything I would need when I started school. ESTEC was 10 times harder, but without [START] knowledge and tools would be harder...I got everything I needed from it.”



Appendix A: Logic Model

