

Harbor Freight Fellowship Initiative

An Evaluation of the Fellowship Initiative

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Executive Summary

The Harbor Freight Fellowship Initiative (HFFI) works to identify “youths who show significant potential for out-sized accomplishments in new and traditional trades and crafts” and connect them with “customized programs of learning and work that include pathways to post-secondary learning” and careers. The fellowship initiative aims to ascertain how the interest, practice, and relationships affect youth’s professional and personal development and eventual entry into careers in the trades. WestEd, in consultation with the Program Coordinator, developed an evaluation plan that focused on immediate data collection from the fellows, advisors, and mentors. An analysis of survey findings, written responses from fellows, mentors, and advisors, and interviews with the Program Coordinator have shown that the HFFI program has had positive results for fellows and employers. The analysis has shown that mentors and work-based learning opportunities can substantially deepen young people’s interests in their chosen trade, strengthen their practice, and build relationships. These positive developments in interest, practice, and relationships result in gains in social-emotional skills, technical skills, and career opportunities.

Findings

Interest: Fellows, mentors, and advisors report that fellows became more interested and passionate for their trade or sustained their interest and passion throughout the fellowship. Fellows demonstrated a willingness to learn more about their trades in their free time and to remain involved in the trade at the conclusion of the fellowship experience.

Practice: Fellows report deepening their practice and becoming more attentive to their work and projects by the end of the fellowship. Mentors report the fellowship successfully promoted a fellow’s depth of practice. Advisors report that all fellows became more attentive to their work and projects, in general, by the end of the fellowship.

Relationships: Fellows, mentors, and advisors overwhelmingly report the fellowship helped fellows build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals.

Career Development: Fellows, mentors, and advisors reported the fellowships to be positive experiences for fellow career development. Fellows ended the fellowships with greater knowledge of how and where to find information about related careers and left with references for these careers. Advisors believe the fellowship experience helped fellows solidify their decision to pursue the trade and provided fellows with the knowledge and resources needed to pursue potential career opportunities.

Social-Emotional Development: Fellows, mentors, and believe the fellowship was supportive of fellows’ social-emotional development, including attentiveness, openness to learning and constructive criticism, ability to apply feedback to improve performance, resourcefulness, persistence, reliability, follow-through, self-awareness, self-confidence, and planfulness.

Technical Skill Development: Fellows, mentors, and advisors report that the fellowships provided fellows with experiences that supported technical skill development and built fellows’ skills over time, to the point where they are capable of completing complex tasks related to the trade.

HFFI Broader Impact

A correlated goal of the HFFI is to increase schools' and youth organizations' capacity to place youth in professional settings by providing proof points that could impact CTE programs at the secondary and post-secondary levels. HFFI is working with **Laney College** and five **Oakland Unified School District (OUSD)** high schools to develop an integrated CTE flow from high school to community college and to career. HFFI is working with the Assistant Superintendent of **Sacramento County** to develop policies and practices on a county-wide basis that support apprenticing experiences for CTE students. The **Sonoma County Office of Education** and the **Sonoma CTE Foundation** are working with HFFI to expand the fellowship from three high schools to a total of six in the county and to Santa Rosa Junior College. HFFI is working closely with the WBL Supervisor of **Treasure Island JobCorps** to expand opportunities for youth at the **San Francisco** facility and at other facilities in the network. HFFI is piloting a fellowship initiative with the **Roswell, NM** JobCorps program. HFFI is working with the **YMCA SF** Director of Workforce Development, Urban Services to place YMCA youth in fellowships. The **Yolo County Office of Education** has facilitated the introduction of the fellowship initiative into all nine high schools in the county. HFFI is currently in the outreach process to the **Marin County** Office of Education as well. Nationally, HFFI is in the process of establishing pilot fellowship initiatives in: **Boston, MA; Indianapolis, IN; Manchester, NH;** and **New Orleans, LA**. Additionally, HFFI is preparing to explore possible partnerships in **Atlanta, GA** and **Chicago, IL**. HFFI will participate in regional and national CTE conferences and expects to generate further opportunities across the nation.

Recommendations

Overall recommendation: HFFI should continue to build the fellowship initiative, incorporate streamlined assessment processes, document guidelines, and provide orientations for all stakeholders and participants.

Assessment tools and processes: To ensure high quality assessment results while minimizing the burden on mentor employers, simplify the assessment process. If the duration of the internship is short, use only a post assessment paired with the application materials to assess learning and fellow development. If the duration of the internship is a sufficiently long period of time (at least eight weeks), consider implementing a mid-assessment instrument to measure growth in a select few areas of interest.

Programmatic recommendations: Provide consistent orientation to the fellows, mentors, and advisors about their roles in both the implementation and the assessment process. Differentiate supports to offer closer guidance and supervision for younger and/or inexperienced fellows and less guidance to older and/or experienced fellows.

Recommendations for sustainability: Train and support additional Program Coordinators who can take on the role of brokering placements and maintaining communication with advisors and mentors. Establish guidelines for working with all stakeholders and document common questions and hurdles.

Recommendations for ongoing evaluation work: Continue to improve assessment and other data collection efforts, automating processes where possible but allowing for observations and face-to-face interviews with fellows, mentors, and advisors. Conduct a formal assessment of the program's impact on schools, districts, counties, and CTE programs.

Background

The Harbor Freight Fellowship Initiative (HFFI) works to identify “youths who show significant potential for out-sized accomplishments in new and traditional trades and crafts” and connect them with “customized programs of learning and work that include pathways to post-secondary learning” and careers.¹ Two levels of fellowships, Fellowships and Junior Fellowships, provide opportunities for older students for whom a trade is already their chosen path and for younger students who have demonstrated a passion in a particular field and want to learn more about it.

Harbor Freight (HF) Fellowship staff and the WestEd research team collaborated to align the initiative’s inputs, mediating conditions, and desired outcomes to establish a coherent logic model and evaluation plan for the fellowship initiative.

Purpose

The fellowship initiative aims to ascertain how the interest, practice, and relationships of apprenticing experiences affect youth’s professional and personal development and eventual entry into careers in the trades. Through dialogue with the Program Coordinator, it was decided that the following types of outcomes would be examined: career development (defined here as development of career knowledge and navigational skills), social-emotional development, and technical skill development. All are interconnected and described more fully below.

Figure 1 depicts the intersections of HFFI’s main foci, with examples of the kinds of secondary factors that could be expected at the intersections of the three areas of focus. Fellows are placed with professional mentors who align to their interests, help fellows to build relationships within the field, and enable fellows to improve their practice in their trade. Interest and practice intersect to support full engagement and access to tools and methods. Interest and relationships intersect to support enculturation and provide fellows with access to people and communities of practice. Practice and relationships intersect to support mutual professional trust and provide fellows with privileged information that is not readily available in the public domain. By focusing on these key elements of interest, practice, and relationships in professional settings, the HFFI is intended to enhance a fellow’s career readiness, social-emotional maturity, and technical skill development.

¹ Harbor Freight Fellows. (2018). *Our Mission*. Retrieved from https://www.harborfreightfellows.org/apps/pages/index.jsp?uREC_ID=1029554&type=d&pREC_ID=1333624

Figure 1. The intersections of the Harbor Freight Fellowship’s main foci.



Source: WestEd staff

A correlated goal of the HFFI is to increase schools’ and youth organizations’ capacity to place youth in professional settings by providing proof points that could impact CTE programs at the secondary and post-secondary levels. A summary of the program’s impact in this area was gathered by interview with the Program Coordinator and is presented in the findings.

Measured Constructs

The theory of action for the project is represented in the following logic model (Figure 2). Inputs (the fellow’s background and pre-existing interest, practice and relationship, and the overall program) and the intervention (the fellow’s internship) lead to deepened interest, practice and relationships, including entry into communities of practice, which then lead to outcomes such as technical competence, social-emotional growth, and career development outcomes. Other outcomes may include better performance in school or benefits derived from improved confidence and other social-emotional skills.

Figure 2. HFFI Logic Model

Inputs: About the Fellow and Program	Intervention: The Fellow’s Experience	Intermediate Results: Learning about the Fellow’s Progress	Culminating Results: Competence and Accomplishments	Longer Term Impacts
<p>Features of the Fellow</p> <ul style="list-style-type: none"> • Interest – pre-existing and motivation • Practice – past depth, frequency, and other features • Relationships – past relationships and participation in Communities of Practice (COPs) • Other background and past experience 	<p>HFFI Features</p> <ul style="list-style-type: none"> • Type of placement • Characteristics of the placement/mentorship • Frequency of participation • Characteristics and past experience of the mentor • Type/level of support from advisor 	<p>Interest</p> <ul style="list-style-type: none"> • Deepened interest • Change in interest <p>Practice</p> <ul style="list-style-type: none"> • Persistence and depth of practice • Change in level of complexity • Increase in complexity of tasks completed successfully <p>Relationships</p> <ul style="list-style-type: none"> • Learning from the mentor • Growth in the relationship between fellow and mentor • Mentor trust in the fellow • Transmittal of privileged information • Introduction of fellow into a COP • Fellow’s level of engagement in COP 	<p>Technical Skill Development</p> <ul style="list-style-type: none"> • Growth in “how to” skills of the trades • Knowledge of tools, equipment, and vocabulary <p>Social-Emotional Development</p> <ul style="list-style-type: none"> • Growth in self-regulation, confidence, and planfulness <p>Career Development</p> <ul style="list-style-type: none"> • Knowledge of career opportunities • Knowledge of education/ training required • Knowledge of career navigation skills <p>Other Possible Outcomes:</p> <ul style="list-style-type: none"> • Growth in school performance and academic skills needed for work (e.g. literacy and numeracy need for trade) • Growth in problem-solving in daily life, organization, etc. • Spill over benefits of becoming more competent in work and social-emotional skills 	<p>Near-Term Transition Outcomes</p> <ul style="list-style-type: none"> • Enrollment in further formal training • Job offers <p>Longer Term Impacts for Fellows</p> <ul style="list-style-type: none"> • Career success (job placement, job satisfaction, competence, wage gains) • Life success (relationships, housing, etc.) <p>Changes to CTE system</p>

Source: WestEd staff

Data Collection and Analysis

WestEd, in consultation with the Program Coordinator, developed an evaluation plan that focused on immediate data collection from the fellows, advisors, and mentors. The following data was collected, with the understanding that in the first year of the project, data collection tools are in the pilot phase:

- Summary scores from Fellowship application, provided by the Program Coordinator
- Surveys
 - Fellow (Pre-, Mid-point, and Post-)
 - Pre: Prior interests, practice, and relationships, self-appraisal of technical, social-emotional, and career knowledge and skills.
 - Mid: Description of the internship experience; evolving interests, practice, and relationships; self-appraisal of technical, social-emotional, and career knowledge and skills.
 - Post: Appraisal of the internship experience; growth in interests, practice, and relationships; self-appraisal of technical, social-emotional, and career knowledge and skills.
 - Advisor (Mid-point, and Post-)
 - Mid: Description of the internship experience; fellow’s progress in the internship, including deepening interest, practice, and relationships.
 - Post: Description of the internship experience; Fellow’s outcomes in the internship.
 - Mentor (Mid-point, and Post-)
 - Mid: Description of the internship experience; fellow’s progress in the internship, including activities that the fellow engaged in, observed level of interest, practice, and relationships; assessment of the fellow’s technical, social-emotional, and career development.
 - Post: Description and perceptions of the fellow’s experience; growth in interest, practice, and relationships; and assessment of Fellow’s technical, social-emotional, and career outcomes.
- The Program Coordinator also provided available information about job placements or transitions to additional education.

WestEd conducted content analyses of quantitative survey data using the computer software SPSS to analyze findings for each survey item and compare the fellows’, advisors’, and mentors’ responses. The software ATLAS.ti was used to examine and coordinate emerging themes across the qualitative survey responses for the fellows, advisors, and mentors. An “open coding” procedure was used wherein a member of the research team read and transcribed all written responses and identified text segments of relevance to the focus of the evaluation. Low inference “tags” were used to identify additional text

segments and consolidate these into categories that would be useful for analyzing qualitative data across respondents and time periods.

As protocols were being developed and implemented, feedback from advisors and mentors necessitated a revision to be made to the planned post-fellowship survey. Original plans intended for the mid- and post-fellowship surveys to align, allowing for comparisons over time. Due to time constraints from advisors and mentors as well as sometimes insufficient periods of time between assessments, the post-fellowship survey was reduced in size and scope, in consultation with the Program Coordinator.

Findings

The findings correspond to the key elements of interest, practice, and relationships in professional settings and examine developments made in career readiness, social-emotional maturity, and technical skill levels. The WestEd staff consulted with the Program Coordinator to identify the most useful organizational structure to present findings from fellow, mentor, and advisor surveys. The findings presented below provide an overview for each domain of interest, related survey data, and written responses for each construct within each domain.

Interest

Fellows report becoming more interested and passionate for their trade or sustaining their interest and passion throughout their fellowship. Mentors and advisors report that the fellowship experience sustained or improved the fellow's interest and passion for the trade.

Fellows

Fellows report becoming more interested and passionate for their trade or sustaining their interest and passion throughout their fellowship. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of fellows (18) became more interested or sustained their interest in the trade over the course of the fellowship. Fellow's reported:
 - “[The fellowship] made me want to work in this trade even more;”
 - “[The fellowship] made me become more interested in this trade and in a future in excavation;”
 - “[The fellowship] was a giant boost of encouragement in helping me be motivated;”

- “This fellowship has opened my eyes and helped me see the many interesting ways of this trade. I enjoy it very much and respect it;” and
- “[The fellowship] has given me a better love for the mechanic field.”

“This fellowship has opened my eyes and helped me see the many interesting ways of this trade. I enjoy it very much and respect it.”

— A fellow, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, fellows reported being passionate in their trade, actively searching for information about their trade, knowing where to search for information, and believed that they would stay involved in their trade after the fellowship. Specifically, mid-fellowship survey data show:

- 92 percent of fellows (21) agreed or strongly agreed that they are passionate about their trade;
- 96 percent of fellows (22) agreed or strongly agreed that they liked to search for more information about their trade on their free time;
- 100 percent of fellows (23) agreed or strongly agreed that they knew where to search for information about their trade; and
- 86 percent of fellows (19) believed they would want to stay involved in their trade after the fellowship is over.

“I enjoy that [the trade] is very hands on and that it is a metal working trade.”

— A fellow, mid-fellowship survey

Mentors

Mentors reported that the fellow experience improved a fellow’s interest and passion for the trade. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 89 percent of mentors (16) believed fellow interest and passion for their trade to have increased. Mentors reported:
 - “[The fellow is] more excited about working in this trade;”
 - “[The fellow is] more passionate about the trade;”
 - “[The fellow wants] to learn all the little tricks and details [of the work];”
 - [The fellow’s] passion for this trade has definitely increased, and he is very interested in this work;” and
 - “[The fellowship] sparked an interest in how things are made.”

“[The fellow’s] passion for this trade has definitely increased, and he is very interested in this work.”

— A mentor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors reported that fellows demonstrated an interest and passion for their trade. Specifically, mid-fellowship survey data show:

- 90 percent of mentors (19) agreed or strongly agreed that fellows appeared passionate about the trade;
- 81 percent of mentors (17) agreed or strongly agreed that fellows appeared to search for more information about the trade on their free time; and
- 95 percent of mentors (18) agreed or strongly agreed that fellows knew where to search for information about their trade.

“[The fellow] has been an ideal apprentice in this program. He shows up more than he has to, shows drive to learn work, and is dedicated and dependable”

— A mentor, mid-fellowship survey

Advisors

An analysis of written responses show that advisors believe that fellows either became more interested and passionate for their trade or sustained their interest and passion. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of advisors (18) believed fellow interest and passion for their trade to have increased. Mentors reported:
 - “[The] fellow had little knowledge of product design and development [before the fellowship]. She is fascinated by this industry and she knows she must go beyond [the fellowship] in order to be successful;”
 - “[The fellow has] even more interest in this trade and will continue to pursue it;”
 - “[The fellow is] committed to boatbuilding and attending Landing School in [the] fall. [His] interest has heightened.”
 - “[The fellow] is more confident and wants to pursue this as a career;” and
 - “[The fellow’s] desired to learn about [the] heavy equipment industry has increased.”

“[The fellow] is more confident and wants to pursue this as a career.”

— An advisor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, advisors reported fellows demonstrated an interest and passion for their trade and will want to stay involved in the trade after the fellowship. Specifically, mid-fellowship survey data show:

- 95 percent of advisors (20) agreed or strongly agreed that fellows appeared passionate about the trade;
- 86 percent of advisors (18) agreed or strongly agreed that fellows appeared to search for more information about the trade on their free time;
- 95 percent of advisors (20) agreed or strongly agreed that fellows knew where to search for information about their trade; and
- 96 percent of advisors (21) believe the fellows will stay involved in the area of work they are doing the fellowship in.

“[The fellow is] more committed to this than any path he has. He’s tried it over a year now and maintained interest. [He] will study at community college.”

— An advisor, mid-fellowship survey

Practice

Fellows report deepening their practice and becoming more attentive to their work and projects by the end of the fellowship. Mentors report the fellowship successfully promoted a fellow’s depth of practice. Advisors report that all fellows became more attentive to their work and projects, in general, by the end of the fellowship.

Fellows

Fellows report deepening their practice and becoming more attentive to their work and projects by the end of the fellowship. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of fellows (18) believe the fellowship promoted their depth of practice.
- Fellows report:
 - “[The fellowship] taught me to be more patient with my work;”
 - “I learned to be more focused and communicate more;”
 - “I have learned to be thorough and fast with my work;”
 - “[The fellowship] made me realize how important it is to manage time and stay organized;” and
 - “I can complete projects with greater attention to detail more quickly.”

“[The fellowship] made me realize how important it is to manage time and stay organized.”

— A fellow, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, fellows reported having sufficient time to practice their trade and also provided details about their working conditions and time commitments. Fellows shared the amount of time they spend working on or practicing their trade, the number of hours they are on their fellowship site, and the setting in which they work most often. Specifically, mid-fellowship survey data show:

- 29 percent of fellows (6) reported working on or practicing their trade five times or more per week, 43 percent (9) reported working or practicing 3 three or four times per week, and 29 percent (6) reported working or practicing 1 or two times per week;
- 19 percent of fellows (4) reported spending 25 or more hours per week at their fellowship site, 10 percent (2) reported spending 17 to 24 hours per week, 43 percent (9) reported spending 9 to 16 hours per week, and 29 percent (6) reported spending 0 to 8 hours per week at their fellowship site; and
- 33 percent of fellows (7) reported working mostly in a team while at their fellowship, 43 percent (7) reported working sometimes in a team, and 24 percent (5) reported working alone at their fellowship.

“The pace at which I do things has gone up drastically and so has my knowledge.”

— A fellow, mid-fellowship survey

Mentors

Mentors report the fellowship successfully promoted a fellow’s depth of practice. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of mentors (16) believed the fellowship successfully promoted the fellow’s depth of practice.
- Mentors report:
 - “[The fellow] learned to look at things from a different perspective, from an artist’s point of view;”
 - “[The fellow is] more attentive to detail [and] takes time to read manuals;”
 - “[The fellow] understands the needs of the trade: professionalism, punctuality, [and] running a business;”

- “[The fellow] spent his time during the fellowship working in the field, gaining real and practical experience;” and
- “[I have seen growth in the fellow’s] confidence, ability to communicate, patience to overcome stressful situations (problems), his ability to think things through to completion, his ability to comprehend verbal instructions, his understanding of a clean and organized working environment and how that environment is productive.”

“[The fellow] spent his time during the fellowship in the field, gaining real and practical experience.”

— A mentor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors reported shared the amount of time fellows practice their trade and the setting in which they work most often. Specifically, mid-fellowship survey data show:

- 5 percent of mentors (1) reported that fellows worked 25 or more hours per week, 25 percent (5) reported that fellows worked 17 to 24 hours per week, 55 percent (11) reported that fellows worked 6 to 16 hours per week, and 15 percent (3) reported that fellows worked 0 to 5 hours per week; and
- 20 percent of mentors (4) reported that fellows always worked in a team, 35 percent (7) reported fellows worked mostly in a team, 35 percent (7) reported fellows worked sometimes in a team, and 10 percent (2) reported fellows worked alone.

“[The fellow] has to use customer service skills to explain the job and then basic construction skills to complete the job.”

— A mentor, mid-fellowship survey

Advisors

Advisors report that all fellows became more attentive to their work and projects by the end of the fellowship. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of advisors (18) believe the fellowship promoted the fellow's depth of practice.
- Advisors report:
 - “[The fellow] put in countless hours developing his skills as a machinist;”
 - “[The fellow] came to [the fellowship] more than he is scheduled to come. [He] is scheduled for two days but came up to four to spend more time on projects;”
 - “[The fellow has] more independence for his projects, is [safer] and more accurate, doesn't need as much support;”
 - “[The fellow] has a much greater level of confidence, can operate new software, and can confidently ask questions;” and
 - “[The fellow] demonstrated greater work ethic and follow through on [the fellowship] and on academics.”

“[The fellow] has a much greater level of confidence, can operate new software, and can confidently ask questions.”

— An advisor, post-fellowship survey

Relationships

Fellows report the fellowship helped them build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals. All mentors believe the fellowship helped fellows build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals. Advisors overwhelmingly believe the fellowship helped fellows build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals.

Fellows

Fellows report the fellowship helped them build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 89 percent of fellows (16) report becoming connected to a community of professionals; and

- 89 percent of fellows (16) report having a greater knowledge of how and where to find information about their trade.
- Fellows report:
 - “[I can find information] online and through people in the shop;”
 - “I now know I can go to my mentor for help and questions. I have been given knowledge of places that are better, more qualified places to go to [for information about the trade];”
 - “[The fellowship] taught me to look in the books if I can’t find something on the internet;”
 - “[I have seen growth] in my professionalism around other employees;” and
 - “I became connected throughout the network around my mentors. I had the pleasure to meet intelligent people.”

“[I have seen growth] in my professionalism around other employees.”

— A fellow, post-fellowship survey

The above findings from the post-fellowship survey align to data collected on the mid-fellowship survey. At the mid-point of the fellowship, fellows reported on the access to the field they were receiving, the networks they were establishing and a part of, and their levels of trust for their mentor.

Access to the Field

Fellows report the fellowship helped them build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals. Specifically, mid-fellowship survey data show:

- 88 percent of fellows (20) agreed or strongly agreed that they were connected to at least one potential employer or customer while working at their fellowship;
- 96 percent of fellows (22) agreed or strongly agreed that they knew people outside of the fellowship who could help them advance in their trade;
- 82 percent of fellows (19) agreed or strongly agreed that they interacted with other workers in their field outside of the office or place of work;

- 96 percent of fellows (22) agreed or strongly agreed that they learned things from their mentor that will help them be successful in the field;
- 96 percent of fellows (22) agreed or strongly agreed that their mentor gives them advice on how to do things important to this work;
- 92 percent of fellows (21) agreed or strongly agreed that their mentor has provided them with information that the fellow could not have received if they did not do the fellowship;
- 91 percent of fellows (19) agreed or strongly agreed that their mentor has provided them with experiences that the fellow could not have received if they did not do the fellowship; and
- 19 percent of fellows (4) reported spending 25 or more hours per week with their mentor, 19 percent (4) reported spending 17 to 24 hours per week with their mentor, 33 percent (7) reported spending 9 to 16 hours per week with their mentor, and 29 percent (6) reported spending 0 to 8 hours per week with their mentor.

“[I have met] a lot of people from the company, like the owner and coworkers.”

— A fellow, mid-fellowship survey

Network

All fellows reported knowing who to ask for information about their trade and who to go to for help with their trade. Specifically, mid-fellowship survey data show:

- 100 percent of fellows (23) agreed or strongly agreed that they know who to ask for information about their trade; and
- 100 percent of fellows (23) agreed or strongly agreed that they have community members and professional they can go to for help with their trade.

“[I have met] lots of other trade related people, glass blowers and wood craft.”

— A fellow, mid-fellowship survey

Trust

Fellows overwhelmingly reported having a trusting relationship with their mentor. Specifically, mid-fellowship survey data show:

- 100 percent of fellows (21) agreed or strongly agreed that they trust their mentor;
- 100 percent of fellows (21) agreed or strongly agreed that their mentor is always honest with them;
- 96 percent of fellows (20) agreed or strongly agreed that their mentor is easy to talk to;
- 100 percent of fellows (21) agreed or strongly agreed that they can depend on their mentor for help at the fellowship;
- 100 percent of fellows (21) agreed or strongly agreed that the mentor is always ready to help at the fellowship; and
- 100 percent of fellows (21) agreed or strongly agreed that the mentor makes the fellow feel welcome at the fellowship.

“[My mentor] is very kind, also very patient because I take a lot of time to do the work, to do it right. But I am getting faster.”

— A fellow, mid-fellowship survey

Mentors

All mentors believe the fellowship helped fellows build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities of professionals. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of mentors (18) believe the fellow has greater knowledge of how and where to find information about the trade;
- 100 percent of mentors (18) believe the fellowship supported the fellow’s ability to build relationships; and
- 100 percent of mentors (17) believe the fellow became connected to a community of professionals in the trade.
- Mentors report:

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- “[The fellow now has the] understanding of what it means to be professional and that businesses want to hire people who are valuable;”
 - “[The fellow] worked in a team and communicated with the team;”
 - “[The fellow has] gone on several trips to other wood shops and schools;”
 - “[The fellow] met and interacted with a wide spectrum of practitioners;” and
 - “[The fellow was] introduced to several members of the aviation community.”

“[The fellow] met and interacted with a wide spectrum of practitioners.”

— A mentor, post-fellowship survey

The above findings from the post-fellowship survey align to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors reported on the networks fellows were building, the levels of trust mentors had for their fellows, and the access to the field fellows were gaining through the fellowship.

Networks

Mentors reported fellows were building networks within their trade and had identified colleagues, community members, and professions who they could contact. Specifically, mid-fellowship data show:

- 100 percent of mentors (20) agreed or strongly agreed that the fellows knew who to ask for information about the trade; and
- 81 percent of mentors (17) agreed or strongly agreed that the fellows had community members and professionals to go to for help with the trade.

“[The fellow] has the opportunity to spend time at the shop in the mornings with 35 installers and 22 technicians as well as the management team. A combined hundreds of years of experience.”

— A mentor, mid-fellowship survey

Trust

All mentors reported having trust in their fellow. Specifically, mid-fellowship data show:

- 100 percent of mentors (20) agreed or strongly agreed that they trust their fellow to competently complete simple tasks without direct supervision.

Access to Field

Mentors reported on the access to the field fellows were gaining as a result of the fellowship. Specifically, mid-fellowship data show:

- 89 percent of mentors (17) agreed or strongly agreed that the fellows had made at least one connection with a potential employer or customer at the midpoint of the fellowship;
- 55 percent of mentors (11) agreed or strongly agreed that the fellows interacted with other workers in the field outside of the office or place of work;
- 100 percent of mentors (20) agreed or strongly agreed that they provided the fellow with information that the fellow could not have received if he/she did not do the fellowship;
- 100 percent of mentors (20) agreed or strongly agreed that they provided the fellow with experiences that the fellow could not have received if he/she did not do the fellowship;
- 10 percent of mentors (2) reported having strictly professional relationships with fellows, 30 percent (6) had friendly relationships, 25 percent (5) had close relationships, 20 percent (4) had very close relationships, and 15 percent (3) had relationships with fellows where they considered the fellow to be like family; and
- 5 percent of mentors (1) reported that they spent 25 or more hours per week with the fellow, 15 percent (3) reported that they spent 17 to 24 hours per week with the fellow, 45 percent (9) reported that they spent 9 to 16 hours per week with the fellow, and 30 percent (6) reported that they spent 0 to 8 hours per week with the fellow.

“[The fellow has met] a few local metal sculptors, artists, [and] creative fabricators.”

— A mentor, mid-fellowship survey

Advisors

Advisors overwhelmingly believe the fellowship helped fellows build skills and knowledge to find information about the trade, build relationships with people in the trade, and connect with communities

of professionals. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of advisors (18) believe the fellow has greater knowledge of how and where to find information about their trade;
- 100 percent of advisors (18) believe the fellowship supported the fellow’s ability to build relationships that will support future career development and success; and
- 89 percent of advisors (16) believe the fellow became connected to a community of professionals in their trade.
- Advisors report:
 - “[The] mentor took [the fellow] on field trips to connect with other welders;”
 - “[The fellow] is more aware of others doing this trade and can talk to them;”
 - “[The fellowship] connected [the fellow] to other mechanics at the airport and museum;”
 - “The fellowship has helped [the fellow] make connections with people in the field. It will take time to develop relationships, but he is getting a reputation for being a good worker;” and
 - “[The fellow can now] reach out to people he has made contacts with.”

“The fellowship has helped [the fellow] make connections with people in the field. It will take time to develop relationships, but he is getting a reputation for being a good worker.”

— An advisor, post-fellowship survey

The above findings from the post-fellowship survey align to data collected on the mid-fellowship survey. At the mid-point of the fellowship, advisors reported on the networks fellows were building and the access to the field fellows were gaining through the fellowship.

Networks

Advisors reported on the networks fellows were building. Mid-fellowship data show:

- 100 percent of advisors (20) agreed or strongly agreed that fellows had community members and professionals to go to for help with the trade.

“[I see a growth in the fellow’s] ability to interact positively with others.”

— An advisor, mid-fellowship survey

Access to Field

Advisors reported on the access to the field fellows were gaining as a result of the fellowship. Mid-fellowship data show:

- 6 percent of advisors (1) reported having strictly professional relationships with fellows, 29 percent (5) had friendly relationships, 35 percent (6) had close relationships, 24 percent (4) had very close relationships, and 6 percent (1) had relationships with fellows where they considered the fellow to be like family.

“I believe [the fellow] will stay involved. He has family in the industry and he is very passionate.”

— An advisor, mid-fellowship survey

Career Development

Fellows, mentors, and advisors reported the fellowships to be positive experiences for fellow career development. Fellows ended the fellowships with greater knowledge of how and where to find information about related careers and left with references for these careers. Advisors believe the fellowship experience helped fellows solidify their decision to pursue the trade and provided fellows with the knowledge and resources needed to pursue potential career opportunities.

Fellows

Fellows believe the fellowship experience helped them solidify their decision to pursue the trade and provided fellows with the knowledge and resources needed to pursue potential career opportunities. Specifically, an analysis of written responses from the post-fellowship survey show that:

- An analysis of written responses show that fellows are just as committed to the trade or more committed to the trade;
- 94 percent of fellows (17) believe they have a greater knowledge of how and where to find information about careers related to their trade;

- 39 percent of fellows (7) believe fellows report being hired to a position in the field; and
- 100 percent of fellows (18) believe their mentors would recommend them for job opportunities.
- Fellows report:
 - “I know where to find information about careers and have people I can talk to;”
 - “There are a lot of people [who] I can ask if I need help, I can also check online;”
 - “[Me mentor] knows me well and knows that I am good at fabrication;”
 - “I can ask mechanics at work to further my knowledge;” and
 - “I have made an impact on how my employer sees me.”

“I can ask mechanics at work to further my knowledge.”

— A fellow, post-fellowship survey

The above findings from the post-fellowship survey align to data collected on the mid-fellowship survey. At the mid-point of the fellowship, fellows were confident in their knowledge about other occupations related to their trade and the education required to meet their career goals. Specifically, mid-fellowship survey data show:

- 100 percent of fellows (22) agreed or strongly agreed that they knew about other occupations related to their trade; and
- 100 percent of fellows (22) agreed or strongly agreed that they knew about the education and other steps required to meet their career goals.

“I want to become a full-time welder.”

— A fellow, mid-fellowship survey

Mentors

Mentors reported the fellowships to be positive experiences for fellow career development. Fellows ended the fellowships with greater knowledge of how and where to find information about related careers and left with references for these careers. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 88 percent of mentors (14) believed fellows had greater knowledge of how and where to find information about related careers; the remaining 12 percent (2) were not sure;
- 100 percent of mentors (17) agreed to serve as references for fellows;
- 24 percent of mentors (4) reported that their fellow had been hired to a position in the field. 9 of 24 Fellows were hired to positions in their field of interest; and
- Mentors report:
 - “[The fellow] is aware of where to find networks that can lead her to careers. [She] got exposed to networks and connections;”
 - “[The fellow] has knowledge of where to find information and he asks questions;”
 - “[I would serve as a reference because] he has valuable skills and knowledge and is a hard worker;”
 - “Yes, [the fellow has greater knowledge of how and where to find information], by exposure to a deep pool of professionals at American Steel and in [the] community;” and
 - “Now that [the fellow has] this knowledge and experience, he can go anywhere that involves similar work.”

“Yes, [the fellow has greater knowledge of how and where to find information], by exposure to a deep pool of professionals at American Steel and in [the] community.”

— A mentor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors considered the progress made by fellows concerning career development. Mentors reported the fellowships to be positive experiences for fellow career development. Specifically, mid-fellowship survey data show:

- 75 percent of mentors (15) agreed or strongly agreed that fellows knew about other occupations related to their trade; and
- 100 percent of mentors (18) agreed or strongly agreed that fellows knew about the education and other steps required to meet the career goals fellows had.

“[The fellow] know more about a complex trade...We have had conversations [about other occupations].”

— A mentor, mid-fellowship survey

Advisors

Advisors believe the fellowship experience helped fellows solidify their decision to pursue the trade and provided fellows with the knowledge and resources needed to pursue potential career opportunities. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 94 percent of advisors (16) believe the fellows have greater knowledge of how and where to find information about careers related to the field;
- 20 percent of advisors (4) believe fellows have been hired to a position in the field; and
- 90 percent of advisors (18) would serve as a reference for fellows as they seek job opportunities.
- Advisors report:
 - “[The fellow is] able to appreciate the apprenticeship more as he now has a specific career goal in the U.S. Navy;”
 - “[The fellow] has a network of support for his career choices in the men and women he worked with;”
 - “Working in the trade environment allowed [the fellow] to interact with industry professionals;”
 - [The fellow] has become aware of others doing this part of the trade and can ask them for tips [and] tricks and career information;” and
 - “[I would serve as a reference because the fellow] has potential to be an outstanding addition to any organization.”

“[The fellow] has become aware of others doing this part of the trade and can ask them for tips [and] tricks and career information.”

— An advisor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, advisors reported the fellowships to be positive experiences for fellow career development. Specifically, mid-fellowship survey data show:

- 95 percent of advisors (21) agreed or strongly agreed that fellows knew about other occupations related to their trade; and
- 91 percent of advisors (20) agreed or strongly agreed that fellows knew about the education and other steps required to meet the career goals fellows had.

“[The fellow wants] to make a career out of this. He wants to start slow and work in the industry and then own his own business.”

— An advisor, mid-fellowship survey

Social-Emotional Development

Fellows reported on constructs related to social-emotional development and assessed themselves to have strong planning skills, a desire to learn and improve, and having high self-confidence and an ability to establish and work toward their long-term goals. Mentors and advisors overwhelmingly believe the fellowship was supportive of fellows’ social-emotional development, including attentiveness, openness to learning and constructive criticism, ability to apply feedback to improve performance, resourcefulness, persistence, reliability, follow-through, self-awareness, self-confidence, and planfulness.

Fellows

Fellows reported on constructs related to social-emotional development during the mid-fellowship survey. Fellows responded to questions about how well they are able to plan and be supported in their plans, their self-regulatory behavior, and their self-confidence.

Planning

Fellows reported having strong planning skills. Specifically, mid-fellowship survey data show:

- 76 percent of fellows (16) agreed that they have a plan to improve their skills related to their trade;
- 62 percent of fellows (13) agreed or strongly agreed that they plan each day the night before;
- 100 percent of fellows (21) agreed or strongly agreed that they have set goals for their future;
- 100 percent of fellows (21) agreed or strongly agreed that they have laid out steps to achieve their goals;
- 100 percent of fellows (21) agreed or strongly agreed that they have people in their lives who they can talk to about their life goals; and
- 100 percent of fellows (21) agreed or strongly agreed that they do not give up if they fail to achieve a goal they have set for themselves.

“I plan to attend college. Being a fellow helped me discover what I’d like to pursue.”

— A fellow, mid-fellowship survey

Self-Regulation

Fellows reported on their self-regulatory behavior, with most fellows demonstrating a desire to learn and improve. Specifically, mid-fellowship survey data show:

- 91 percent of fellows (20) agreed or strongly agreed that they search for information about their work outside of the fellowship because they want to learn new things; and
- 95 percent of fellows (21) agreed or strongly agree that they focus on their tasks while at their fellowship.

“I read about the history of my trade [to improve.]”

— A fellow, mid-fellowship survey

Self-Confidence

All fellows report high levels of self-confidence and an ability to establish and work toward their long-term goals. Specifically, mid-fellowship survey data show:

- 100 percent of fellows (21) agreed or strongly agreed that they feel confident about their future;
- 100 percent of fellows (22) agreed or strongly agreed that they are comfortable establishing long-term goals for themselves; and
- 100 percent of fellows (22) agreed or strongly agreed that they feel prepared to work toward the long-term goals they have set for themselves.

“I can tell [I improve] because the project works – it actually lights up. My mentor tells me. I am getting work done more quickly with more confidence.”

— A fellow, mid-fellowship survey

Mentors

All mentors believe the fellowship was supportive of fellows’ social-emotional development, including attentiveness, openness to learning and constructive criticism, ability to apply feedback to improve performance, resourcefulness, persistence, reliability, follow-through, self-awareness, self-confidence, and planfulness. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 100 percent of mentors (17) believe the fellowship supported the fellow’s social-emotional development.
- Mentors report:
 - “[The fellow] is prompt, eager, reliable, and learning a trade. This has improved his character;”

- “[The fellow] found out that failing is part of life and that it’s okay to fail, as long as you learn. Constructive criticism was the biggest concept to learn;”
- “[The fellow] had to communicate a schedule that would enable him to get the required hours. [The] initiative to show up and do the work came from him;”
- “[The fellow] is more attentive when I give him constructive feedback and offer information;” and
- “[The fellow] had to think outside the box, find solutions, and respect danger.”

“[The fellow] is more attentive when I give him constructive feedback and offer information.”

— A mentor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors reported on the planning and self-confidence skills exhibited by fellows. Specifically, mid-fellowship survey data show:

Planning

- 100 percent of mentors (20) agreed or strongly agreed that fellows had set goals for their futures; and
- 95 percent of mentors (19) agreed or strongly agreed that fellows had laid out steps to achieve the goals they had set.

“[The fellow has] greater planning of work flow when making many of the same part.”

— A mentor, mid-fellowship survey

Self-Confidence

- 90 percent of mentors (18) agreed or strongly agreed that fellows appeared confident about their futures; and
- 90 percent of mentors (18) agreed or strongly agreed that fellows had the foundation to learn new things in the future in their particular area of work.

“[The fellow] has more confidence in herself. She can make more decisions.”

— A mentor, mid-fellowship survey

Advisors

Advisors overwhelmingly believe the fellowship was supportive of fellow’s social-emotional development, including attentiveness, openness to learning and constructive criticism, ability to apply feedback to improve performance, resourcefulness, persistence, reliability, follow-through, self-awareness, self-confidence, and planfulness. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 94 percent of advisors (17) believe the fellowship supported the fellow’s social-emotional development.
- Advisors report:
 - “[The fellow] became more aware of his needs and abilities. [He] can confidently ask, ‘Did I get this correct?’;”
 - “[The fellow] worked on leaving his ego at the door when he came in;”
 - “[The] mentor helped [the fellow] become more receptive to feedback. He has improvements to make, but he has definitely grown;”
 - “I have seen a maturity and growth in responsibility;” and
 - “[The fellow had to] interact with professionals outside of school and [that] gave him confidence to continue [the trade].”

“I have seen a maturity and growth in responsibility.”

— An advisor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, advisors reported on the planning, self-confidence, and self-regulation skills exhibited by fellows during the fellowship. Specifically, mid-fellowship survey data show:

Planning

- 81 percent of advisors (17) agreed or strongly agreed that fellows have a plan to improve their skills in the trade;
- 95 percent of advisors (20) agreed or strongly agreed that fellows have set goals for their future;
- 86 percent of advisors (18) agreed or strongly agreed that fellows have laid out steps to achieve their goals;
- 100 percent of advisors (21) agreed or strongly agreed that fellows have people in their life to talk to about the goals they have set for themselves; and
- 85 percent of advisors (18) agreed or strongly agreed that fellows do not give up if they fail to achieve a goal.

“[The fellow has] more willingness to do the work required to get his diploma.”

— An advisor, post-fellowship survey

Self-Confidence

- 100 percent of advisors (21) agreed or strongly agreed that fellows appeared confident about their futures;
- 100 percent of advisors (22) agreed or strongly agreed that fellows appear to be able learn new things in their area of work;
- 91 percent of advisors (20) agreed or strongly agreed that fellows appeared comfortable in establishing long-term goals; and
- 91 percent of advisors (20) agreed or strongly agreed that fellows are prepared to work toward the long-term goals they have set for themselves.

“Overall, [the fellow] has more confidence.”

— An advisor, post-fellowship survey

Self-Regulation

- 100 percent of advisors (21) agreed or strongly agreed that fellows stayed focused on their tasks.

“Social, technical, and responsibility levels have all increased.”

— An advisor, post-fellowship survey

Technical Skill Development

Fellows believe the fellowships provided them with experiences that supported technical skill development and built their skills over time to the point where they are capable of completing complex tasks related to the trade. Mentors and advisors believe the fellowships provided fellows with experiences that supported technical skill development and built fellows’ skills over time, to the point where fellows are capable of completing complex tasks related to the trade.

Fellows

Fellows believe the fellowships provided them with experiences that supported technical skill development and built their skills over time to the point where they are capable of completing complex tasks related to the trade. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 89 percent of fellows (16) believe they are capable of being responsible for and successfully completing increasingly complex tasks in the trade.
- Fellows report:
 - “[The fellowship] helped me a lot because I have to deal with a lot of technical things in this trade;”
 - “I learned a lot in the aspect of manufacturing. I have learned to work many different machines, most to do with metal work;”
 - “[The fellowship] helped me get more experience in heavy machinery;”

-
- “[The fellowship] helped me learn more, and I gained skills I would not on my own;”
and
 - “I know the safety now so that makes me more confident in what I’m doing.”

“[The fellowship] helped me learn more, and I gained skills I would not on my own.”

— A fellow, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, fellows overwhelmingly believed the fellowships provided them with experiences that supported technical skill development and built their skills in their trade. Specifically, mid-fellowship survey data show:

- 95 percent of fellows (20) agreed or strongly agreed that they know a lot about the work required in their trade;
- 100 percent of fellows (22) agreed or strongly agreed that they can teach people things about their trade;
- 100 percent of fellows (22) agreed or strongly agreed that they have enough skills to complete complex tasks at their fellowship;
- 100 percent of fellows (22) agreed or strongly agreed that they have made improvements in their skills since the start of their fellowship; and
- 95 percent of fellows (20) agreed or strongly agreed that the fellowship is teaching them things they will need to know to be successful in the trade.

“My measuring and layout [have] highly improved...My care has grown.”

— A fellow, mid-fellowship survey

Mentors

Mentors believe the fellowships provided fellows with experiences that supported technical skill development and built fellows' skills over time, to the point where fellows are capable of completing complex tasks related to the trade. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 94 percent of mentors (17) believe the fellowship supported technical skill development; and
- 77 percent of mentors (13) believe fellows are capable of being responsible for and successfully completing increasingly complex tasks in the trade.
- Mentors report:
 - “[The fellow has] increased competence in power tool use, fabrication abilities, measuring and layout abilities;”
 - “[The fellow] is spending time in the field. His skill set has absolutely improved and continues to do so each day;”
 - “[The fellow has had] a lot of growth here: measuring, cutting material with different tools, understanding what the tools do and how they work. [The fellow] gained confidence;”
 - “[The fellow] has taken on individual projects with our robotics team that show his personal sense of responsibility and accountability. An example is the robotics field perimeter fence that he personally designed, fabricated, and installed in our robotics facility;” and
 - “[The fellow] is more confident and he practiced his skills, which were underdeveloped.”

“[The fellow] has taken on individual projects with our robotics team that show his personal sense of responsibility and accountability. An example is the robotics field perimeter fence that he personally designed, fabricated, and installed in our robotics facility.”

— A mentor, post-fellowship survey

The above finding from the post-fellowship survey aligns to data collected on the mid-fellowship survey. At the mid-point of the fellowship, mentors reported trusting their fellows in handling themselves at work and believed their fellows were making improvements in their technical skills. Specifically, mid-fellowship survey data show:

- 100 percent of mentors (20) agreed or strongly agreed that fellows know a lot about the work required in their trade;
- 80 percent of mentors (16) agreed or strongly agreed that fellows had enough skills to complete complex tasks at the fellowship;
- 95 percent of mentors (19) agreed or strongly agreed that fellows had made improvements in their skills since the start of the fellowship;
- 100 percent of mentors (20) agreed or strongly agreed that they could trust their fellows with tools and equipment at the workplace;
- 90 percent of mentors (18) agreed or strongly agreed that they trust the fellow to behave ethically at the workplace; and
- 100 percent of mentors (20) agreed or strongly agreed that fellows seemed comfortable where they worked.
- 0 percent of mentors rated their fellows as having expert skill in their trade. 25 percent of mentors (5) rated their fellows as having proficient skill. 75 percent of mentors (15) rated their fellows as having developing skill. 0 percent of mentors rated their fellows as having novice skill;

“[The fellow] spends his time in the field, working on HVAC residential retrofit projects. He is practicing hands on experience in the same manner that a paid apprentice would.”

— A mentor, mid-fellowship survey

Advisors

Advisors believe the fellowships provided fellows with experiences that supported technical skill development and built fellows’ skills over time to the point where they are capable of completing complex tasks related to the trade. Specifically, an analysis of written responses from the post-fellowship survey show that:

- 89 percent of advisors (16) believe the fellowship supported fellows in developing technical skills related to the trade; and
- 77 percent of advisors (13) believe fellows are capable of being responsible for and successfully completing increasingly complex tasks in the trade.
- Advisors report:
 - “[The fellow] now knows wrench sizes and where they are. [The fellow] is not afraid of the tools;”
 - “[The fellow’s] technical skill has grown drastically. He has developed from a base knowledge through his hobby to a more practical knowledge and ability to apply skills;”
 - “[The fellow was] exposed to many new procedures and experiences: brakes, steering, suspension, diagnostics, [and] engine service;”
 - “[I see growth in the fellow’s] confidence, processing of information, and speaking;”
and
 - “[The fellow] now has technical skills in welding. He did not before.”

“[I see growth in the fellow’s] confidence, processing of information, and speaking.”

— An advisor, post-fellowship survey

Workplace Skills

Mentors and advisors both rated various workplace skills fellows were expected to exhibit and improve during the fellowship. The data below have been ranked based on the mentors’ response average, as it is assumed they spent the most amount of time observing the development of fellows’ workplace skills. In 18 of the 23 skills, mentors ranked fellows higher than advisors. This may be a result of the advisors’ more multi-faceted perspective on the fellows’ skill development and/or reflect fellows’ “rising to the occasion” mentality in the workplace. More inquiry is needed to examine this difference.

The data are supported by written responses from mentors and advisors. One mentor shared that his fellow has improved “critical thinking, soft skills, team work, [and] project planning.” An advisor shared that he has “seen the fellow being punctual, willing to learn, and knowing he’s got a lot more to learn.”

Workplace Skill	Mentor Response Average	Advisor Response Average
The fellow is trustworthy.	9.5 out of 10	9.0 out of 10
The fellow is able to work effectively with team members.	9.1 out of 10	8.7 out of 10
The fellow demonstrates safety in the workplace.	9.1 out of 10	8.8 out of 10
The fellow demonstrates commitment to this work.	9.1 out of 10	9.2 out of 10
The fellow is able to follow instructions.	9.1 out of 10	8.9 out of 10
The fellow is able to learn from his/her mistakes.	9.0 out of 10	8.6 out of 10
The fellow is reliable.	9.0 out of 10	8.6 out of 10
The fellow is flexible in handling demands of the workplace.	8.9 out of 10	8.6 out of 10
The fellow is able to listen carefully to colleagues/supervisors.	8.9 out of 10	8.6 out of 10
The fellow is punctual.	8.8 out of 10	8.0 out of 10
The fellow is able to communicate effectively.	8.8 out of 10	8.6 out of 10
The fellow is able to accept and implement feedback.	8.7 out of 10	8.4 out of 10
The fellow is attentive and focused in the workplace.	8.7 out of 10	8.6 out of 10
The fellow is able to network with peers and colleagues.	8.6 out of 10	8.5 out of 10
The fellow is able to improve his/her performance.	8.6 out of 10	8.6 out of 10
The fellow is resourceful in the workplace (seeks and finds resources to solve problems).	8.6 out of 10	8.5 out of 10
They fellow has an accurate view of his/her skills.	8.5 out of 10	8.3 out of 10
The fellow is able to manage his/her time effectively.	8.4 out of 10	8.0 out of 10

Workplace Skill	Mentor Response Average	Advisor Response Average
The fellow demonstrates initiative in the workplace (is proactive).	8.4 out of 10	8.1 out of 10
The fellow demonstrates persistence in solving problems.	8.4 out of 10	8.5 out of 10
The fellow is able to complete work tasks in a timely manner.	8.3 out of 10	8.3 out of 10
The fellow demonstrates problem-solving skills (knows how to tackle a problem thoughtfully).	8.3 out of 10	8.5 out of 10
The fellow demonstrates accuracy in this work.	8.2 out of 10	8.6 out of 10

HFFI Broader Impact

A correlated goal of the HFFI is to increase schools’ and youth organizations’ capacity to place youth in professional settings by providing proof points that could impact CTE programs at the secondary and post-secondary levels. A summary of the program’s impact in this area was gathered by interview with the Program Coordinator. Findings for the fellowship initiative’s broader impact are presented based on the locations of the pilot schools, districts, and counties.

Marin County

HFFI is currently in the outreach process to the Marin County Office of Education to broaden the program’s Bay Area impact.

Nationally

HFFI is in the process of establishing pilot fellowship initiatives in: Boston, MA; Indianapolis, IN; Manchester, NH; and New Orleans, LA. Additionally, HFFI is preparing to explore possible partnerships in Atlanta, GA and Chicago, IL. HFFI will participate in regional and national CTE conferences and expects to generate further opportunities across the nation.

Oakland

HFFI is working with Laney College and five Oakland Unified School District (OUSD) high schools to develop an integrated CTE flow from high school to community college and to career. The high schools and Laney College are developing flexibility in scheduling and addressing issues of liability coverage to enable students to participate in fellowships during the school day. Additionally, more flexible granting of academic credit is being allowed for workplace experiences. HFFI is working directly with CTE teachers at Laney College with the guidance and help of the college’s CTE director. HFFI is partnering

with trade related career pathways within OUSD schools and their teachers to develop the two levels of support provided by HF: Fellowships and Junior Fellowships.

Sacramento County

HFFI is working with the Assistant Superintendent to develop policies and practices on a county-wide basis that support apprenticing experiences for CTE students. The Assistant Superintendent is helping to develop partnerships between HFFI and select districts. HFFI is working with seven high schools in three different districts within Sacramento County. The Assistant Superintendent has proposed to HFFI a partnership with the Youth Build Program to expand trades-based opportunities. Additionally, a partnership with the CTE program at Cosumnes Community College was proposed. This partnership would be similar to the current partnership with Laney College in Oakland.

Sonoma County

The Sonoma County Office of Education and the Sonoma CTE Foundation are working with HFFI to expand the fellowship from three high schools to a total of six in the county and to Santa Rosa Junior College. The Sonoma County Office of Education and the Sonoma CTE Foundation are interested in working with HFFI to develop a more integrated CTE through paths for students from high school to community college to further training and/or to employment in the trades. The Assistant Superintendent in the County is working closely with HFFI and facilitating contacts and county level support in the four districts HFFI has been connected to.

Treasure Island JobCorps, San Francisco

HFFI is working closely with the WBL Supervisor to expand opportunities for youth at the San Francisco facility and at other facilities in the network. HFFI is piloting a fellowship initiative with the Roswell, NM JobCorps program.

YMCA SF

HFFI is working with the Director of Workforce Development, Urban Services to place YMCA youth in fellowships.

Yolo County

The Yolo County Office of Education has facilitated the introduction of the fellowship initiative into all nine high schools in the county. HFFI and the county have partnered to provide liability insurance coverage at the county level, which serves as a model for other counties. Additionally, Davis Senior High School has allocated a part time staff person to help facilitate and manage fellowships for their CTE program. HFFI is working closely with the Director of WBL and CTE at the county office.

Limitations

One limitation of this evaluation concerns the development of the assessment tools in conjunction with the program's implementation. The WestEd research team worked with the Program Coordinator throughout the fellowship initiative to develop the assessments provided to fellows, mentors, and advisors. This allowed for the Program Coordinator to respond to the needs of these stakeholders as understanding was gained. However, this limited the data that could be consistently gathered. The fellowship initiative is connected to several constructs that are well established through social science theory and research. Valid and reliable items are available to help measure these constructs. However, these could not be consistently implemented from mid- to post-assessments due to time constraints of the stakeholders. The research team believes HFFI will be well served by identifying the most important domains and constructs and have stakeholders consistently respond to valid and reliable items measuring these constructs. This will enable a clearer understanding of the program and its effects.

A second limitation involves the difficulties associated with data collection across a national program. Data was not reliably collected from all respondents for both the mid- and post-assessments. As a result, some items have missing responses. The research team provided the population size for each item that is reported to make this issue clear.

Conclusions

An analysis of survey findings, written responses from fellows, mentors, and advisors, and interviews with the Program Coordinator have shown that the HFFI program has had positive results for fellows and employers. The analysis has shown that mentors and work-based learning opportunities can substantially deepen young people's interests in their chosen trade, strengthen their practice, and build relationships. These positive developments in interest, practice, and relationships result in gains in social-emotional skills, technical skills, and career opportunities.

Mentors were very positive about the fellows' growth in all six areas: the intermediate outcomes of interest, practice, and relationships, and the culminating outcomes of social-emotional development, technical skill development, and career knowledge. With regard to mentor assessments of fellows' workplace skills, mentors rated fellows very high. Advisors rated fellows slightly lower in workplace skills, which may be a result of the advisors' more multi-faceted perspective on the fellows' skill

development. The difference in mentor and advisor rating may also reflect fellows' "rising to the occasion" in the workplace. More inquiry is needed to examine this difference.

Fellows were also very positive in assessing their growth in the six areas reported on. Fellows report becoming more interested and passionate for their trade, deepening their practice, and connecting with communities of professionals. Fellows believe the fellowship experience helped them solidify their decision to pursue the trade and provided fellows with the knowledge and resources needed to pursue potential career opportunities. Fellows reported growth in their career development, social-emotional development, and technical skills development.

With regard to the assessment tools and processes the WestEd research team learned that the time span over which assessments could be administered was shorter than anticipated. Fellows were sometimes not in their internships long enough to warrant both mid- and post-assessments. The mid-assessment results were high, validating the intention of fellowship initiative to select for students who were already interested in the trade, had developed their practice to some degree. Pre- and mid-fellowship data also show that selected fellows had already built some relationships within the field. Pre-fellowship data show that, on average, each incoming fellow at least two people to talk to about their trade of interest and two people to talk to about employment opportunities within the field. Mid-fellowship data show that, on average, fellows had at least two people to talk about long-term career goals. Mid-fellowship data also show that, on average, mentors believed a fellow to have at least three people to talk to about long-term career goals.

The HFFI program also showed promising results in affecting CTE practice in all of the districts in which it was implemented. The positive experiences of fellows, mentors, and advisors will help establish and build on credibility for this and similar programs.

Recommendations

The WestEd research team recommends the following regarding the program's assessment tools and processes, implementation, sustainability, and ongoing evaluation work:

Overall Recommendation

- HFFI should continue to build the fellowship initiative, incorporate streamlined assessment processes, document guidelines, and provide orientations for all stakeholders and participants.

Assessment Tools and Processes

- To ensure high quality assessment results while minimizing the burden on mentor employers, simplify the assessment process.
 - Continue to use the application process to identify candidates for the fellowship initiative.
 - If the duration of the internship is short, use only a post assessment paired with the application materials to assess learning and fellow development. An example assessment could include open-ended questions connected to each domain and construct paired with the workplace skills items.
 - If the duration of the internship is a sufficiently long period of time (at least eight weeks), consider implementing a mid-assessment instrument to measure growth in a select few areas of interest. A mid-assessment instrument can also be used if the program grows beyond the capacity of HFFI staff to assess fellowship experiences and address particular fellowships that present issues or challenges.
- Augment assessments with periodic short interviews with employers to track progress, if HFFI capacity allows. Weekly meetings between the advisor and the employers had been a planned component of the program. These meetings did not always take place due to limitations in advisor capacity. Some form of short interview, however, would be helpful to augment assessments and to address concerns that arise during the fellowship.
- Ensure fellows, mentors, and advisors understand and respond accurately to each assessment.
 - Provide consistent orientation to the fellows, mentors, and advisors about scoring assessments to ensure as much accuracy and reliability as possible.
 - Accurate and reliable assessments can provide meaningful input to fellows to inform their future development. Mentor’s willingness to hire fellows or write letters of recommendation would be a validation of their positive regard for the fellows’ capabilities and potential.
 - Accurate and reliable responses could also inform CTE curriculum development.
- Automate opportunities for advisors to document notes or other progress measures to facilitate tracking of fellows’ progress in building interest, practice, and relationships throughout the course of the internship.

Programmatic Recommendations

- Provide consistent orientation to the fellows, mentors, and advisors about their roles in both the implementation and the assessment process.
- At the outset of the program, determine the level of guidance and supervision a youth may need. This need may be based on age, grade level, experience, or other developmental factors. Consider a tiered approach to implementation that offers closer guidance and supervision for

younger and/or inexperienced fellows and less direct guidance to older and/or experienced fellows and their mentors and advisors.

- At the outset of the program, at each school site, determine the capacity of advisors to interact with mentors and assess the needs of fellows. Determining this capacity will help establish the best approach for communication with the mentors. Communication is needed to support learning and address any issues that may arise. The level of interaction between advisors and mentors may vary, however, based on the advisors' capacity and the fellows' needs.
 - From the “advisor capacity” perspective, if advisors have the capacity, orientation and training can be provided to support these interactions. If advisors do not have the capacity, then the Program Coordinator may take on this role.
 - From the “fellow need” perspective, many of the HFFI fellows are well on their way to establishing themselves as young professionals and may not need regular oversight from an advisor. If the fellow is near graduation and already focused on work more than school, that role may best be filled by the Program Coordinator to provide the needed training and/or allocate time as needed to support communication processes.

Recommendations for Sustainability

- Train and support additional Program Coordinators who can take on the role of brokering placements and maintaining communication with advisors and mentors.
- Establish guidelines for working with fellows, mentors, and advisors that can be used for new Program Coordinators.
 - Document common questions, hurdles, and other issues faced across fellowship experiences.

Recommendations for Ongoing Evaluation Work

- Continue to improve assessment and other data collection efforts, automating processes where possible but allowing for observations and face-to-face interviews with fellows, mentors, and advisors. Ongoing evaluation will enable to the program to:
 - better understand the assessment results, and
 - better understand *how* learning occurs in the workplace, thereby supporting future fellows, mentors, and advisors as well as future expansion efforts.
- Conduct a formal assessment of the program's impact on schools, districts, counties, and CTE programs. The program strives to affect CTE practice, as well as positively influence the development and life trajectories of students. New tools to assess fellows' development in key areas can contribute to how practitioners structure and monitor work-based learning. The information provided by these tools can support practitioners' advocacy for expanding not only HFFI but other similar work-based learning programs.