

Vision 2027: Programs Supporting Youth Engagement in the Skilled Trades

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Abstract

The pronounced shortage of skilled tradespeople in Ontario (and across Canada) has become increasingly troubling in recent years. It is reported that 700,000 skilled trades workers are expected to retire between 2019 and 2028 - and with a low replacement rate, the lack of qualified skilled tradespeople is expected to hit a critical point (3M Canada, 2022). As a result, organizations across Ontario are offering programs with the goal of increasing youth engagement in the skilled trades. This research was done in collaboration with Junior Achievement- Northern and Eastern Ontario, with the goal of offering a set of recommendations for effective trades engagement programs. The research included literature reviews and primary research through semi-structured interviews to address questions related to the barriers to the trades and the best and worst practices for addressing them through a program setting.

Acknowledgements

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Executive Summary

Research Methodology

Research Questions:

- What are the barriers to the trades that young people face in the Peterborough region?
- What are the best and worst practices for addressing those barriers to entering the trades in a program setting?
- To what degree does JA-NEO's Vision 2027 project increase youth engagement in the trades?

To establish a baseline on the topic of the first two research questions, we conducted two literature reviews. One was on the first question: barriers to entering the skilled trades in Ontario. The findings were stigmatization, demographic-specific barriers, and confusion surrounding the navigation of the apprenticeship system. The second, conducted on the best and worst practices for addressing barriers, did not return sufficient information to proceed with the third question. Instead, the information from this literature review was used to create the questions for our primary research. Once our baseline was established, we used the findings to form our semi-structured interview questions. Ten interviews were conducted across four organisations, with four program facilitators, four industry mentors, one educator, and one financier. Thematic analysis of the interviews then revealed that participants' statements about the best and worst

practices inclined towards the following categories: engagement, representation, clear communication, relationships, and feedback.

Results

General Analysis

Through the interview process, five core themes emerged within which all recommendations could be categorized. In order of most frequently mentioned, these categories were engagement (both student and community), followed by representation, relationships, clear communication, and feedback. Some of the concepts discussed include hands-on and soft skills development, entrepreneurship, networking, navigating the apprenticeship system, diversity, partnerships, adaptability, and feedback mechanisms.

Recommendations and Program Assessment

A list of recommendations for effective trades engagement programming is provided on page 37. In the preliminary assessment, we found that Junior Achievement's Vision 2027 program has the potential to increase youth engagement in skilled trades. Some of the strengths included the Company Program's entrepreneurship lens and the World of Choices Event's use of sector-specific mentoring. We also suggested some areas for potential improvement, such as incorporating more opportunities for participants to network and providing formal information about how to navigate the apprenticeship system.

Key Terminology

Skilled Trades – The skilled trades are a list of recognized occupations, commonly emphasizing specific technical abilities. There are 144 designated skilled trades in Ontario (Skilled Trades Ontario, 2024).

Apprenticeship – Apprenticeship programs are available for several recognized skilled trades in Ontario. A registered apprentice will work and train with a certified journeyperson, developing relevant skills and gaining work experience (hours) leading to certification in the trade (Skilled Trades Ontario, 2024).

Journeyperson – A journeyperson is a professional skilled worker who has completed an apprenticeship and certification in their chosen trade (Skilled Trades Ontario, 2024).

Compulsory Trades – There are 23 compulsory trades in Ontario including plumber, electrician, welder, hairstylist, and automotive service technician. To work in a compulsory trade, one must be either a licensed journeyperson or an apprentice (Skilled Trades Ontario, 2024).

Voluntary trades – There are 121 voluntary or non-compulsory trades in Ontario including cook, heavy equipment operator, carpenter, and child development practitioner. Anyone can work in a voluntary trade without the legal requirement to complete a formal apprenticeship and certification (Skilled Trades Ontario, 2024).

Red Seal Program – The red seal is an endorsement granted to a tradesperson upon completion of their examination, indicating that they meet a national standard of knowledge in their trade. Red seal qualifications are available for specific trades and allow the holder to practice their work wherever it is recognized across Canada (Skilled Trades Ontario, 2024).

Vocational Education and Training (VET) – Vocational Education and Training is a system of learning that aims to prepare students for the workforce by providing them with the skills needed to work in a specific craft, generally a trade (FMER, n.d.).

Experiential Learning – Experiential learning is when a personally responsible participant(s) cognitively, affectively, and behaviorally processes knowledge, skills, and/or attitudes in a learning situation characterized by a high level of active involvement. (Hoover & Whitehead, 1975:25).

Entrepreneurship – Demonstrating the skills required to develop and run a business enterprise with the goal of making a profit on the sale of products or services.

Introduction

This research project was done in partnership with Junior Achievement -- Northern and Eastern Ontario (JA-NEO). Junior Achievement is a global not-for-profit organization that provides educational programming for school-age youth to prepare them for the workforce. As stated on its website, its mission is to “inspire and prepare young people to succeed in a global economy” (JA-Canada, 2022). Junior Achievement’s programs are focused on three pillars: financial literacy, work readiness, and entrepreneurship (JA-Canada, 2022). The two relevant programs for this research are Junior Achievement’s Company Program and the World of Choices Event. The Company Program is a four-month-long initiative where high school-age students get the opportunity to work with volunteer mentors to launch a small business enterprise (JA-Canada, 2022). The World of Choices one-day event is an opportunity for grade 8-12 students to gain exposure to different career opportunities through inspirational speakers and small group discussions with mentors (JA-Canada, 2022).

JA-NEO has recently turned its attention to promoting skilled trades to area youth with its Vision 2027 pilot project. Using the framework of its Company Program and World of Choices events, the Vision 2027 program promotes skilled trades by connecting youth to industry professionals and providing relevant trades experiences. During this research, JA-NEO was in the second year of its five-year project. If the program proves successful, JA-NEO is interested in expanding the Vision 2027 program beyond the five-year pilot project and to other jurisdictions. From September 2023 to April 2024, we worked with JA-NEO to conduct research on the effectiveness of the Vision 2027 program. This research project had three goals. First, we explored the barriers that limit participation in the trades by youth in Ontario. Second, we examined what the best ways of addressing those barriers were in a program setting. Last, we

compared our findings on the best practices of trades engagement programs to what is currently being done in the Vision 2027 project, allowing us to evaluate the effectiveness of JA-NEO's Vision 2027 programming.

Context

Peterborough has a long history of being an industrial center. The city's nickname used to be 'Electric City' because it was the first town in Canada to implement streetlights, using power generated from the Otonabee River (BusinessView, 2020). Peterborough's reputation for hydroelectric innovation attracted companies such as General Electric, Quaker Oats, and Siemens to the region. Projects involving water technologies for mining and food production, installation of new trails, roads, and sewers, and investments into sustainable infrastructure have contributed to Peterborough being one of the fastest growing metropolitan areas in the province (BusinessView, 2020). However, despite Peterborough's industrial reputation, it is experiencing a shortage of skilled trades people. Job vacancies go unfilled in sectors such as truck driving, cooking, heavy equipment operation, and carpentry, as participation and completion rates of apprenticeships have been in decline since 2014 (WDB, 2020).

The skilled trades are facing a labour shortage across Canada. Increased life expectancies and falling fertility rates have created an aging workforce (Chattu et al., 2023). Not enough young people entering skilled trades to replace retiring workers could have detrimental impacts on the Canadian economy and society as tradespeople provide products and services that Canadians rely on, such as building and maintaining important infrastructures like plumbing, electrical, and transportation.

As a result of the skilled trades labour shortage, both the Canadian and Ontarian governments have prioritised funding for skilled trade development. Through this available

funding, many not-for-profit organizations have delivered programs promoting engagement in the skilled trades. ‘Trades engagement programs’ in this report refers to programs delivered outside of the formal Ontario secondary school curriculum, typically by a not-for-profit organization and with significant partnerships with the community. JA-NEO and other Trades engagement programs commonly include an experiential education component, which prompts students to take ownership of their learning in ways that traditional pedagogical approaches do not. As Carroll and Piro (2020) suggest, experiential learning can lead to higher workforce readiness for high school age students. These programs often have the goal of promoting the skilled trades as viable career options and finding ways to bridge the gap between high-school and apprenticeships. This research produces a set of recommendations for effective trades engagement programs, which allows us to conduct a preliminary evaluation of the Vision 2027 project. The aim is to use the set of recommendations and the preliminary evaluation to assist JA-NEO in reaching its goal of increased youth engagement in the skilled trades by highlighting what is effective and what are some possible areas for improvement.

Research Questions and Methodology

We were interested in providing recommendations on how to improve the effectiveness of trades engagement programs. We used grounded theory as the basis of our methodology. Grounded theory relies on starting with a set of research questions as opposed to a hypothesis. Three core questions directed our data collection and analysis:

- 1) What are the barriers to the trades that young people face in the Peterborough region?
- 2) What are the best and worst practices for addressing those barriers to entering the trades in a program setting?

- 3) To what degree does JA-NEO's Vision 2027 project increase youth engagement in the trades?

Our research was comprised of three methodological components. First, we conducted two literature reviews, one on the barriers to entering the skilled trades in Ontario, the other on best and worst practices for trades engagement programs. We identified there was a sufficient baseline understanding of regional trades barriers but not of the best and worst practices for trades engagement programs. Our decision was to conduct primary research in this area. We developed four intermediate research questions:

- 1) In what ways do/can programs promote diverse participation?
- 2) What strategies do/can these programs use to educate students, school representatives, parents, and employers about trades careers?
- 3) In what ways do/can these programs increase cooperation between stakeholders?
- 4) How do/can these programs set goals and measure performance?

Our second methodological component was to conduct semi-structured interviews. Our interview questions were divided into four categories of interest: education, promotion, partnership, and administration. We conducted ten interviews during January and February 2024. We interviewed four program facilitators, four industry mentors, one educator, and one financier. The interviewees were involved with various trades engagement programs, including Junior Achievement's Company Program and World of Choices events, Skills Ontario, Support Ontario Youth, and the Ontario Youth Apprenticeship Program.

Our third methodological component involved transcribing the interviews and coding the interview data by extracting themes from the contributors' statements. We grouped the themes

into five categories including engagement, representation, communication, relationships, and feedback. This data informed the results and recommendations.

Our initial sampling for interviewees relied on contact information provided by our host organization, Junior Achievement. Additionally, at the end of the interviews with the program facilitators, we asked if they would provide us with further contacts for interviews. All the program facilitators graciously connected us with other interviewees, allowing us to broaden the project's scope.

All interviewees were required to sign an informed consent form, which outlined the study's purpose, what they were to expect from the interview, what their rights were as contributors, as well as how we intended to handle and use the information from the interviews, which included keeping their participation anonymous.

Literature review

One of the goals of this research involved assessing whether the Vision 2027 project effectively supports increased youth engagement in the trades. To accomplish this goal, an understanding of the barriers that young people face in entering the trades is required. The following sections will explore factors discussed in the literature that facilitate and impede the uptake of trades by youth.

Ontario's Apprenticeship System

The five most in-demand trades in the Peterborough region (truck driver, early childhood educator, chef/cook, carpenter, and heavy equipment operator) experience low rates of apprenticeship completion (WDB, 2020). Apprenticeship registration has been in decline since 2014, and only half of the people who start an apprenticeship in the province finish (WDB, 2020). One explanation is that the apprenticeship system is difficult to navigate (WDB, 2020). There is not one centralized pathway to becoming a journeyman in Ontario.

Employers are also unsatisfied with the current state of apprenticeships, including not getting adequate returns for their investment in apprenticeships. Wage disparities have led to employers reporting concerns over talent poaching by companies in the Greater Toronto Area (WDB, 2020; Howe et al., 2023). Employers have also stated that candidates with the appropriate trade skill qualifications often do not have the required soft skills for the job (Howe et al., 2023). These factors play an important role in employers' hesitation to take on apprentices. In a focus group conducted by Howe et al. (2023, p. 7), one employer stated, "You've got to teach them everything, and then you risk losing them, whether you lose them to a union, another company or just going into another field." The government of Ontario has made attempts to 'bridge the gap' between high school and certified employment. One way it has attempted this is by introducing the Ontario Youth Apprenticeship Program (OYAP). OYAP is a school-to-work transitions program that is run in Ontario high schools. OYAP offers training in a specific trade which counts towards students' apprenticeship hours and allows students to work towards becoming registered tradespeople while completing their secondary school diplomas (OYAP, 2024). The Ontario Youth Apprenticeship Program is an example of a high-school integrated vocational training scheme.

Challenges and Opportunities in Integrated Vocational Training Programs

Dual systems of vocational education and training (VET) have been proposed to address problems of low youth engagement in the skilled trades. This follows the success of countries like Germany, whose VET model is credited with low youth unemployment levels and a highly skilled workforce (FMER, n.d.). Impressively, half of German school-leavers participate in vocational training (FMER, n.d.). Strong partnerships between companies and the government in the German VET model contributes to a program where 70% of training takes place in the

workplace, and the remaining 30% takes place in publicly funded vocational schools where students learn a wide range of skillsets (FMER, n.d.). Trade unions and employer associations play a key role in designing and regulating training programs (FMER, n.d.). Training, testing, and certificates are standardized throughout the country (FMER, n.d.). Is it possible for Ontario to implement an expansive VET system and achieve results similar to those of Germany? This section addresses this question by examining the opportunities and limitations of VET programs in Ontario.

Taylor and Watt-Malcolm (2007) assess the outcomes of student and instructor experiences in a high school-integrated carpentry apprenticeship program in Ontario. Through interviews, they identify key factors that produce positive or negative experiences. Most students in this case study did not feel that their schools adequately prepared them for success in their apprenticeship. Many reported having to find information independently and resist a strong ‘university bias’ present in their school (Taylor and Watt-Malcolm, 2007). The importance of ‘tech’ classes was also emphasized, with one student stating that without these courses, they would likely not have considered an occupation in the trades (Taylor and Watt-Malcolm, 2007). Instructors from the training center expressed insufficient support from the schools in providing a theoretical curriculum (particularly in math and geometry), which negatively impacted students’ success in their apprenticeships (Taylor and Watt-Malcolm, 2007).

Students cited positive overall experiences at the learning center, where apprentices learned both hands-on and employability skills (Taylor and Watt-Malcolm, 2007). Learners demonstrated increased self-confidence and improved motivation to learn (Taylor and Watt-Malcolm, 2007). One concern in this learning environment was the mixed messages the students received about workplace safety and discrimination. Students “expect to be placed in ‘catch-22’ situations”

regarding workplace safety (Taylor and Watt-Malcolm, 2007, p. 37). They stated that they were aware that unsafe work could be refused, but they would expect to receive consequences for raising concern with safety inspectors. Regarding racial and gender discrimination, the students also expected discrimination and believed that they would have to just “put up with it sometimes” (Taylor and Watt-Malcolm, 2007, p. 37).

This study highlights some areas of strengths and weaknesses in Ontario’s attempts to bridge the gap between high school and the trades through integrated vocational training programs. It was shown that Ontario’s VET program could benefit from better cooperation between schools and industry trainers. It also identified a need for improved instructor preparation on health and safety issues and discrimination. Both strong partnerships and centralized regulation of training systems are present in the German system (FMER, n.d.).

The Stigmatization of the Skilled Trades

An understanding of the barriers to the trades in Canada would not be complete without a discussion of the stigma surrounding these industries. The Canadian Apprenticeship Forum has demonstrated that the negative public discourse around skilled trades in Canada has contributed to low participation rates (e.g., Lehmann et al., 2014). Formal post-secondary education pathways such as university and college are associated with social success, while the skilled trades are often associated with social failure (Lehmann et al., 2014). During interviews with young apprentices, Lehmann et al. (2014) discovered that trades are associated with dirty jobs, hard manual labour, and unsafe working conditions. The students interviewed also referred to differences in respect between sectors of the economy. University-educated individuals were perceived to command more respect than tradespeople (Lehmann et al., 2014).

This problem of stigmatization could be addressed in the home, the school, and the

workplace. Parents' perceptions of the trades and willingness to discuss them as a career option with their children is a significant factor in youth's views of the trades (Wilson, 2021). The Canadian Apprenticeship Forum (CAF) in 2014 conducted a study of over one thousand parents to assess their perceptions of the skilled trades. Results showed that “57 percent of parents wanted their children to get a university degree over other credentials, and a quarter of [participants] felt that trades were for weaker students” (e.g., Wilson 2021, 16). University-educated parents expressed a strong desire for their children to pursue university over other post-secondary options (Wilson, 2021).

Schools play an important role in either reinforcing or transforming the stigma around trades in Canada. Some reports suggest that important figures such as teachers and guidance counsellors are perceived to have negative views of the trades and see them only as a choice for students who perform poorly (Lehman et al., 2014). One employer who participated in a focus group run by Howe et al. (2023, 8) stated that “Teachers in the school system still don't really promote [the trades].” This has contributed to a lack of awareness around the opportunities and benefits of a career in the trades. Further enquiry into the role and training of career and guidance counsellors is needed.

There is potential for programs like the Ontario Youth Apprenticeship Program (OYAP) to help shift the public view of the skilled trades. It is hoped that those who have gone through the OYAP program will become mentors, challenging the negative stereotypes. Interviews conducted by Lehman et al. (2014) supported this. They reported that many of the OYAP graduates had gone on to perceive themselves as highly skilled and valuable members of the workforce. Furthermore, many developed entrepreneurial ambitions. The experiences with these programs are individual and not always positive, however (Lehmann et al., 2014). Optimizing

programs like the OYAP to promote positive experiences may help change the narrative around skilled trades.

Demographic-Specific Barriers

Visible minority and Indigenous groups

To foster equitable engagement in the trades it is important to acknowledge the distinct challenges faced by marginalized groups that are underrepresented in these industries. This section will explore specific barriers related to visible minority groups.

Statistics Canada determined that registered tradespeople who were designated as visible minorities had poorer labour market outcomes than non-visible minority groups (Jin and Su, 2021). This included lower median employment incomes for visible minorities. For men, in roughly half of the cases, different outcomes between minority and non-minority groups could be explained by choice of occupation, location, and certification type (Jin and Su, 2021). These differences could not be explained in the same way for women, highlighting the complex intersections of issues around visible minorities and gender. There are also significant differences in outcomes between different visible minority groups. For example, Statistics Canada found that Filipino tradespeople had the highest median incomes, while South Asian tradespeople had the lowest median income of visible minority groups (Jin and Su, 2021). This disparity can be partially explained by the different choices that visible minority groups make regarding occupations with different levels of compensation; however, the reasons behind different choices in Canada are poorly understood (Jin and Su, 2021).

A report published by the Canadian Apprenticeship Forum (CAF) outlined some of the challenges faced by Indigenous youth in pursuing the trades (Arrowsmith, 2019). Some of the suggested barriers included a lack of indigenous mentors in the industry and unwelcoming

institutions and workplaces (Arrowsmith, 2019). Some students raised concerns about bullying based on racism and sexism (Arrowsmith, 2019). The CAF recommends employers and instructors to implement cultural awareness into their programs (Arrowsmith, 2019). This would require access to cultural competency training for teachers, which could improve conditions of respect in the learning environment. A lack of indigenous mentors was another concern. In some communities, there were not enough certified tradespeople to train youth (Arrowsmith, 2019). Addressing these issues could increase Indigenous youth engagement and encourage positive experiences in the pursuit of the trades.

Women in the trades

Women make up approximately 47% of both the total Canadian and Ontarian workforce, yet they only occupy approximately 7.4% of trades-related occupations in Canada and 8.1% in Ontario (Statistics Canada, 2023). Furthermore, the distribution of women within the different trades is uneven, with women largely pursuing service-related careers such as cooking, hairstyling, and baking (WDB, 2020). Understanding issues related to low female participation and uneven distribution will be key in the effort to address skilled trade shortages. Frequently cited as a barrier to gender equity in the trades is discrimination in the workplace and learning environments (Sharp and Gibson, 2005). Discrimination in the workforce includes stereotypes about women's physical abilities and unequal pay. Instructors interviewed by Taylor and Watt-Malcolm (2007, 36) stated that they saw women getting 'shoe-horned into useless jobs'. Female survey respondents who were asked about the challenges they faced in continuing their apprenticeships overwhelmingly cited discrimination and sexual harassment (Sharp and Gibson, 2005). This contrasts with male respondents who cited a lack of work (Sharp and Gibson, 2005). Another obstacle women face is a lack of informal networking opportunities (for example,

through family friends), which is a large part of the apprenticeship recruitment process (Sharp and Gibson, 2005). This demonstrates the importance of formal networking opportunities in places like schools.

Programs promoting the skilled trades have traditionally tackled the issue of low female engagement by addressing a perceived lack of encouragement and motivation (Levasseur and Paterson, 2016). However, Lavasseur and Patterson (2016) highlight that this perspective suggests that women are the problem instead of the labour market and public policy. By promoting only male-dominated trades and ignoring female-dominated ones, apprenticeship programs often reinforce gender relations (Levasseur and Paterson, 2016). This is seen throughout the literature on trade shortages in Canada. For example, an infographic published by the WDB (2020) presents statistics about women in the trades: “2.3% of skilled trades workers are female (excluding hair styling)”. This propensity to invalidate female-dominated trades is damaging to the mission of gender equity in the workforce. Female-dominated trades get minimal support from governments compared to male-dominated ones, with the result that “most women remain segregated into low-paying jobs and receive fewer public supports [incurring more tuition costs than males]” (Levasseur and Paterson, 2016, p. 534).

Final Thoughts on the Barriers to the Trades

There has been increasing concern over current shortages in the skilled trades due to an aging workforce and insufficient amounts of new talent to replace retiring workers. While tradespeople are in demand, youth engagement in the skilled trades is low. The aim of this literature review was to present an understanding of what barriers youth might face in their decisions to pursue the trades and their journey to complete apprenticeships. What has been identified can be placed into three

broad categories: difficulty in navigating the apprenticeship system, the stigmatization of trades careers, and demographic-specific barriers relating to underrepresented groups in the trades.

The literature on the barriers to the trades in Ontario is sufficient to produce a baseline of understanding. However, much of the literature on this subject is becoming dated, possibly reducing the relevance of the information to inform contemporary conditions. It should be noted that important updated information which could have informed this review was behind a substantial paywall, particularly reports from the Canadian Apprenticeship Forum. There are some areas of research where further inquiry is necessary, particularly in the analysis of the barriers to the trades faced by different visible minority groups. Furthermore, most voices collected through interviews and focus groups in the literature were those of employers and students. It would be beneficial to hear from all stakeholders, including those in the school system, namely teachers and guidance counsellors.

Current Solutions – Skilled Trades Engagement Programs

The literature surrounding best and worst practices regarding the design and delivery of a skilled trades engagement program was insufficient to determine recommendations. As a result, it was decided that primary research into the best and worst practices of trades engagement programs would be our project's focus. However, some useful information was obtained from this literature review. First, it offered insight into the existing organizations running programs promoting engagement in the skilled trades within the jurisdiction of Ontario beyond Junior Achievement. Skills Ontario and Support Ontario Youth were running programs like the Vision 2027 programming – either in terms of one-day career promotion events like JA's World of Choices Event, or longer skill-development programs like JA's Company Program. Beyond the exploration of different organizations currently running programs targeting the promotion of the

skilled trades, this literature review also provided four loose categories, education, promotion, partnerships, and administration, within which the publicly available best and worst practices for these programs were situated.

Results

During our semi-structured interviews, we asked interviewees questions about their experiences with trades engagement programs in the categories of education, promotion, partnerships, and administration. After transcribing the interviews, a grounded theory approach was utilized to extract themes. Overall, 42 codes were identified (shown in Appendix C). Figures 1 and 2 depict how frequently each code is mentioned in the interviews. Each of these codes was recategorized under one or more of the following five labels: engagement, representation, clear communication, relationships, and feedback.

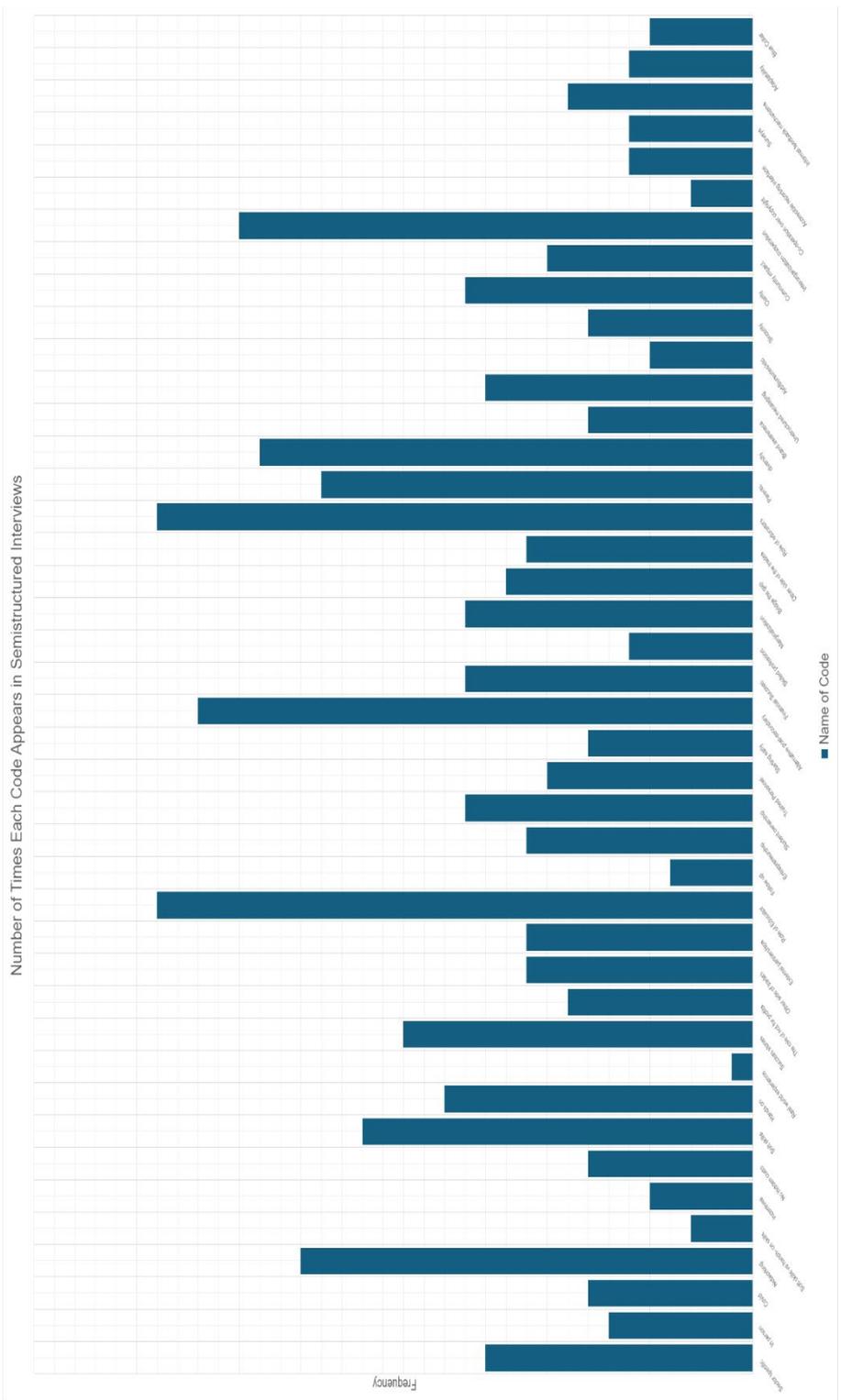


Figure 1

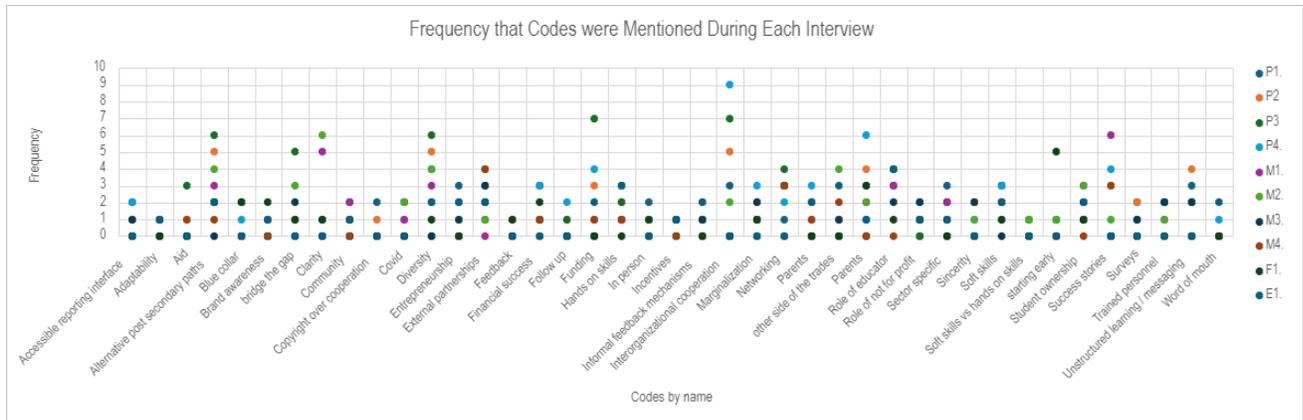


Figure 2

Engagement

The engagement category incorporated codes that related to both the student and the community’s level of interest in participating in the program. Codes that related to the engagement category were the more frequently recorded, occurring 255 times in the interview transcripts. Figure 3 displays the proportion of codes that relate to each category. Figure 4 further subdivides the codes that relate to engagement into those that relate to community engagement, student engagement, and those that relate to both.

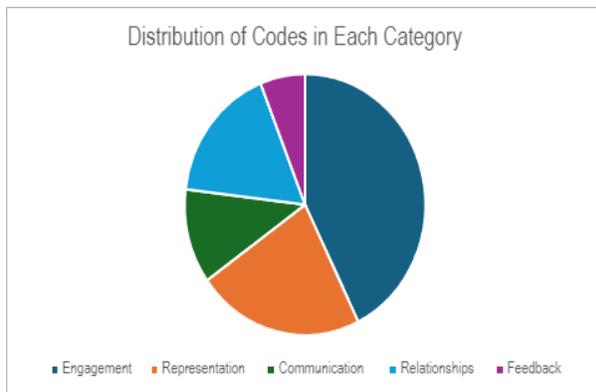


Figure 3

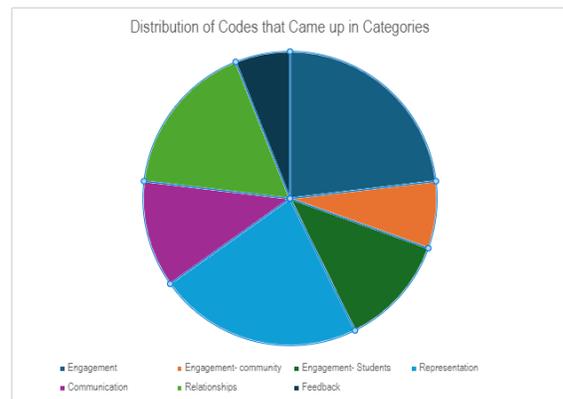


Figure 4

Soft skills and hands-on skills were two codes that arose frequently within the interviews. All trades engagement programs discussed included a soft skills component; however, the ways

that soft skills training was delivered ranged from informal conversations to applied techniques. Most programs included hands-on skills training, but the capacity for hands-on skills training varied, being reliant on access to the appropriate personnel, venues, tools, and health and safety protocols. All interviewees acknowledged the importance of soft skills training, with one program facilitator sharing their feedback from employers,

Employers will tell you that soft skills are more important than hands-on skills because they can teach the hands-on... [they say] bring me someone who's never done it before. As long as they show up and have a good attitude, I'll train them how to do the job.

When the program facilitators were asked to rank the importance of different aspects of the curriculum, three out of four interviewees put hands-on skills training above soft skills training. One program facilitator suggested that soft skills training was often covered in other parts of education, for example in high school civics and careers classes. Furthermore, program facilitators reflected that soft skills training tended to be much less engaging than hands-on skills training.

One program that was discussed provided soft skills education in a unique way, by introducing it through an applied entrepreneurship lens which one program facilitator believed to be both effective and engaging, stating that "if you just take everything that students can learn and put it behind an entrepreneurship lens, they tend to learn to be more autonomous, to manage risks better, to [learn] all the critical competencies." This program had students running every aspect of a business, including the manufacturing of a product, marketing, finance, customer service, management and more. This approach demonstrated to students a range of opportunities

in the skilled trades and allowed them to connect what they had learned in the program to the real world.

Another aspect of engagement brought up frequently in the interviews was networking. Three out of the four industry mentors stated concerns about young people leaving Peterborough due to a lack of engagement between employers and students, with one stating that “they're leaving Peterborough to find other options because the Peterborough businesses aren't engaged properly to show them what their opportunities are right here where they're going to school.” Six out of the ten total interviewees mentioned the importance of providing platforms that allow students and community participants to network. It was suggested that although trades engagement programs cannot force people to network, they bring people together, which allows for networking to happen at the event.

Six interviewees brought up the importance of personnel's role to student and community engagement in these programs. It can be difficult for organisations to recruit and maintain personnel, especially volunteers. Ensuring positive experiences is especially important for continued community engagement. In our interviews, positive experiences were connected to personnel having sufficient support for their program delivery roles, including clear instructions on their roles and responsibilities, training on how to effectively perform their roles, and adequate time and resources. One industry mentor stated, “I just think an understanding of what is expected and what would be coming would help people commit more time.”

Representation

Statements relating to the category of representation were the second most frequently mentioned and were recorded 134 times throughout the transcripts. The representation category incorporates all codes related to the stereotypes and stigma that form barriers to entering the skilled trades,

including codes related to diverse participation, marginalization, and positive/negative perceptions of the skilled trades.

Many interviewees suggested that having mentors or speakers present at program events to talk about their personal journeys as tradespeople can be a powerful tool for promoting these occupations to students. One mentor stated that “[the students] need to hear about the people that are inspiring, to let them know that if you work hard enough, you can do this.” Additionally, providing success stories from individuals who come from groups that are underrepresented in the trades, such as women, visible minorities, and Indigenous groups, can be impactful in overcoming stereotypes. One program facilitator mentioned that representation was an important factor when discussing how speakers were chosen for events, which they felt was important for their goal of promoting trades careers for anyone, regardless of background.

It was also suggested that running trades engagement programs in school settings made programs more accessible to a diverse group of students. When programs are run in classroom settings, and participation is not on a voluntary basis, there is an opportunity for the messages to get across to students who would not normally have exposure to trades opportunities.

Another theme that emerged from the interviews was the different post-secondary opportunities. While all the interviewees suggested that the skilled trades are marginalized compared to other post-secondary opportunities, particularly in schools, most interviewees used language that separated the skilled trades from post-secondary itself, using ‘post-secondary’ to refer to college and university. One program facilitator stated that teachers “really weren’t promoting or talking about the values and benefits of careers in the trades; it was all post-secondary.” This common use of the term ‘post-secondary’, while excluding the trades, is interesting because it was also acknowledged by many of our interviewees that pursuing a career

in the trades often involves a high degree of education and specialized skills development, sometimes taking a comparable, if not longer, length of time than some college and university pathways. This language convention seems to reflect the history of the othering of the skilled trades. One program facilitator referenced this when discussing their program goals, which included promoting skilled trades as post-secondary education.

Relationships

The third most frequently stated category was relationships which were mentioned 102 times within the interview transcripts. The codes relating to formal partnerships (inter-organizational cooperation and external partnerships) were mentioned 36 times. The importance of relationships within these programs is presented by their significance in Figures 3 and 4. During the interviews, relationships emerged as a critical component of program effectiveness.

Organizations often rely on partners for various aspects of the program, including promotion, design, delivery, and funding.

Program facilitators cited various techniques used to promote programs, including word of mouth, email marketing, and social media. However, partnerships stood out as having the most potential impact. One facilitator mentioned that “relationships are key... whether it's schools or industry or government. If you get the buy-in through a relationship... you have a bigger outreach and a bigger chance of succeeding through collaboration.”

Regarding program design, facilitators believed that consulting with community partners was important to keep the program relevant to community needs. One facilitator said, “Without industry feedback, we aren't aware of where the shortfalls are.” The Program facilitators were also asked about the importance of partnerships with the unionized industry; the responses were mixed, with one facilitator expressing that although unions are not easy to connect with,

What they bring to the table is huge because they can literally take a child right out of grade 12, put them in their training program and have them on their way a lot faster than [non-union] industry can sometimes.

On the other hand, another program facilitator stated that unions can also set up barriers, as they tend not to recognize training certificates outside of what has been obtained in the union hall.

Educators also came up as important partners for program design and delivery. One interviewee said, “If you want to have these programs in schools, I think it’s really essential that you have educators as part of your consultancy team.” Relationships with educators were especially important in programs that are run in school settings because they are the ones who connect the kids to the program.

Parents were another potential partner for organizations. Many of our interviewees recognized that parents influenced their children’s post-secondary choices. One interviewee said, “It’s not just the student that you need to open their eyes; you need to open the parents’ eyes too.” Other program facilitators stated the importance of getting the parents on board by emphasizing that unless a program is run in a classroom, it is the parents, typically, who will need to bring their children to the event.

All the program facilitators mentioned that funding was important for program success and cited concerns over adequate funding. Many of these programs were funded primarily through the government, as one program facilitator stated, “without government, we don’t have a program”. Another crucial source of funding that the facilitators mentioned was corporations in the skilled trades, who have vested interests in improving the labour shortage. Two of our interviewees suggested that supporting trades engagement programs comes with a long-term

return on investment, ensuring that there are more tradespeople for the future which will benefit their businesses.

Communication

The fourth category identified was communication, which was mentioned 70 times overall. The communication category covers all aspects of communication including conveying the goals of the program, the roles and responsibilities of personnel, and communicating to students how to navigate the pathways to becoming tradespeople.

Poor communication regarding how to navigate the apprenticeship system was identified as a significant factor for low youth engagement in skilled trades, both through the interviews and literature reviews. When asked to rank the importance of different types of educational content in the program, three out of four facilitators placed navigating the apprenticeship system at the top. Communicating the steps that students need to take to become a registered tradesperson could play an important role in ‘bridging the gap’ between high school and apprenticeships. This explanation could also be extended to educators to increase effectiveness, including teachers and especially guidance counsellors. One organization did send representatives into schools to teach guidance counsellors how to navigate the pathways into the trades; this facilitator emphasized the importance of this approach in the following statement:

If we can educate the guidance counselors that are interacting with the high school kids on an everyday basis and the tech teachers on what the different pathways are, we're going to have way more kids going into the apprenticeship pathway.

This program facilitator felt so strongly about this approach's impact that they wished they had started the guidance counsellor connection in the first year of their programs.

Unstructured messaging, referring to informal conversations and lending support on an as needed basis, was a popular way that program curriculum was delivered. It was suggested by our contributors that flexibility can be beneficial, especially when activities are meant to be student driven, however, a standardized curriculum for quality control of messaging was something that the two interviewees who worked in schools mentioned might help get schools to host more programs. One interviewee spoke about their hesitation to bring in third-party programs,

One little issue about having outside people in your school is that you always want to make sure that the message is okay. We have a message from a board level; then, sometimes, you get somebody who comes in and muddies the water a little bit. If the content is different, sometimes it can create a little bit more confusions... These are the things that we've been mindful of in the past.

Clear communication about the program goals and the roles and responsibilities of personnel was something that three out of the four industry mentors commented on. Some of the interviewees expressed confusion over the organizations' intended roles for and requirements of volunteers. One industry mentor mentioned that their ability to contribute to programs was affected by a lack of understanding of the opportunities, and how much commitment was required.

Feedback

The final category identified through the coding stage was feedback which was mentioned 44 times. Most of the feedback-related codes were recorded during interviews with program facilitators. Gathering feedback to assess and improve the program is an important part of program effectiveness. All the organizations we spoke to made attempts to collect and implement feedback, but some methods had better outcomes than others.

Physical surveys came forward as the most efficient way to collect data and feedback, with digital survey participation being “abysmally low.” One program facilitator spoke about successful attempts to increase physical survey participation by incentivizing students with a free lunch upon completion. One of the drawbacks of physical surveys, however, was that they cut into program delivery time.

Tracking program effectiveness in terms of how many students who participated in the program pursued trades careers was something that three out of the four program facilitators expressed difficulties with. One facilitator described their frustration in the following statement:

Once a student graduates, we lose touch with them. We give them a package on graduation night saying this is what you need to do to continue... but it's kind of like watching a movie and just when it gets good the power goes out, and you don't know how it finishes.

Some program facilitators suggested that a centralized and accessible interface to record program performance, progress towards the organization's goals, and feedback information may be beneficial.

Three out of the four program facilitators and two of the four mentors spoke about the importance of program adaptability to changing circumstances, including rewriting the curriculum to match community needs, “keeping up with the trends and showcasing new technologies” and being prepared for unforeseen circumstances such as the COVID-19 pandemic. All the organizations we spoke to delivered their programs in alternative formats during the pandemic. While in-person was unanimously stated to be more effective, keeping the program running online meant that students were not left behind.

Recommendations

In response to the findings discussed above, this section will include some recommendations for organizations looking to run effective youth trades engagement programs. In this project's scope, we were not able to conduct a detailed program evaluation of Vision 2027, so these recommendations are directed at trades engagement programs more broadly. We recognize that trades engagement programs have differing goals, approaches, and capacities; therefore, it is important to mention that an effective program does not need to include all of these. The recommendations provided below were developed based on our primary research, which suggests that these recommendations individually could have an impact on program effectiveness. The recommendations are provided in a list format, sorted into the five overarching categories within which best and worst practices can be situated or a sixth category that was created to capture the recommendations that are relevant in multiple categories.

Engagement

1. Incorporate experiences for exploring entrepreneurship – ideally through an experiential learning format.
2. Engage students by giving them opportunities to take charge of their experiences through active participation, increased individual accountability, and experiential components.
3. Maintain a balance of soft skills and hands on skills development in the curriculum.

Representation

1. Emphasize career opportunities in the trades beyond the physical labour these industries are typically associated with.
2. Promote skilled trades as an equal post-secondary pathway.

3. Deliver the program in a school setting, if possible, to increase accessibility.
4. Show and tell that the skilled trades are a viable career choice – use both concrete examples to allow demystification surrounding these careers.

Clear Communication

1. Prioritize exploring apprenticeship-related opportunities and giving a simplified explanation of how to navigate the apprenticeship system to access these opportunities.
2. Ensure the structure of the program is clearly communicated to all partners, including the goals and expectations of the program, the roles of personnel associated with the program from your organization, and the terminology associated with program delivery.
3. Consider a degree of standardization to the curriculum to ensure quality control of program messaging.

Relationships

1. Make networking a goal for people interacting through the program – from students to educators to industry representatives.
2. Promote diversity through partnerships – Choose partners who prioritize diversity, equity, and inclusion, and who are committed to promoting a range of career opportunities to students.
3. Find ways to raise awareness amongst parents about both the program and the program's goals.
4. Foster inter-organizational cooperation – consistently work on broadening networks to allow for more diverse and involved participation in these programs on all levels.

Feedback

1. Use both surveys and informal feedback mechanisms, such as offering one-on-one conversations with participants to receive feedback on delivery.
2. Adapt the program to changing circumstances, community needs, new technologies, and unforeseen events.
3. Have a consistent and user-friendly reporting interface capable of measuring program performance.

Multi-category recommendations

1. Incorporate success stories into the program to show the viability of these careers (when possible, involving partners from skilled trades industries to back it up).
2. Ensure the program has sufficient personnel for delivery – composed of well-trained staff and volunteers who clearly understand their roles.
3. Work with supporting partners based on their capacity and clearly communicate the level of commitment the program asks of them.

Preliminary Evaluation

This evaluation of the effectiveness of JA-NEO's Vision 2027 project in increasing youth engagement in the skilled trades is based on our limited understanding of how the programs specifically operate. Our knowledge about Vision 2027 comes from our discussions with JA-NEO staff and our interviews with contributors who had variable experience with these events. We want to emphasize that this is not a conclusive assessment; it is meant to act as a starting point for further evaluation of the program. We are basing this discussion of strengths and areas for possible improvement on the recommendations for trades engagement programs listed above.

There is evidence to support that JA-NEO's Vision 2027 project has the potential to increase youth engagement in the skilled trades. One area of strength is the focus on entrepreneurship in the Company Program, which teaches students a range of competencies important for a career in the trades, including soft skills and hands-on skills. This approach seems to be highly engaging for students who get the opportunity to take charge of a project themselves. Showing the trades through an entrepreneurship lens also has the potential to remove some of the stigma around the trades by demonstrating through experiential learning a variety of opportunities and required skillsets in trades industries that are not traditionally considered, such as management, marketing, communication, customer service, finance and more. This program is also being run in a classroom setting which our research suggests can increase the accessibility of trades engagement programs, possibly reaching students who may not normally get exposure to trades opportunities.

One of the strengths of the World of Choices Events is its use of sector-specific mentoring which has the potential to demonstrate to students the viability of a career in the trades, using real-world examples of successful tradespeople from the students' own community. Because this event incorporates representation of professionals from multiple sectors, including ones not in the skilled trades, it also has the potential to break down stigma and promote the skilled trades at the same level as other post-secondary opportunities. However, we want to emphasize that for this to be realized, trades industries need to have a substantial presence at the event.

Some areas for potential improvement could be to include formal ways of explaining to students the different pathways to the trades. This might be done through handouts or conversations with informed mentors. JA-NEO could also consider including more opportunities

for networking on all levels during their programs. The benefits for program participants might include career advice, professional growth, and increased community connectedness.

Additionally, ensuring clarity when communicating the roles and responsibilities of personnel as well as providing training in how to perform their roles at an event, is a possible area of improvement. This could allow for more positive experiences for volunteers and improved engagement for students.

Conclusion

Through a combination of primary and secondary research, an exploration of the best and worst practices for running programs promoting skilled trades in Ontario was undertaken. At the secondary research stage, two investigations were conducted. The first examined the barriers facing youth attempting to enter the skilled trades in Ontario. It was found that the barriers related to three categories: (a) a confusing apprenticeship system; (b) the stigmatization of trades careers; and (c) demographic specific barriers relating to underrepresented groups. The second literature review was a preliminary investigation into the best and worst practices for trades engagement programs. This investigation, however, did not return sufficient information to move past this question within the primary research stage. During the primary research stage, ten interviews were conducted with people who have interacted with trades engagement programs in a variety of roles to further investigate the best and worst practices. Results from this research led to the development of a set of recommendations, informed by the five key themes represented in interviews: engagement, representation, clear communication, relationships, and feedback. Due to labour shortages within the skilled trades in Canada, programs such as those run by the organizations interviewed in this study— Junior Achievement, Support Ontario Youth, Skills Ontario, and the Ontario Youth Apprenticeship Program – play an important role in

potentially removing the barriers to the trades, promoting them as a viable career choice, and an equal postsecondary opportunity. Our hope is that the recommendations provided in this study can assist organizations like Junior Achievement to run effective trades engagement programs.

Limitations and Next Steps

There were several structural limitations present within this study. At the stage of preliminary secondary research, some information included in the literature on best and worst practices was dated. In some cases, more recent information did exist; however, it was behind a significant paywall. The scope of this research was severely limited by time constraints – particularly in terms of the time frame within which interviews could be conducted. Ten interviews were sufficient for the limited scope of this study; however, the research could have been improved by including more (and specifically more diverse) perspectives. In future studies, it would be ideal to put a higher emphasis on participation from educators and students, if possible, as those are the roles that were the most underrepresented in this research. Modifications made to protect anonymity also played a role in the limitations of this research; some of the advice given by interviewees pertained specifically to their role, and as such some information was incorporated into the report in ways that were less direct. Finally, due to the scope of this project, we were not able to fully answer the third research question, as a comprehensive evaluation of this program was infeasible due to the focus on best and worst practices. With the knowledge gathered through the process of this research project, members of our research team will be able to work with Junior Achievement to help submit a follow-up research proposal to the Trent Community Research Centre, with the hopes that the evaluation piece can be completed through a subsequent project.

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Appendices

A: Semi-Structured Interview Questions

School Representatives and Industry Representatives:

Icebreakers

1. Can you tell us a bit about your company/school and about your role there?
2. What program for increasing engagement in the skilled trades have you been a part of?
3. How did you learn about it/get involved?
4. What did you feel was the main goal of this program?

Education

We would like to ask you about the different aspects of educational programming.

Skills Education:

1.

a. Did the program provide opportunities for students to learn soft skills?

(e.g., time management, problem-solving, teamwork, etc.)

If Yes - Do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

If not, what soft skills-based training, if any, do you wish had been included in this program?

– What do you wish this training had looked like?

b. Did the program provide hands-on skills training?

(e.g., how to perform tasks associated with the trade the student is interested in)

If Yes - Do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

If not, what hands-on skills training, if any, do you wish to have been included in this program?

– What do you wish this training had looked like?

Apprenticeship navigation:

c. Did this program provide educational opportunities for navigating entry into the apprenticeship system in Ontario?

If yes - Do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

If no - What information, if any, do you think should have been included about the apprenticeship journey?

– How should this have been included?

Re-education:

Did the program try to address negative narratives surrounding the trades?

d) Stigma - perception of the trades as a second-class career choice

e) Stereotype - the type of person who can work in the trades

f. Did the program try to promote trades as a viable career option?

If yes, do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

If no - What negative narratives, if any, do you wish had been addressed?

- What information would you have included, if any, to promote trades as a viable option?
- How should it have been delivered?

Promotion

_ 1. Did you find that the program was accessible to a diverse group of participants?

(For example, different socio-economic classes, women, people with disabilities, visible minorities).

If yes, what was effective?

2. What could have been done to make the program more accessible?

(for example, location and time of delivery, remote delivery options, addressing specific needs).

Partnerships

1. Have you established any partnerships through this program outside of the organization offering it?

If yes - What factors supported the establishment of these partnerships?

If no - Can you think of any strategies that this program could use to make networking more accessible?

2. Were you or any other school representatives you know of consulted in the program development stage?

If yes - (that they were) Do you feel that your feedback was implemented?

Y- Do you feel that it made an impact on the effectiveness of program delivery or not?

N- Do you feel that the program would have been made more effective by integrating your suggestions or not?

If no - Do you feel that the program would have been more effective if you had been consulted in the development process?

- What recommendations would you have made for program development?

3. Were you or any other school representatives that you know of consulted in program delivery?

If yes - Do you feel that your feedback was implemented or not?

Y- Do you feel that it made an impact on the effectiveness of program delivery or not?

If no - Do you feel that the program would have been more effective if you had been consulted in the delivery process or not?

- What recommendations would you have made for program delivery?

Additional Information

1. Is there anything else you would like to tell us about your experiences or recommendations regarding the program?

Program Coordinators:

Icebreakers

1. Can you tell us a bit about what drew you to this line of work?
2. Can you tell us a bit more about the activities undertaken by your organization and the main goals of your program?

Education

1. We are interested in the educational content of your programming. Does your program include...
 - a. Soft skills training (by which we mean punctuality, problem-solving, teamwork, communication, leadership etc.)?

If Yes- Do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

- b. Hands-on skills training?

If Yes- Do you feel that any specific aspects of this were particularly effective or ineffective?

Y- What was effective or ineffective?

- c. Addressing the stigma associated with the trades, (by which we mean that it is dirty work, that it is hard labour, that it is a second-class career)?

If Yes- Do you feel that any specific aspects of this were particularly effective or ineffective?

- What was effective or ineffective?

- d. Addressing stereotypes? (by which we mean who the trades are for, who can perform the work [women, people with disabilities])

If Yes- Do you feel that any specific aspects of this were particularly effective or ineffective?

- What was effective or ineffective?

e. Teaching about how to navigate the apprenticeship system in Ontario?

If Yes- Do you feel that any specific aspects of this were particularly effective or ineffective?

- What was effective or ineffective?

2. Could you rank the above educational programming from most to least important to you (soft skills training, hands-on skills training, addressing stigma, addressing stereotypes, teaching how to navigate the apprenticeship system)?

Promotion

1. What outreach strategies does your organization use to promote your program, if any?

By outreach we mean, how do you make your organization known to potential participants?

(for example, social media, newsletters, advertising in schools, etc.)

2. Of the strategies you have mentioned, do you have a sense of which ones have worked better or worse? And why?

3. Have you used outreach strategies to reach populations who are underrepresented in the trades, such as women, people with disabilities, upper socio-economic classes, and visible minorities? If so, could you describe them?

4. Of the strategies you have mentioned, do you have a sense of which ones have worked better or worse? And why?

Partnerships

2. Has your organization consulted with people external to the organization in the program development stage?

If yes, what partnerships has your company established in consultation of the design of your program?

3. Has your organization consulted with people external to the organization with regards to the program delivery stage?

If yes, what partnerships has your company established in consultation of the delivery of your program?

4. We have identified through the literature a variety of potential partners that organizations can work with in program development and delivery. Can you rate these partnerships in order of importance to your program?

Industry

Students

Parents/ guardians

Educators

Government

Unions

Admin

We are interested in learning about the monitoring and evaluation of your program.

5. Do you have any tools to assess...

f. The implementation of the training program or not?

(e.g., Feedback mechanisms such as surveys)

g. Progress towards your goals or not?

(e.g., Number of students enrolling in the program, number of graduates who pursue trades careers, successful completion of apprenticeships, graduate satisfaction).

Additional information

6. Is there anything else you would like to tell us about the best and worst practices of your program?

2. With the benefit of hindsight, is there anything that you would do differently?

3. Would it be beneficial for you if there was a platform available for program organizers to discuss strategies for improving engagement in the skilled trades?

B: Research Ethics Form Example

**International Development Studies
Trent University**

RESEARCH ETHICS COMMITTEE



Informed Consent Template (Fall, 2023)

Part A:

Title of Project: Vision 2027: Promoting Youth Engagement in the Skilled Trades

Vision 2027 is an initiative run by Junior Achievement Northern and Eastern Division (JA-NEO) with the goal of increasing high school students' interest in the skilled trades. The program will seek to identify and address barriers that limit participation in the trades while increasing interest and will create an evaluation framework to assess the outcomes of JA-NEO's education and outreach initiatives.

The purpose of this research is to understand the barriers to the trades that young people face in Ontario, as well as the best and worst practices for addressing those barriers. We are looking to analyze whether JA-NEO's Vision 2027 project supports youth engagement in the skilled trades.

This research is being conducted by Brittany MacPhail and Elisa Knight, undergraduate students in the Department of International Development Studies at Trent University in Peterborough, Ontario, in collaboration with Junior Achievement Northern and Eastern Ontario Division. We are working with Professor Paul Shaffer and Professor Baris Karaagac as faculty supervisors from the department of International Development Studies at Trent University. This research is for a course called Community Based Research Methods and Project (IDST- 4220Y). This research is conducted with the oversight of Carolyn Mount from the Trent Community Based Research Center.

Participation in this study is voluntary and requires the informed consent of all participants. Those who volunteer will be asked questions in a semi-structured interview format. Interviews will take approximately 45 minutes to one hour. Virtual and in-person delivery will be offered between January and February of 2024.

We are requesting permission to record video and/ or audio during the interview. These recordings, as well as our notes, will be coded to remove personal and identifying information where possible (for example: "Participant A" rather than name). Data collected will be kept on password protected laptops that only the researchers will have access to. Upon the completion of the study, data (including recordings) will be destroyed. The final report will be anonymized. Consent can be withdrawn at any time during and after this research.

Participation in this research should come with minimal risk of physical or emotional harm. There is a small chance that an interview question will cause emotional discomfort. In this case or for any other reason, you may choose to skip a question entirely or come back to it later. You may also withdraw your participation at any time.

By signing this consent agreement, you have not waived any of your legal rights. If you have any questions or concerns, please contact feel free to contact us at Brittanymacphail@trentu.ca and Elisaknight@trentu.ca.

Part B:

I have read, or been informed of, the above description of the research in which I have been asked to participate and understand the possible risks and benefits involved. I have also been

told that I may withdraw from this project at any time and that by signing this document, I am not relinquishing any of my legal rights. Further, the information I provide will remain confidential unless I have also signed Part C. I voluntarily agree to participate in this project.

Date: _____ **Signature(s):** _____

Part C:

I agree that I may be quoted, or information attributed to me, in the researchers' work.

Date: _____ **Signature(s):** _____

Part D:

I agree to be [audio-/video-recorded] for the purposes of this study. I understand how these recordings will be stored and destroyed.

Date: _____ **Signature(s):** _____

C: Visualization of Coding Process

