Transitioning from the Reflection-Based Safety Literacy Classroom to the Worksite: The Student Experience

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Prepared by Jodi Howick, EMBA and David Schmaus, Ph.D.

Abstract

This paper examines students' understanding of Occupational Health and Safety (OHS) as they transition from a reflection-based safety literacy classroom to the worksite. The literature review identified a gap in research related to the sustained impact of critically reflective OHS education, while also indicating that although OHS knowledge was essential for young workers, that understanding was not reflected in the workplace.

A hermeneutic phenomenological methodology was used to analyze the student attitudes, behaviours, and experiences as a result of reflection-based OHS education. Students took a seven-week (15 hour) course on safety literacy. Volunteer participants were interviewed immediately following the completion of the course and then again six months later. The initial interview contained seven questions; the follow-up interview had two questions. The results of the interviews were transcribed, analyzed for clusters of meanings, and interpreted using a hermeneutic cycle of data analysis, which included immersive review of data transcripts, reflective writing, and interpretation. Common themes arose in in the areas of shared learning experiences, group diversity, storytelling, course timing and duration, the influence of a knowledgeable instructor, and the importance of having worksite peers participating in the course.

Recommendations arising from the study include continuing the cohort-based course format, the class discussions and reflection, and worksite peer participation. An additional recommendation was to include a reflection journal component.

Keywords: occupational health and safety education, reflection-based instruction, phenomenological methodology, hermeneutics

Introduction

This study is an interpretive attempt to answer the question: How do students describe their understanding of Occupational Health and Safety as they transition from the reflection-based safety literacy classroom to the worksite? Review of the literature reveals that, as a result of the current focus on training for Occupational Health and Safety (OHS) that takes place on the worksite or in stand-alone segments of curricula, there is a gap in the research-based body of knowledge of the impact of reflection-based education at a post-secondary level. This research was undertaken to better understand students' perceptions, attitudes, and their individual connection to OHS after participating in reflection-based Health and Safety education at a post-secondary institution. The investigation addressed both the students' learning experience and their transition to the worksite as an employee. A Safety Literacy course focusing on OHS oriented personal development as opposed to task-based safety skills provided the focus for the study (Appendix A). Learners were provided with the opportunity to evaluate situations and internalize the potential impact to the safety of oneself and others. This study was performed to understand connections students make between the course, their personal safety, classrooms, and ultimately their worksites. Recommendations to improve the quality of reflection based OHS curriculum and practice are also made.

Literature Review

A literature review of the current body of knowledge available in North America, the United Kingdom, and Australia was conducted as these are recognized areas with leading OHS systems and processes. The review included articles, journals, books, government data, International Labour Organization information, and credible OHS websites. The initial search

focused on literature related to reflection-based education as well as the impact of post-secondary Health and Safety education on perceptions, attitudes, and behaviours.

The literature review revealed a gap in the research related to reflection-based OHS education (Institute for Work & Health, 2010; Teizer, Cheng & Fang, 2013; Shendell, Mapou, Kelly, Lewis, Houlroyd & Murtha, 2013; Pisaniello, Steart, Jahan, Pisaniello, Winefield, & Braunack-Mayer, 2013). It was also found that a "more evidence based and integrated approach should be developed among schools and workplaces" (Thamrin, Pisaniello, & Stewart, 2010) in support of consistent messaging in the education of OHS and consequently the perception of safety (Langdon, Balchin, & Mufamdi, 2010; Gyekye, & Salminen, 2009).

Anderson, Gunnarsson, Rosen, and Mostrom (2014) posit that the view young people have of occupational safety governs their behaviour and perception of risk. Further, they found that young workers have a tendency to please their supervisors and that fear of losing their jobs inhibits them from making complaints. Anderson, et al. (2014) propose that this can be improved by training young workers in occupational health and safety as part of their education. They suggest that a systemic approach to training young workers in the work place is lacking, an opinion substantiated by multiple researchers (Agran, Krupp, Spooner, & Zakas, 2012; Blair, Seo, Torabi, &Kaldahl, 2004; Benderly, 2010; Chatigny, Reil & Nadon, 2012; Minerva, n.d.; and Petersen, Reynolds & Ng, 2008) . Dingsdag, Bing and Sheahan (2008) found that for 107 participants in 11 Australian companies, there was a generic lack of OHS education, implying that companies that seek to improve site safety culture need to develop and support people with both training and education. Dingsdag, et al. (2008) argued that by implementing uniformity, one can nurture an environment in which a positive safety culture can be developed.

Gyekye and Salminen (2009) indicate that "there is tremendous synergism in the multidisciplinary participant and the mixing of students with practitioners" (p.115), indicating value in a diverse classroom setting. This must be balanced with becoming too general as too little disciplinary specificity can reduce recognition of health and safety content embedded into generic courses an issue identified by Adam, Strong and Chipchase (2013).

Literature with respect to reflection in education and pedagogy was also reviewed to develop broad philosophical assumptions supported by research. *In Taking College Seriously, Pedagogy Matters!* (Mellow, Woolis, Klages-Bombich, and Restler, 2015), the authors identify that concurrent use of self-reflection and regular engagement with peers created a robust learning environment. According to Siebert and Walsh (2013), "the benefits of using reflection for learning at work have been widely recognised and the pedagogy to support reflection is now established" (p. 167). Further, they propose that "through reflection learners/workers are supported in analysing and evaluating their workplace and helped in identifying where change may be an option for them" (p. 176). Overall, as the literature indicated, there is much opportunity for further research and the development of a body of evidence that investigates the sustained impact of critically reflective health and safety education on the attitudes and behaviours of participants.

Research Paradigm

The purpose of this research was to understand the student experience of reflection-based safety literacy education both in the classroom and subsequently on the worksite. Findings from this research will be used to guide the development of safety literacy curriculum and pedagogy at a Canadian Polytechnic. Investigating the phenomenon of reflection-based safety literacy learning required participants to reflect on their own reasoning processes and their learning

experiences, and to engage in communication about these experiences. The research was focused on developing an interpretive understanding of the lived experiences of participants in a specific safety literacy course. In interpretive research, findings emerge through the engagement of the participants, the researcher, and the research methods (Creswell, 2013). Subjectivity is valued in this approach, based on the assumption that complete objectivity on the part of the researcher or the participants is unachievable (Ajjawi & Higgs, 2007). In an interpretive framework, the lifeworld of the participants is "situated in a reality constructed by subjective experiences" (Ajjawi & Higgs, 2007, p. 614). It is understood that the research is constrained by the values inherent in the questions being asked, the values of the researcher, and the methods used to generate and interpret data (Ajjawi & Higgs, 2007). The experiences of safety literacy students are shaped by the situatedness of their learning and work environments. The interpretive paradigm was chosen as the best starting point for a long term project that seeks to generate new understandings of the complex phenomena of reflection-based learning in a post-secondary setting. The primary purpose of this study is the generation of practical knowledge through the interpretation of student experiences. The interpretive paradigm is an appropriate means to pursue this purpose (Ajjawi & Higgs, 2007).

Creswell (2013) explains that "a phenomenological study describes the common meaning for several individuals of their lived experiences of a conceptual phenomenon" (p. 76). The phenomenon under investigation, in this case, is the experience of transferring reflection-based safety literacy from the classroom to the worksite. Students of a particular reflection-based safety literacy course were engaged through interviews and focus groups. The resulting data was used to explore the themes that encapsulate the experience for participants. It is a description of the

essence of the lived experience of the learning outcomes of the course, as experienced while on the work site, that was sought. As such, a hermeneutic phenomenological approach was taken.

Study Design

In the interpretive tradition of hermeneutics, specifically hermeneutical phenomenology, this research project analyzed thematic similarities related to attitudes, behaviors, and the student experience of reflection-based OHS education. The sample size directly correlated to the number of participants involved in a pilot offering of a Safety Literacy course at a Canadian Polytechnic. As the study involved human participants, the design and methodology were reviewed by the polytechnic's research ethics board to protect the interests of the research participants and were approved prior to initiation of the research.

As a study focused on the human experience, research ethics practices were implemented to ensure the confidentiality of the participants as best as possible, to ensure voluntary participation, and to provide an explanation of the purpose, risks, and benefits of involvement in the study. Data was coded to remove linkage to personal information and was cross-referenced as detailed in Appendix B. Upon compilation of data, all personal information was removed from the study. To increase readability of the document, each participant was assigned a pseudonym in replace of the codes. Participants were also provided the opportunity to withdraw from the study prior to data analysis being completed. All raw data was stored in digital files on the researcher's laptop, and data will be stored in a secure fashion for five years following completion of the study and destroyed at that point.

Methods

As previously identified, this study analyzed thematic similarities of the data gathered from participants through focus groups and individual interviews. To accommodate for

conflicting schedules, two focus group sessions were conducted directly after the completion of the course. All participants of the pilot course were invited to participate in the research resulting in seven volunteers, a 39% participation rate for the course participants in the formal study. Six months after course completion, individual interviews were conducted to determine student retention of course content and the lived experience of its application in a work setting. Six participants, 86% of the original group of participants, agreed to take part in the individual interviews.

Data Collection & Analysis

The specific pilot for the research was offered with a combination of face-to face learning and online learning for an effective course time of 15 hours. Content was assigned for individual exploration prior to attending class to provide a foundation for in class activities. Eight hours were spent in the face-to face-learning environment where classroom activities focused on creating opportunity for both reflection-in-action and reflection in the midst of action as well as reflection after events (Boud, 2001). Appendix B provides more detail on the specifics of the course content.

Focus groups and personal interviews were recorded and transcribed, and this data was analyzed for themes in accordance with Creswell's procedures (Creswell, 2013) for conducting phenomenological research. To help develop an understanding of the student experience, data collection took place in two phases: first, immediately after completion of the course, and second, after a minimum of six months from course completion. The six month gap in data collection was designed to evaluate the students' lived experience of the learning outcomes of the course as experienced while on the work site. For both interviews and focus groups, the researcher's understanding of the information presented by participants was validated through a

paraphrase approach. This provided the participants an opportunity to validate or discount the researcher's understanding of the information to reduce the opportunity for biased analysis and to increase trustworthiness in data analysis.

The initial focus group was asked seven questions as depicted in Table 1 below. Two focus groups were held to accommodate student schedules, and the transcripts were analyzed independently. Individual interviews were also conducted and took the form of 30- to 90-minute conversations, with each interview initiated by two key questions as depicted in Table 2. Each transcript for the individual interviews was also analyzed independently.

Table 1: Initial Focus Group Questions

1.	What was the most engaging part of the safety literacy course for you?
2.	What was the least engaging part of the safety literacy course for you?
3.	What opportunities were you provided to reflect on your attitudes and behaviours?
4.	Are these reflections important in respect to integration of Health and Safety into your everyday life?
5.	Do you feel the course influenced your attitude or behavior? If so, in what way?
6.	What influenced or affected your experience in the course?
7.	Is there anything else that you would like to say?

Table 2: Individual Interview Questions

1.	What do you remember about the Safety Literacy Course?
2.	What sustained impact have you experienced?

In accordance with a hermeneutic cycle of data analysis, the process for analysis included immersive review of data transcripts, reflective writing, and interpretation. The first step was horizontalization of the data to combine, through clusters of meaning, the individual student experience into a representation of the shared experiences of participants. All transcripts from the first data set were reviewed to extract significant statements and to get a feel for each participant's descriptions of his or her lived experience, creating a textual description as defined by Creswell (2013). The aggregate data was then combined with the second data set from the

individual interviews to develop a description of the context that influenced the participant's experiences, a structural description as described by Creswell (2013). From these descriptions, further reflection was done to develop a composite interpretation of the shared experiences and the essence of the participant's experiences.

Findings and Discussion

As all of the participants in the study were working while they were attending the course, their immediate experience leant itself to the exploration of the transition experience throughout the entire study, as opposed to simply in the final data collection. For this reason, the data was compiled from both data collection points, focus groups and individual interviews, and reviewed to develop a contextualized understanding of the student experience. Trustworthiness in interpretation was assured through both validation of understanding with the participants and validation of interpretation of transcripts with the primary researcher and a co-researcher. The high level themes that emerged include: 1) the value of a shared learning experience; 2) varied perspectives with a diverse learning group; 3) storytelling; 4) impacts of enhanced learning over time; and 5) spatial impacts related to the influence of the instructor.

Shared Experiences

The shared experiences (same classmates, same instructor, common lessons, common discussion topics) of the participants indicated that meaningful engagement resulted from classroom conversations and dialogue between students. As students were required to complete pre-class activities, a brief review of the pre-assigned theoretical components provided enough context for class. Weekly face-to-face class time provided an impact on the students' experience; being able to review content and return to their work environment provided an opportunity, for some, to reflect on how the content applied in their working environment. This opportunity was

heightened for those participants who had either a peer in the classroom or other people in the workplace with whom to discuss course content. Participants who had the ability to continue the conversation indicated a more sustained learning and change in their application of health and safety behaviours without supervisory influence. Danielle elaborates:

> *"it helped having a direct co-worker. I must recommend if you can get someone . . . to go with a friend or co-worker so then you can take it outside and talk about it because that really helped too. We could talk about how it could impact us directly with no one else's input . . . we just talked about how it directly impacts us".*

Although direct correlation to one specific theme in this area is difficult to ascertain, the review of participants' experiences transitioning to the worksite indicated they became more aware of their surroundings and were more willing to speak up in their work area when they saw something that was a potential hazard. For example, DANIELLE indicated *"before, I didn't really notice a lot of things…but now I will speak up"*. Further, participants that shared the experience with a peer indicated that they were transferring the learning to the workplace, continuing to apply it after the course concluded, and influencing others in their work environment to take on the practices discussed. JASON reflected " *we could discuss how come we aren't doing this [in our area]"* to which DANIELLE added there were a few of those [opportunities] "*we should be doing this instead of this but, so there were a couple of those conversations that the two of us have had [while working] and questioning things."* AHMED supported this as well: "*I was going to say that was a fortunate thing for me that I had a partner there too, so we're able to outside of class time have a conversation.*"

Diversity

The value in having a diverse group of students (varied in the way of traditional diversity, age, sex, ethnicity, etc. and also different working areas) in the classroom was expressed by several participants. In the individual interviews, each participant shared the impact of diversity during the classroom discussions. During discussions in class, participants shared their connections to the lesson. In listening to those connections, the participants could see the lesson through other lenses, other perspectives. MICHELLE recalled *"discussing them amongst ourselves within a group and then they're also looking at the question responses by the other groups and kind of well discussing or challenging to some degree, well is that totally true or so they kind of make you think about the different perspectives as well".*

This personalization of the content was found to have a sustained impact that added to the participant's personal perspective. As CHERYL expressed "*one's own personal safety -- saying I should do something more proactive too, it's going to benefit me, and then if it helps my son or daughter where I can say it can be beneficial for them so it minimizes their chance of . . . injury*". The "*wholesome discussion and participation by the students there (CHERYL)"* created value for participants who had been through health and safety education in the past as well. One way that AHMAD articulated this value was that "*everybody's perspective on health and safety gave me a better appreciation of where people were, where their areas were with [implementing health and safety]"* which allowed for benchmarking. *"The participatory nature of the delivery of the course and the involvement of the students (CHERYL)"* was beneficial in sustaining the overall connection to the content.

Storytelling

In keeping with the concept of shared experiences, "sharing of experiences through the device of storytelling enables individuals to build the bridge of understanding between one another" (Abrahamson, 1998, p. 118). Storytelling by both the instructor and students provided an opportunity not only to explore content in a classroom environment but also to discuss interpretation and application with a diverse group of learners. The impact that AHMAD expressed "*So, that's what happens in those discussions. Everybody tells their own stories about health and safety as it applies to whatever particular topic we were on...and then [you] make a mental picture, stories help do that. Stories give context, they give something solid to [the concept].*" Xiang identified this as "*interaction that enhances the learning . . . sharing experiences*". These experiences then become part of the context of the course, and where some of the specific OHS jargon may not be recalled easily after a length of time, the intention behind the content was sustained.

During the course, one participant shared a story of [her] son mowing the lawn wearing flip flops, and the discussion turned to a statement. CHERYL summed it up by stating *"if you're going to be embarrassed about explaining it to a paramedic, then you shouldn't be doing it in the first place"*. In the individual interviews, this particular story was mentioned by more than one participant, and each of them indicated a sustained change in behavior: DANIELLE recalled "*I also used to wear flip-flops and shorts while out there using the weed whacker, and, yeah, it hurts when it hits your legs, you'd think the bruises would be enough but no. This summer I did a lot more yard work where I actually dressed appropriately*".

Enhanced Learning over Time in a Face-to-Face Setting

Participants found that there was value in exploring the content ahead of time to allow for personal reflection and then to explore further with conversations in the classroom. JASON explained that "*the pre-reading made you go through and actually look at and think about what some of those things mean and then you start thinking about how [that relates] to what it is I do"*. Responses indicated that participants felt there was little value in reviewing the content assigned as homework in detail in class and felt that the time would be better spent deepening their understanding through conversation and practical application as opposed to reviewing content through lecture. MICHELLE explained "*So to be able to have those conversations again and again it's the different perspectives because people are approaching it differently. You don't know how they were looking at it, right they've just written something down, okay, well let's approach that, let's find out why"*. *RICHARD* expressed the value *"is doing the face-to-face with a human being or other human beings in a class and the aspect of participating, discussing, exchanging [information and sharing ideas]"*. This experience aligns with other studies of the student experience and with theories of pedagogy, such as Bloom's taxonomy, which indicate a deeper level of learning takes place at a higher cognitive level, taking a student's learning from remember and understand to apply, analyze, and evaluate (Sentis, 2014).

Participants also indicated a continued growth of learning throughout the seven weeks of the face-to-face sessions. JASON suggested that *"because it was building on every week, you are doing a little bit more, and by the end of it . . . we were having better discussions, we were having better conversations about what was happening"*.

They further went on to explain their growth as going from nonchalance to a situation to discussing what was going on around them and addressing safety issues that were not in their

direct area of concern. DANIELLE indicated that *"[he] will walk up to [someone creating a hazardous situation] and be like, hey, you know you're kind of creating a hazard right now, and this is what you need to do to be safe . . .*"

Influence of the Instructor

The student experience was also influenced by the instructor in the session and by having a health and safety advisor present as a support resource. The knowledge of the instructor and his or her ability to provide the class with varied experiences (sharing of stories and strategic questioning) in implementing and interpreting the material brought deeper conceptual context to the student experience. Students found these shared stories to be far more beneficial than the theoretical lecture component of the course content. This connection with the instructor's ability to engage the student in the classroom is similar to the findings of a 2010 study that indicated the success of safety training in schools is dependent upon the enthusiasm and experience of the teacher (Thamrin, Pisaniello, & Stewart, 2010).

Discussion and Recommendations

As discussed, the positive influence of the shared experience was heightened for those participants that either had a peer in the classroom or who had other people in their work area with whom to discuss what had been learned. This is indicative of added value and a sustained impact of the learning. It is recommended that wherever possible, attendees in health and safety offerings are, at a minimum, paired with a co-worker to provide the opportunity to extend conversations from the classroom into the work environment. This is substantiated through research by the findings of Lei, Gorelick, Short, Smallwood, and Wright-Porter (2011) regarding the benefits of being part of a cohort. Key benefits of this shared learning include the creation of a group of supportive learners with similar goals, a more collaborative voice, and higher

retention and success rates (Lei et al., 2011). Further, they identify that students are more intrinsically motivated to learn the material and are more prepared to integrate and apply the learnings to reality (Lei et. al., 2011).

Participants in the course found that the most engaging components of the course were conversations, interactions, and applied learning opportunities. Pisaniello, Stewart, Jahan, Pisaniello, Winefield & Braunack-Mayer (2013) found greater levels of engagement with students through face-to face interactions and recommend the incorporation of class discussions and case studies in health and safety education. According to Fisher and Donham (2011) also identify the value of face-to face instruction indicating "in-person instruction is the best way to teach the material". Through a scaffolded learning process, students were able to first explore the content, reflect on their learning individually, share their perceptions, and then receive differing interpretations and perceptions from others. This provided learners with an opportunity for questions, critique, personalization, and ultimately internalization of the content in a way that was individualized. They found their own meaning in the material. These findings substantiate a recommendation that critically reflective health and safety education be offered utilizing a similar scaffolded approach to the pedagogy of the course.

While the participants may not be able to recite specific sections of the legislative requirements of the Occupational Health and Safety legislation as a result of the course, what they did take away was an integrated awareness of the general requirements of Health and Safety and a sustained change in perception towards hazardous situations. Participants who were new to the concepts of the material indicated they were more likely to recognize, assess, and control a hazard without specific guidance or notification than they had been previously. For example, when discussing the sustained impact of the course, DANIELLE identified that they tend to take

more effort in doing thinks and are more likely to bring things forward to their supervisor. The interviewer then asked if they would have brought things forward before. "*Probably not, because I probably wouldn't have thought of it that way. And, you know it's not that I could not approach [my supervisor] before. It was that I really never would have thought of approaching for certain things*". Further, those participants that had been exposed to similar content in the past found the opportunity to discuss differing perspectives provided them with a new awareness and heightened connection to a safety-focused attitude. MICHELLE suggested that an offering of regular opportunities to have similar discussions and sharing of experiences would be beneficial in the long term as a follow-up to the course. These findings lead to a recommendation that, in addition to a having a peer in individual learning sessions, a community of learning should be developed and maintained after the course to support ongoing conversation.

Further, through strategic questioning of the students regarding their own experiences, the instructor was able to encourage discussion and reflection on personal action. This type of strategic questioning is discussed in the detail in Peavey's (1997) work on Strategic Questioning in which she describes it as a process that opens us to another's point of view, inviting our ideas to shift. One of the specific key features she describes is that it creates ownership of new information that remains with the person answering the question. This ability to invoke such a question requires a connection to the content and an ability to challenge values and assumptions (Peavey, 1997). It also requires an ability to listen dynamically and dig to find the deeper meaning. This ability is paramount to the success of future offerings of the course.

While most participants did indicate that opportunities to reflect were provided throughout the course, one participant in the study identified that integrating a personal reflection journal into the course may have provided an opportunity for deeper critical reflection which, in

turn, could deepen the learning. This recommendation is well substantiated by multiple sources on the value of directed journaling to aid reflective practice for the learner (Terrion & Philion, 2008; Moon, 1999; Boud, 2001, Hiemstra, 2001). It is recommended that future iterations of the course incorporate a formalized journaling activity with questions that provide guidance for a focused reflection which could then be incorporated into the classroom discussion for those who wish to share.

Opportunities for Further Implementation and Research

One additional theme that was interesting, although not directly related to the question of the student experience, was that every participant in the study summed up his or her interview in the same way: with a recommendation that the course be held on a regular basis, provided to new staff and, ideally, to all members of their shared community.

In the individual interviews, when presented with the question *"is there anything else you would like to share with me regarding your experience in the course."* Each participant responded with a very similar response:

> *CHERYL* responded *"I think each employee at [this institute] should be going for this [course]. Similar [to] first aid or mental health. I think the awareness piece is important, but also the application of [the concepts] in the workplace will develop a stronger culture.*
>
> *AHMAD: ". . . and if everybody did take the course, you know, if it was something that everybody needed – what was required to take, I think that would be a good thing."*
>
> *JASON: Everyone from the [executive] down should take it, starting with [the executive].*

> *DANIELLE: "I actually think everybody else should be taking it too."*
>
> *XIANG: "[I would make a suggestion that it] would be a good idea to incorporate it for new staff coming in…and to [provide refresher training or periodic updates to all staff] on a year-to-year basis.*
>
> *RICHARD: ". . . if everybody has the same training, everybody has the same mentality, there is no fear of going anywhere."*

Similarly in the focus group sessions, *MICHELLE* indicated: *". . . there is an opportunity to make the change and to grow the culture, but it has to be complete within the organization, it can't just be one area that's trying to do the change, right"*.

As this study of the student experience in the Safety Literacy course has identified value in the creation of a shared understanding of health and safety through the reflection-based course, it is recommend that the pilot be implemented on a larger scale to develop a consistent level of safety knowledge and motivation across the institute. In conjunction with the pilot, it is recommended that a quantitative analysis of department performance on leading health and safety indicators focused on compliance and improvement, such as those as recommended by Alberta Workplace Health and Safety in Figure 1, be implemented to track further the long term impact of reflection based safety-literacy education.

Figure 1: Performance Indicator Measurement (Alberta Labour, 2016)

Health and Safety Practices	80 – 100% (4)	60 – 80% (3)	40 – 60% (2)	20 – 40% (1)	0 – 20% (0)
1. Formal safety audits at regular intervals are a normal part of our business.	☐	☐	☐	☐	☐
2. Everyone at this organization values ongoing safety improvement in this organization.	☐	☐	☐	☐	☐
3. This organization considers safety at least as important as production and quality in the way work is done.	☐	☐	☐	☐	☐
4. Workers and supervisors have the information they need to work safely.	☐	☐	☐	☐	☐
5. Employees are always involved in decisions affecting their health and safety.	☐	☐	☐	☐	☐
6. Those in charge of safety have the authority to make the changes they have identified as necessary.	☐	☐	☐	☐	☐
7. Those who act safely receive positive recognition.	☐	☐	☐	☐	☐
8. Everyone has the tools and/or equipment they need to complete their work safely.	☐	☐	☐	☐	☐

Opportunities for Future Curricular Enhancement

> It's hard to look at modern life and see our capacities for reflection or meaning-making. We don't use our gifts to be more aware or thoughtful. We're driven in the opposite direction. Things move too fast for us to reflect, demanding tasks give us no time to think, and we barely notice the lack of meaning until forced to stand still by illness, tragedy, or job loss. But in spite of our hurry, we cannot stop life's dynamic of self-reference or the human need for meaning. If we want to influence any change, anywhere, we need to work with this powerful process rather than deny its existence. (Wheatley, 2006, p. 147)

Conclusion

Commonalities were easily identified in the first data set as only two focus group sessions were scheduled. The last theme was the sustained impact of learning that occurred when students were able to discover the content, apply the learning, reflect on it, and discuss their experience. The personal interviews showed that participants easily recalled individual stories and experiences that were shared; these conversations connected individual students to the underpinning messages of the content. While each participant shared individual experiences and meanings, the themes were very strong in the individual interviews, indicative of a saturation of data as defined by Creswell, 2013.

The student experience was also influenced by the instructor in the session and by having a health and safety advisor present as a support resource. As reflected in the interviews, the knowledge of the instructor and his or her ability to provide the class with varied experiences in implementing and interpreting the material though the sharing of stories brought deeper conceptual context to the student experience. Further research exploring the impact of critical reflection in health and safety education could provide educators and trainers with founded pedagogy for future curricular development.

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