Increasing Students’ Sense of Belonging at Research Conferences

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Abstract
Many postsecondary institutions host a knowledge dissemination event for students to publicly share their scholarly, research, and creative works. These events improve student communication skills and self-efficacy. The authors propose that these events also can affect students’ sense of belonging. CREATE is Vancouver Island University’s all-discipline student knowledge dissemination event. During the 2020–2021 academic year, seven specific tactics were employed to increase a sense of belonging at CREATE. A post-event survey indicated that overall students had a strong sense of belonging, and underserved students felt more able to be themselves at CREATE then in their day-to-day lives. Further, qualitative responses showed evidence that most tactics were beneficial. Taken in concert, these tactics give event organizers an applied model for increasing students’ sense of belonging at their events.

Keywords: persistence, retention, sense of belonging, student events, underserved populations

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First, it is acknowledged that this work was done on the unceded and traditional territories of the Coast Salish peoples of the Pacific Northwest, specifically the Snuneymuxw, Quw’utsun, Tla’Amin, Snaw-naw-as, and Qualicum First Nation. The following is presented with good hearts and good minds, and the hope of finding ways for all people to walk meaningful educational paths in communities of understanding and friendship.

Vancouver Island University (VIU) is located on the west coast of British Columbia, Canada. The province’s University Act designates VIU as a special purpose teaching university tasked with serving regional communities (University Act, 2022). Working within this mandate, VIU seeks to be “the community’s first point of call for research and expertise to address the issues that matter most to them” (VIU, 2021). This strategy promotes a strong culture of teaching and learning through research. Both faculty and student engagement professionals embrace this culture to ensure that students acquire experiential research opportunities in, with, and for neighboring communities.

Anually since 2012 (except in 2020 due to the COVID-19 pandemic), VIU has hosted an all-campus, open to the public, knowledge-sharing event called CREATE (Celebrating Research Engagement and Talent Exposition) during the last week of the spring semester. Many universities and colleges host a student conference, or similar event, to allow students space to share their research with a broader audience. These events also offer an excellent environment to learn communication skills in a real world context, particularly if the event is open to the public (Larkin 2014; Nicolaides et al. 2020).

Since 2018, the lead author has been responsible for the leadership and management of CREATE. To address the global pandemic, VIU’s retention leadership team (RLT) made a tactical plan and identified short-term actions to influence positive retention during an extraordinary year. CREATE 2021, an entirely virtual event, was identified as a persistence-oriented event due to its potential to influence students’ self-efficacy, sense of belonging, and perception of...
curriculum (Tinto 2017). CREATE's leader was part of the RLT to oversee, design, and implement the actions in the tactical retention plan related to CREATE. This article presents a practical overview of the various tactics the CREATE team implemented to positively affect the sense of belonging of students, particularly underserved students, as well as the assessment strategies. The typical research article format and detailed study of the hypothesis-data-analysis-conclusion pathway could have been followed, but instead a research-based user guide was presented, to help readers identify ways to increase students' sense of belonging at their knowledge-sharing events and to measure outcomes. The second author of the article has added her own perspective as an undergraduate Indigenous student who participated in CREATE and was able to join the research team following the event. Her words are italicized in the text.

Strayhorn (2018) describes students' sense of belonging as "students’ perceived social support on campus, a feeling or sensation of connectedness, and the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the campus community or others on campus such as faculty, staff and peers” (4). Under normal conditions (non-pandemic parameters), affecting students’ sense of belonging can be challenging at events where students share their work publicly, defend why and how the work was done, and often have the work adjudicated. The projects of the students reflect at the very least their dedicated work and scholarship. For others the projects also are strong personal reflections that speak to student identity, future aspirations, and values. These events can expose the vulnerability and uncertainty of students, which can be mitigated with a nurturing environment (Walkington, Hill, and Kneale 2017, 421).

The challenge was further complicated for CREATE 2021 since the event would be virtual. The goal was to construct a meaningful online CREATE community. When a student body has a high percentage of underserved populations, intentionally constructing these communities is particularly critical, as these groups often face discriminatory behaviors, from unconscious biases to targeted racism, in public and academic environments (Harpalani 2017; Hurtado and Alvarado 2015). “Underserved” here refers to one or more of the following: a first-generation undergraduate student, an Indigenous person, a person of non-traditional gender, a person with trans experience, a person identifying as LGBTQ+, a member of a visible minority in Canada, a person with a disability (visible or not visible).

Crafting the 2021 CREATE community began in October 2020 and is ongoing. The overall strategy was to affect students’ sense of belonging in a positive way in all interactions they had with CREATE. Following are the seven tactics utilized to achieve this, as well as a short rationale for each tactic and a description of how each was implemented.

### Strategy and Implementation

#### Tactic 1: Establish Positive Relationships between CREATE Leader and Students

Research has demonstrated that the development of students’ sense of belonging in online environments is critically affected by interactions they have with tutors and professional services, as these entities are able to safeguard the learning environment and provide support when learners feel stressed (Peacock et al. 2020). Further, “learners need to develop strong feelings of being welcomed, accepted, needed and valued” (Peacock and Cowan 2019, 74).

**Implementation.** Prior to the event, the leader of CREATE was the primary communication and learning resource person; this included responding to inquiries and holding workshops. During the event, CREATE's leader hosted the welcome and keynote address as well as most events and the final awards ceremony. The leader consistently tried to establish positive relationships that enabled student success, as just one incidence of isolation or rejection can detract from attempts to increase a sense of belonging (Walton and Cohen 2011).

There is inherent risk in reliance on a single person. For risk management, it is recommended that the event have strong team-based training, and branding with a “share the leadership” image. Prerecorded messages from leadership to share at events a leader cannot attend are another possibility. More long-term planning requires that institutional leadership recognize the skill set required to host these events and hire accordingly, as well as excellent process documentation to guide the event.

*Kendra made the environment of CREATE feel welcoming and safe. She ran the event and communicated with ease, elevating participant experience.*

#### Tactic 2: Ensure that Event and Schedule Enable Diverse and Inclusive Participation

This tactic was influenced by feedback from previous CREATE events. Several programs requested expansion of when and how students could participate.

**Implementation.** The virtual nature of the event allowed for an expansion of participation geographically, as people did not need to be on campus to participate. To meet the challenge of students without access to necessary technology, CREATE incorporated a few events that required little technology or Internet bandwidth, such as photography or a Twitter poster event, and allowed students to prerecord their presentations. All events were then hosted on VIU websites. The schedule was expanded to include evening sessions to accommodate students' schedules. Activities were chosen to allow as many disciplines...
and knowledge dissemination practices as possible. This included research posters, infographic posters, 10-minute presentations, 10-minute performances, three-minute slams, Twitter posters, Rant-like-Ricks, a short films festival, and photography.

CREATE had ample time slots available for each form of project. This gave students the flexibility to attend regardless of previous commitments.

**Tactic 3: Reimagine Role of the Adjudicator**

CREATE gives awards that are based on merit and content. Adjudicators are enlisted to select qualified recipients. Students are made aware of the rubrics and expectations well in advance of the event. Another adjudicator role is that of student mentor. It was understood that there would be a power imbalance between the experienced adjudicator and the student (Merriweather and Morgan 2013). This was addressed by finding ways for the adjudicators to offer advice, encouragement, and legitimate commendation in respectful and kind ways. Walking- tion and colleagues (2017) reported student reflections about conferences enabling conversation and bidirectional knowledge exchanges. CREATE sought to provide an environment conducive to conversations between students and adjudicators.

**Implementation.** Diverse adjudicators with varied backgrounds, experiences, and identities were intentionally recruited. The role of mentoring students in a professional, positive capacity was discussed with the adjudication teams, giving them the agency to act authentically toward this end. Adjudicators were able to interact with students during the sessions, and individual feedback forms filled out by the adjudicators were an option provided to every student for most sessions.

In my film festival session at CREATE, I had four adjudicators of different ethnicities and filming backgrounds present. This provided a fair deliberation of my piece, and I received constructive feedback, allowing me to improve my skills.

**Tactic 4: Ground the Participants**

Strayhorn (2018) provides a definition of a student’s sense of belonging that includes being on campus. Engaging social, physical, and personal factors is important to development of a sense of belonging (Grillo et al. 2010). Furthermore, to better incorporate Indigenous concepts of research and education, it is necessary to develop and acknowledge relationships between students and between students and leadership, and also with places inhabited (Kovach 2021; Lambert 2014).

**Implementation.** At the beginning of each session the territory was acknowledged. One example was “Huy tsée pqa’ si’em siye’yu mstimumuxw. Je veux commencer par...”

I am an Indigenous student, and the land acknowledgment that took place at the beginning of my session made the environment feel safe and inclusive.

**Tactic 5: Enable Student Self-Reflection via an ePortfolio Platform**

Building on Nguyen’s finding that “ePortfolios encourage new understandings of past traditions and current experiences, which enhances belonging” (2013, 145), plans were made to implement a cocurricular ePortfolio experience for CREATE participants.

**Implementation.** CREATE partnered with VIU’s Office of Co-Curricular Engagement and Learning to make use of the cocurricular record (CCR). The CCR connects classroom learning to experiences outside the lecture theatre (or the Zoom room). It was set up like a cocurricular ePortfolio and required the students to reflect on how their CREATE experience related to the acquisition of several VIU graduate attributes, including literacies, intellectual and practical skills, and civic engagement (VIU, n.d.). These experiences are expressed as positions in the CCR. CREATE’s CCR positions were based on VIU’s areas of research priorities and strengths (e.g., equity, diversity, social justice) and several high-impact practices (e.g., undergraduate research and community or service-based learning). To increase student participation in this project, awards were associated with each CREATE CCR position. These awards went to students who were able to best tie together CREATE, the content of their project, and the associated graduate attributes. Over 70 reflections were received for CREATE 2021.

The use of CCR notations at CREATE to reflect on my experience was beneficial. I was able to receive documentation of my participation while highlighting the attributes and skills I learned throughout the process.

**Tactic 6: Recognize Students**

Prizes and awards motivate students and recognize work, dedication, perseverance, and excellence. There are other reasons for student recognition. Kuriloff and Reichert (2003) noted that socioeconomic status among students at a private school influenced everything, including awards,
which mostly went to socioeconomically privileged students. Ostrove and Long (2007) stated that social class is significantly associated with students’ sense of belonging. In addition, as with Nobel prizes, particularly in the sciences, many go to a small, select group of individuals lacking in diversity (Jin and Uzzi 2021). For awards to work positively toward a sense of belonging, there was a need to design and present them in ways that would reflect the diverse nature of the student body.

Implementation. Over 15000 CAD was awarded at CREATE 2021. Although standard awards were presented (e.g., Best Research Poster), most awards were developed to recognize other attributes and contributions, such as the STOP! and Think Award presented to a student whose work forced the audience to pause and give serious reflection to previously held beliefs, and the Tireless Award presented to a student who demonstrated incredible endurance and passion about the issue or issues raised in their project. For a complete list of CREATE awards and recipients see the CREATE Awards List 2021 (Stiwich 2021).

I was the recipient of the People’s Choice Award for the Short Films Festival. The awards provided great incentive to those participating and allowed us to further fund our projects and education at VIU.

Tactic 7: Allow for Cultural Community Service Spaces
According to Museus, Yi, and Saelua (2017), one of the nine elements of a culturally engaging campus environment is cultural community service, which they define as an opportunity “for students to give back to and positively transform their communities via activities aimed at spreading awareness [and] engaging in community activism” (192). CREATE chose to foster these culturally relevant opportunities due to their potential positive correlation with the sense of belonging.

Implementation. CREATE partnered with the VIU Faculty Association’s Human Rights and International Solidarity Committee to host the Anti-Racism Arts Festival. The festival invited students to submit visual and performance-based entries. Part of each entry was a reflective description of the piece in which the student was given the opportunity to explain the work and its relation to anti-racism. The CREATE sessions where the students shared their works were quite powerful.

Results
Tactics implemented at CREATE 2021 positively affected students’ sense of belonging, based on scale data, observation of students’ ability to “be themselves,” and comments provided by students. Pavlakou and Walkington (2018) observed that institutional events are able to provide the same types self-efficacy outcomes that larger, national student conferences allow, but they also provide a feeling of security in environments considered safe and diverse. Data and corresponding analyses about CREATE reflect these findings and further expand understanding of how students perceive institutional conferences and how this can be measured in relation to a sense of belonging.

Before 2021, limited data was collected to specifically address students’ sense of belonging at CREATE. Part of the work in 2021 involved assessing the information collected at the time of registration and during and after the event. In 2021, significantly more data related to students’ self-identification was collected at registration. Following the event student participants were invited to complete a sense of belonging survey that included the CREATE Sense of Belonging Scale, the first scale of its kind to test sense of belonging at a postsecondary student knowledge-sharing event. The research ethics application included only the sense of belonging survey, and that data primarily is reported here. Further reporting is possible regarding the data collected at registration.

All student participants ($N = 149$) were invited to participate in the online survey following the event. Ninety-three responded partially; 87 responded to all Sense of Belonging Scale statements, and 78 responded to all self-identity questions. Of the 93 who responded partially, 65 were from underserved populations. The CREATE Sense of Belonging Scale included six statements (see Table 1), which were assessed using a five-point agreement scale ranging from Strongly Agree (1) to Strongly Disagree (5). The scale was based on many others found in the literature, including Davis et al. 2019; Goodenow 1993; Hagerty and Patusky 1995; and St-Amand, Girard, and Smith, 2017. It had an acceptable Cronbach’s alpha ($\alpha = 0.80$) based on Nunnally and Bernstein (1994), who suggested that 0.70 was an acceptable alpha coefficient.

The average score for all respondents was 1.82. The difference between underserved (1.80) and non-underserved (1.85) was not significant ($p = 0.73$). Overall students experienced a good sense of belonging at CREATE. These scores will serve for comparison with future CREATE events. They will not serve as baseline, because CREATE

<table>
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<tr>
<th>TABLE 1. CREATE Sense of Belonging Scale Statements</th>
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<tbody>
<tr>
<td>CREATE helped me feel like I was part of the VIU community.</td>
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<tr>
<td>At CREATE there were other students from my academic discipline.</td>
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<tr>
<td>At CREATE I was able to perform to my full potential.</td>
</tr>
<tr>
<td>I was treated with understanding by those with whom I interacted at CREATE.</td>
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<tr>
<td>CREATE made me feel free to invite my friends and family.</td>
</tr>
<tr>
<td>At CREATE I felt free to be myself without feeling out of place.</td>
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...
Indigenous, nontraditional gender, and trans-experience groups disaggregated had small populations and were not able to reach statistical significance with their differences. Also analyzed was the magnitude of differences (or effect size), using Cohen’s d to determine the effect between the two means. As detailed in Table 2, the effect sizes were deemed to be medium to large.

The last survey question invited participants to comment about CREATE or the topics in the survey. Forty-six respondents provided responses, and these were divided into general positive statements (\(N = 14\)), specific positive statements (\(N = 23\)), and constructive feedback (\(N = 9\)). Of the seven tactics listed above, five were reflected in the open-ended comments in a way that indicated that the student was positively affected (see Table 3). Students used words such as experience, atmosphere, environment, community, and place to describe the event. This language indicates that CREATE provided a space for more than simply a knowledge dissemination event, and that students were grounded in a virtual community (see Tactic 4).

### Outcomes and Discussion

The research process elicited many positive sense of belonging outcomes from CREATE 2021. Three areas that

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<th>Tactic Example</th>
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<td>Establish positive relationships between leader and students</td>
<td>Kendra does a great job with CREATE! She is what made it so enjoyable for me!</td>
</tr>
<tr>
<td>Ensure schedule and event enable diverse and inclusive participation</td>
<td>I also loved the wide variety of presentation types that we could be involved in.</td>
</tr>
<tr>
<td>Reimagine role of adjudicator</td>
<td>[Judge’s name] . . . feedback was intuitive and generous, critical and kind.</td>
</tr>
<tr>
<td>Recognize students</td>
<td>I also really appreciated all the award possibilities, and it made it really fun.</td>
</tr>
<tr>
<td>Allow for cultural community service spaces</td>
<td>Great opportunity to see other people’s work from different programs adding in lots of diversity and variety.</td>
</tr>
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</table>
could be improved also were highlighted by students and organizers.

1. Better support for underserved students, to carry them from registration through to event participation. Eighty-six percent of the students who registered but did not participate were from underserved populations. For CREATE 2022, personalized follow-up will be provided to all students identifying with an underserved group. This will include information on support and deadlines, as well as personalized words of encouragement.

2. Better training for session hosts. A single leader hosted most events and others were enlisted to help. Feedback from both the hosts and the students indicated that a formalized training module for these assistants would be beneficial.

3. Better time management for certain activities. The ePortfolio platform was initiated two weeks prior to the event, and the process was rushed for students and organizers alike. A longer window would allow students more time learn about and make use of this opportunity. Further, hosting hour-long sessions online via Zoom did not allow adequate time for questions when there were six or more posters or five or more presentations. This did not allow opportunities for follow-up and connection between students and audience members. The hope is to reinstate face-to-face poster options. Presentation sessions will be kept to four 10-minute presentations per one-hour session.

Public-facing knowledge dissemination is part of a continuum of activities that postsecondary institutions can support for positive student persistence outcomes. CREATE has been established as VIU’s foremost knowledge dissemination event. With intentional leadership and institutional support, there are positive sense of belonging effects. Future questions to address including the following: Does the Sense of Belonging Scale work as well for other events in other contexts? How does a student’s sense of belonging at an event relate to their sense of belonging at the institution? How will face-to-face, hybrid, and virtual events differ in terms of tactics that influence students’ sense of belonging?

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References


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