



## How Theater Can Promote Inclusive Engineering Campuses

### Dr. David DiBiasio, Worcester Polytechnic Institute

David DiBiasio is Associate Professor of Chemical Engineering and Department Head of ChE at WPI. He received his ChE degrees from Purdue University, worked for the DuPont Co, and has been at WPI since 1980. His current interests are in educational research: the process of student learning, international engineering education, and educational assessment. Collaboration with two colleagues resulted in being awarded the 2001 William Corcoran Award from Chemical Engineering Education. He served as 2004 chair of the ASEE ChE Division, has served as an ABET program evaluator and on the AIChE/ABET Education & Accreditation Committee. He has also served as Assessment Coordinator in WPI's Interdisciplinary and Global Studies Division and as Director of WPI's Washington DC Project Center. He was secretary/treasurer of the new Education Division of AIChE. In 2009 he was awarded the rank of Fellow in the ASEE, and in 2013 was awarded the rank of Fellow in AIChE.

### Kristin Boudreau, Worcester Polytechnic Institute

Kristin Boudreau is Paris Fletcher Distinguished Professor of Humanities at Worcester Polytechnic Institute, where she also serves as Head of the Department of Humanities and Arts. Her training is in nineteenth-century literature, but for the past 8 years she has taught engineering ethics, first-year engineering courses, and humanities for engineers. She has also worked with students and colleagues to develop role-playing games teaching engineering within its complex humanistic context.

NOTE: this paper has co-authors.

### Ms. Paula Quinn, Worcester Polytechnic Institute

Through her role as Associate Director for the Center for Project-Based Learning at Worcester Polytechnic Institute, Paula Quinn works to improve student learning in higher education by supporting faculty and staff at WPI and at other institutions to advance work on project-based learning. She believes project-based learning holds significant potential for increasing the diversity of students who succeed in college and who persist in science, technology, engineering, and math (STEM) fields, and she views her work with the Center as contributing to education reform from the inside out. She holds an M.A. in Developmental Psychology from Clark University and a B.A. in Psychology from Case Western Reserve University. Her background includes working in the field of education evaluation, where she focused primarily on the areas of project-based learning; STEM; pre-literacy and literacy; student life; learning communities; and professional development. She has worked on projects whose funding sources have included the National Science Foundation, the Institute of Education Sciences, and the U.S. Department of Education.

## How Theatre Can Promote Inclusive Engineering Campuses

### Abstract

How can the arts contribute to a culture of inclusivity within engineering? This paper explores preliminary findings from our study of Worcester Polytechnic Institute (WPI), a four-year, primarily engineering college whose longtime undergraduate curriculum requires all students to complete a substantial humanities project. Many engineering students at WPI choose to do this humanities work in theatre, where they study classic and contemporary plays and participate in productions. They have the option of writing an original play as their capstone project, and if successful their play may be staged for a campus audience. For 35 years, an original short play festival on this campus has performed the work of students. From nearly the beginning, these original plays featured the difficult themes of sexual identity and orientation. In 2017, to celebrate this rich heritage, the theatre program presented a retrospective of LGBTQ+ themed plays written and performed by students since 1987. We report here on our findings from a mixed-method study of this theatre program and its influence on the culture at WPI. While in general, engineering culture is not a welcoming place for LGBTQ+ people or for open discussions about non-normative sexuality, the data we have collected around WPI's theatre program present a powerful exception to that rule. Our data set includes the scripts of 22 student- or alumni-authored plays on LGBTQ+ themes, a survey of 80 audience members at the 35-year retrospective of LGBTQ+ themed plays, and interviews with people associated with the theatre program, including its faculty director and several openly queer engineering students and alumni. Together, these documents make a compelling case that theatre can contribute to an engineering culture that is more than typically inclusive of non-normative sexualities (not just for people involved with the theatre program but for the educational culture at large). Because our study subjects are engineering majors, not liberal arts or theatre majors, the implications of our research can be extended to other engineering educators. We conclude with recommendations drawn from this study that can be applied to other engineering institutions (whether or not they have theatre programs).

### Introduction and statement of the problem

In 1987, a small, primarily engineering college presented a night of original plays written and performed by students. One of these plays, *Why Did You Tell Me?*, featured a gay student's coming out to his roommate. The play focuses on the roommate who, disgusted and angry, turns to his girlfriend to process his feelings. The play was both a barometer of the climate at Worcester Polytechnic Institute (WPI) and an instrument for change: it opened a dialogue on the campus about tolerance, intolerance, and the tremendous cost for a gay person to remain in the closet.

The play was part of a larger tradition that continues today at WPI. Since 1983, the theatre program has been hosting *New Voices*, an original short play festival, the nation's oldest collegiate festival of its kind. Each year, students submit original

short plays, which are selected in a blind review process and produced in the small theatre by a student cast and production team. *Why Did You Tell Me?* was performed in the fifth year of *New Voices*. Susan Vick, the theatre professor who inaugurated *New Voices*, still oversees it 36 years later.

From the very beginning, these original plays featured difficult themes of sexual identity and orientation. As Erin Cech and Tom Waidzunas point out, engineering culture is not generally a welcoming place for lesbian, gay, bisexual, and transgender (LGBT) students or for open discussions about non-normative sexuality.<sup>1</sup> Engineering schools are characterized by heteronormativity, the assumption of heterosexuality that presumes that other sexualities either don't or shouldn't exist. This assumption, often unstated, saturates the environment with damaging results for LGBT students. Heteronormative culture, Cech and Waidzunas report, "pressures many LGB[T] engineering students into both academic and social isolation." To persist in college, they must either keep their private lives secret or face the emotional challenge of being LGBT in an environment that does not welcome them—a burden not shared by straight students. This additional "emotional work," Cech and Waidzunas have found, forces LGBT students to "daily negotiate public knowledge of their personal lives in ways that their heterosexual peers do not."

In particular, Cech and Waidzunas observe that the technical/social divide within engineering culture—which dismisses the "personal" as irrelevant to the technical orientation of engineering—"may marginalize LGB students and lead them to feel as though discussions of their particular circumstances are silenced."

The staging of *Why Did You Tell Me?* in 1987 invited audiences to explore these questions for themselves and as a community. In the second scene of the play, Cheryl tries to convince her boyfriend that his friend was brave to confide in him about being gay:

"Don't you think he knew how you'd react?" she asks him. "All those times you guys made fun of homosexuals and gagged and showed your disgust, Dave was there.

"Don't you think it was hard for him to just stand there and listen while you cut down the way he had to live? Don't you think it was hard for him to throw in the occasional insult so you guys wouldn't get suspicious?"

In asking Jack to imagine what life has been like for his closeted friend, Cheryl invokes without naming (because the term had not yet been coined) the concept of

---

<sup>1</sup> Cech & Waidzunas (2013). "The Veiling of Queerness: Depoliticization and the Experiences of LGBT Engineers." ASEE; Cech & Waidzunas (2011). "Navigating the Heteronormativity of Engineering: The Experiences of Lesbian, Gay, and Bisexual Students." *Engineering Studies* 3:1, 1-24.

heteronormativity, or what Adrienne Rich in 1980 called “compulsory heterosexuality.”<sup>2</sup> What burdens do LGBTQ+ people carry in a culture that assumes that everyone is straight?

This is a question that has been taken up in recent years by a small number of researchers looking into the cultures of engineering, both in the professional and educational realms. A 2014 survey by the Institution of Engineering and Technology found that a third of the LGBT professional engineers surveyed hide their sexual orientation from colleagues, while 46% “wanted to be more open about who they were.”<sup>3</sup> A 2015 study of LGBT individuals working in STEM-related federal agencies within the U.S. government found that these individuals are both underrepresented within those agencies and “report systematically more negative workplace experiences than their non-LGBT coworkers.”<sup>4</sup> A transdisciplinary team of scholars at the University of Illinois at Urbana-Champaign found that “LGBT [engineering] students described anxiety with disclosing [their sexual identity] in mostly male engineering teams because of the reactions of their teammates.”<sup>5</sup> Most recently, a major survey of 1700 students at eight U.S. engineering colleges concluded that “LGBTQ students face greater marginalization, devaluation and personal consequences relative to their peers.” Further, “There is little variation in the negative climate for LGBTQ students across the eight schools” included in this study, “suggesting that LGBTQ inequality is part of the professional culture of engineering that pervades most engineering programs.”<sup>6</sup>

We wondered about the connections between the performing arts and an atypical culture of inclusivity at WPI. To be sure, WPI’s Massachusetts setting surely makes a difference: where state laws protect individual choice in gender identity and expression, one would expect to find a more comfortable environment for LGBTQ students. However, as noted in our short history of *New Voices*, WPI’s use of theatre to explore questions of sexual orientation extends back to 1987, a full six years before President Bill Clinton’s “Don’t Ask, Don’t Tell” policy and many years before most people even entertained the possibility of laws permitting gay marriage or adoption. How might the presence of this vibrant theatre program, and opportunities for engineering students to write and perform original plays on topics

---

<sup>2</sup> Rich, A. (1980). “Compulsory Heterosexuality and Lesbian Existence.” *Signs* 5.4: 631-660.

<sup>3</sup> Harris, S. (2014). “Third of Gay Engineers Hide Sexuality from Colleagues.” *The Engineer*. 23 July.

<sup>4</sup> Cech, E. (2015). “LGBT Professionals’ Workplace Experiences in STEM-Related Federal Agencies.” ASEE. Paper #12513.

<sup>5</sup> Trenshaw, K. et al. (2013). “Lesbian, Gay, Bisexual, and Transgender Students in Engineering: Climate and Perceptions.” IEEE.

<sup>6</sup> Cech, E., Waidzunus, T., & Farrell, S. (2017). “The Inequality of LGBTQ Students in U.S. Engineering Education: Report on a Study of Eight Engineering Programs.” ASEE. Paper # 19483.

of their own choosing, contribute to the campus climate for all people, particularly those with non-normative sexualities?

## **Background**

Since 1970, WPI's curriculum has focused on three significant projects: one in the major discipline, one in some interdisciplinary area, and one in an area of the humanities. For the humanities requirement, all students regardless of major must complete five courses, followed by a self-directed project, in some area of the humanities or arts. Many students choose to work in theatre, where they combine coursework in dramatic literature or playwriting with project work in theatre performance, production, and design. They have the option of writing an original play as a course project, as their capstone project, or as an extra-curricular activity. If successful, their play is selected and staged for a campus audience. Since 1983, WPI's theatre program has staged the work of students in its annual April production of *New Voices*. Many of these plays feature difficult human topics, including themes of sexual identity and orientation. In 2017, to celebrate this rich heritage, the theatre program presented *The Showcase*, a retrospective of LGBTQ+ themed plays written and performed by students since 1987. Twenty-two plays were performed at this *New Voices* retrospective, all of them dealing in some way with the theme of non-normative sexual identity. Many others could not be included because of time constraints.

We report here on our findings from a mixed-method study of this theatre program and its influence on the culture of WPI. In spite of the significant research, cited above, that engineering campuses are not inclusive places for LGBTQ students, the institution under consideration here seems an important exception. We wanted to know whether and how WPI's theatre program contributed to the campus's unusual openness about sexual identity.

## **Methods**

To understand the influence of the theatre program on the climate for engineering students, we took a mixed-methods approach, gathering quantitative data from surveys and analyzing qualitative data from a variety of sources: the narrative portions of those same surveys; the scripts of the 22 plays featured in *The Showcase* as well as several others that were performed over the years in the new play festival but were not featured in the retrospective; the words of students and alumni reflecting on their experiences as queer engineering students and within the theatre program; and the account of the longtime director of this program.

**Focus group:** Our investigation of the theatre program is part of a larger study of the campus climate in general. A preliminary focus group in spring 2015 with eight undergraduate engineering majors (not necessarily affiliated with the theatre program) who identified as LGBTQ helped us develop our research questions, which include the following:

- *Where are the places LGBTQ students go to feel welcome and supported as they reflect on the facets of their identity and try to nurture them without conflict? What are the elements of these places that make them especially supportive and inclusive?*
- *What experiences foster students' meaning-making capacities?*
- *How do these places or experiences support the development of sexual identity, resilience, and confidence as LGBTQ engineers? How might they be extended into formal learning spaces?*
- *Beyond clubs explicitly aimed at LGBTQ students, how do other opportunities (student clubs, courses, events, etc.) support the emotional and intellectual development of LGBTQ engineering students?*
- *How do LGBTQ students develop emotionally during their undergraduate years? What experiences are most formative?*
- *How can courses and faculty provide these same elements of inclusivity?*

**Anonymous survey:** In April 2017 we conducted an anonymous survey of people who had attended the retrospective theatre performance, *The Showcase*. We did not have access to the identities of everyone who attended, but using email addresses of the 146 people who reserved tickets online, we surveyed this audience, receiving 80 responses for a 54% response rate. 22 of the 80 respondents indicated that they identify as LGBTQ+, including 15 current undergraduates (14 engineering majors) and 7 alumni. We deliberately surveyed this audience because we knew it would include a large proportion of LGBTQ+ respondents. *The Showcase* was a performance of original plays written and produced for *New Voices* in the previous 34 years, with a twist: all 22 plays were selected by the program dramaturgs because they dealt with the theme of queer sexuality. We knew that the audience for this show would contain a large number of queer people and allies, and we were particularly interested in hearing from these people about their perceptions of the climate at this college for LGBTQ+ engineering students. The questions we asked in that survey had to do with the campus climate, including general questions about more and less supportive spaces and experiences, as well as specific questions about the role of the theatre program in promoting a supportive climate. We also asked respondents if they would like to be included in a follow-up interview or focus group. Six current engineering students and three alumni, all of them self-identifying as queer, indicated that they were interested in talking to us.

### **Survey Respondents**

Of the 80 survey respondents, 14 indicated they were either current WPI engineering majors ( $n=11$ ) or WPI engineering alumni ( $n=3$ ) who identified as LGBTQ+ individuals. When we refer in the following findings to this survey, we refer to this group only.

**Interviews:** Based on responses in the anonymous post-*Showcase* survey, we interviewed the faculty director of the theatre program and have begun interviewing selected LGBTQ+ engineering students and alumni involved in the theatre program. We will continue interviewing during spring and summer 2018. To

date, we have interviewed two alumni of the theatre program and conducted two focus groups with current theatre students.

**Preliminary Findings:** Our interviews and surveys are helping us learn in some detail about the experiences of LGBTQ engineering students and how a performing arts program can contribute to LGBTQ students' experiences. Our preliminary findings identify those practices and spaces that are most conducive to the growth, success, and self-confidence of LGBTQ engineers, as well as suggest how their professional formation (along many axes including sexual identity) transpires. We have identified the following themes:

- **LGBTQ+ engineering majors find WPI a welcoming place for people like them.** These findings are based on interviews, focus groups, and responses to our anonymous survey. Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current WPI engineering majors or engineering alumni, 93% characterized WPI as “welcoming” for LGBTQ+ people, with 64% indicating that WPI was “fully welcoming” and 29% indicating that WPI was “somewhat welcoming.” (See Appendix A for the survey item and responses.) One (7%) LGBTQ+ engineering major characterized WPI as “neither welcoming nor unwelcoming,” and no LGBTQ+ engineering majors perceived WPI to be an unwelcoming place for LGBTQ+ people. The ten comments supporting these characterizations (see Appendix A) indicated that the welcoming atmosphere was due primarily to an absence of negativity or hostility towards LGBTQ students. One alumni interview was typical in this regard: There were no “less welcoming” STEM courses. “I think if it wasn’t positive,” this person told us, “then it was just neutral.”<sup>7</sup> However, some survey respondents suggested that the atmosphere was not as welcoming for transgender students.
- **A variety of spaces and experiences can support a culture of inclusivity.** Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current engineering majors or engineering alumni, 79% indicated that WPI offered spaces or experiences that they felt were either particularly supportive of LGBTQ+ people or supportive of an environment of inclusivity. (See Appendix B for survey item and responses.) When asked for descriptions, seven respondents identified arts programs, either academic or extracurricular. Other frequently cited spaces included some Student Affairs offices (the student counseling center, residential life) and many cited The Alliance, a WPI student LGBTQ+ organization affiliated with oSTEM, the national society fostering leadership for LGBTQ+ communities in STEM fields. Still others told us that they weren’t active in the Alliance, or had been only briefly active. When asked to explain, many indicated that they didn’t need the kind of safe space that the Alliance

---

<sup>7</sup> Interview with “Alumnus 2.” December 18, 2017.

provided. Here is a typical explanation: “When I first came to campus. . . one of the groups that I was sort of interested in was the, previously it was the Gay-Straight Alliance. I only went to a couple of events and it wasn’t because I felt that they weren’t doing a good job or anything. It was just there are so many different things to do and . . . I felt like [being gay] wasn’t an issue, from my perspective.”<sup>8</sup>

- **There are limits to the inclusivity on campus, particularly for transgender students and within some organizations and classrooms.** Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current engineering majors or engineering alumni, 36% indicated that WPI offered spaces or experiences that they felt were either *not particularly supportive* of LGBTQ+ people or *not supportive of an environment of inclusivity*. (See Appendix C for survey item and responses.) When asked to provide details, respondents indicated that certain Greek organizations on campus convey negativity towards LGBTQ+ people with some of that negativity directed at transgender individuals. Respondents also indicated that some professors did not create classrooms that conveyed inclusivity.
- **Academic spaces within STEM can promote feelings of inclusion.** Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current WPI engineering majors or engineering alum, half (50%) indicated that WPI offered academic spaces or academic experiences that they felt were either particularly supportive of LGBTQ+ people or supportive of an environment of inclusivity. (See Appendix D for survey item and responses.) Supporting comments indicated that welcoming spaces existed in the English program and Biology department and in any course taught by a particular professor.
- **Academic spaces in all disciplines can discourage feelings of inclusion.** Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current engineering majors or engineering alumni, only one (7%) indicated that WPI offered academic spaces or academic experiences that they felt were either not particularly supportive of LGBTQ+ people or not supportive of an environment of inclusivity. (See Appendix E for survey item and responses.) When asked for support for that position, that respondent identified a particular professor who mocked the idea of non-binary gender categorization and indicated that other professors were either not respectful of preferred names or cooled in their friendliness with the student after learning that the student was affiliated with a campus organization that is LGBTQ+ supportive.

---

<sup>8</sup> Interview with Alumnus 1, December 8, 2017.

- **In general, theatre programs are open and welcoming places for all people, but *in particular*, the theatre program at WPI has taken an active role in promoting an inclusive campus environment.** Of the 14 survey respondents who identified as LGBTQ+ individuals and also indicated they were either current engineering majors or engineering alum, 93% ( $n = 13$ ) commented on the role they thought WPI's drama/theatre program has played in the campus climate for LGBTQ+ people. (See Appendix F for survey item and responses.) Their comments indicated that theatre programs and spaces—by their very nature—were open and welcoming places for all people, including those identifying as LGBTQ+. But they further indicated that this particular theatre program has highlighted support of the LGBTQ+ individuals by “push[ing] the discussion to the WPI community” and “showcas[ing] all of the different struggles that LGBTQ+ people have.”

### **How Does the Theatre Program Contribute to a Culture of Inclusivity? Findings from our Surveys**

Thirteen of the 14 survey respondents who identified as LGBTQ+ indicated that they found the theatre program either “fully” or “somewhat welcoming,” and most of them provided comments. Their explanations fall into four general themes: the people involved in theatre; the general role of theatre in our society; the value to LGBTQ+ people of seeing themselves represented on stage; and the important role that theatre can play in educating a community.

**Theatre people:** We heard from five of the 14 queer respondents that theatre people are, in the words of one respondent, “some of the most accepting and welcoming for LGBTQ.” Although we didn’t use the word “accepting” or “accepted” in our question, four of the respondents used these words. “Theatre people tend to be very open minded,” one person reported. Another noted that many theatre people identify as LGBTQ and nearly all are allies. “It is a place where I feel total freedom from judgement for any reason,” another explained, “and particularly for sexuality.” One pointed to the acceptance that extends beyond the theatre community itself: “even if you’re not involved in theatre, befriending people in theatre can be very beneficial for your self-worth.”

**The socially progressive role of theatre:** Three respondents mentioned the unorthodox tendencies of theatre and the topics generally considered on stage. One respondent pointed to this general role of theatre: “I think any theatre program is going to be one of the most welcoming places for the community at any school.” Another, also explicitly tying this social function to theatre in general, then commented specifically on the theatre program at WPI: “Theatre is always on the cutting edge of social and cultural issues, and WPI’s program has never backed down. From my very first year in WPI’s theatre program when we produced *The Laramie Project*, I have always seen the theatre push the discussion to the WPI community.” Another noted that this theatre’s showcasing of “different struggles that LGBTQ+ people have . . . gives a new perspective to everything.” Another suggested that “the fact that [theatres] don’t shy away from the topic has played a

role as bringing awareness.” We should note that not all respondents offered unblemished praise: one, who reported the theatre program to be “somewhat welcoming,” expressed dissatisfaction with the representations of people in the short play retrospective. “There weren’t a lot of variety in the types of identities shown. Typically it was the same identities (though pansexual was mentioned!) I just wish that further identities were broached in a way that does not show the identities in a [b]ad light.”

**Representations on stage of LGBTQ+ people:** On the other hand, many of our survey respondents praised this particular theatre program for representing queer people with such frequency. One respondent, an alumnus whose plays had been featured in the retrospective, pointed out the value of being able to write for the stage and to see this work performed. “Through theatre, I was able to bring representation of gay struggles to the stage in two plays submitted and accepted to *New Voices*, both of which were featured again in *The Showcase*, that centered around the difficulties members of the LGBTQ community run into just for existing.” Another pointed out, “The drama/theatre program over the years has showcased the different aspects of the LGBTQ+ community and I think has had a positive impact in doing so.” Another offered a more personal reflection: “When the plays/musicals contain content regarding the LGBTQ+ community, it can be extremely validating to see a representation of your life on stage.”

**Theatre as a site for education:** Finally, we heard from one respondent about the important effect these productions can have on the larger campus community: “I think the drama/theatre program has a lot of power in regards to the campus climate for LGBTQ+ people. A lot of people attend drama/theatre productions, making it a valuable setting for education.”

### **How Does the Theatre Program Contribute to a Culture of Inclusivity? Findings from our Interviews**

The comments from these surveys helped us prepare for interviews and focus groups, where we could probe respondents to learn more about how theatre and its community participates in creating a more inclusive campus society. To date we have interviewed two theatre alumni and the longtime theatre director. All of them reiterated the idea that theatre people are very welcoming. In the words of Alumnus 2, “There’s a pretty sizable gay community [in the theatre program], and you could really be yourself, be who you want to be with those kids.”

In particular, we wanted to know more about the socially progressive work that theatre does for its audiences, its participants, and the people living in a community shaped by theatre. Of course, the world’s greatest writers and performers include many gay people, and much (certainly not all) theatre takes a progressive position on social issues. Beyond that, we wanted to know more about the WPI theatre program’s approach to selecting plays for production and for course readings and discussions. WPI’s theatre program is the work of a single tenured professor who has directed it since 1981, plus the one staff or instructor who assists her (these

people have changed over the years), and a changing cadre of work-study theatre students.

One of the alumni we interviewed told us that, while they often read “the classics” in theatre classes, they also regularly explored “brand new plays that are very, very counter-culture” —like *M. Butterfly*, David Hwang’s retelling of Puccini’s *Madama Butterfly* as a tale of transgender psychology and colonial stereotypes. In class, students read and discussed plays that “weren’t as safe” as the plays they had read in high school. “They were more experimental,” both formally and thematically, than the texts this student had studied before. On stage, too, the program often chose plays with difficult subject matter. In this student’s first year, the program staged *The Laramie Project*, a play based on a western town’s reaction to a brutal hate crime. Using documentary material from interviews, news reports, and journal entries, this play tells the story of Matthew Shepard’s murder in 1998. The staging of the play proved transformative for this alumnus, who both acted in the play and was heavily involved in its technical aspects. The play was “very, very intense. The biggest part of it was that . . .it wasn’t a fiction. It was very real events.”

What were the effects of selecting this play for production? For one thing, it set a standard for students when it was their turn to find plays to perform: they would choose plays that “push[ed other] boundaries” as *The Laramie Project* had. They were also more experimental when given the chance to write their own plays. This alumnus told us about his bolder choice of subject matter, his confidence that his submissions would be judged for their artistic merits rather than their content. “It never felt like there was a barrier to the topics that you could write about.”

The staging of these plays also had deep personal effects on students. The student director insisted that actors not only learn their lines and rehearse the play, but also reflect on what they were reading and performing. The alumnus, a first-year student at the time who had not yet come out, later recalled: “part of the way through that, I realized, wow, yeah, that’s part of the world that we’re living in . . . But that’s not what I’m feeling here. I feel safe, I feel comfortable, I feel good. And kind of because of that dichotomy there, I said, all right, well, I’m comfortable with me. This is who I am, this is what I am. I’ll tell a few people.”

Coming out for this student, then, was a combination of working with a broad-minded group of students and faculty (some of whom were openly gay), performing intensely emotional work on a play about violence inflicted on a gay youth, and being in the company of these supportive people while reflecting on the spectrum running between care and violence. Although he had previously confided in one or two close friends, asking them to keep his confidence, at the cast party at the closing of *The Laramie Project*, he made the decision to come out: “Here it is, everyone, you can know now.”

As for the opportunities to write their own plays, three alumni we spoke to noted the importance of having this expressive outlet to think through difficult human

issues. The student who wrote the first LGBTQ+-themed play to be performed in the original play festival (a woman who does not identify as LGBTQ+) recalled for us her motivations for writing the play, based on her own experience:

“I was a junior and had met this guy at a party. We met up again for a date a couple of weeks later. We didn’t go anywhere though. He said he was too upset to be fun that night because his best friend had just come out to him by hitting on him. He was extremely agitated and I remember him talking about feeling like he was going to be sick. So, essentially he was Jack and I was Cheryl. I tried to be sympathetic and help him see his friend’s side, but we didn’t know each other very well and his reaction was so negative and visceral. I never saw him again after that night.

“You hear stories about negative reactions, but that was the first one I had experienced first-hand. I just had to get my feelings down about it and the play was the result. I was proud of “Why Did You Tell Me?” while it was being performed because the actors and director accomplished what I wanted –a dialog about homosexuality and coming out with all sides represented and compassion winning out.”<sup>9</sup>

Another alumnus also wrote his first play for expressive purposes. The story is mostly true, “so it’s very close to me and it was a good way to try to just express, to try to get those feelings out. . . . This is life. This is how we have to go forward.” After his first play was accepted, the playwright felt more confident and ambitious: “Now I can just try for something bigger.” He thought about starting a show with “a very explosive, expressive, borderline extremely sexual scene that just hit you in the face first.” The play begins with the scene of two boys kissing and being caught by a sister, a scenario that many closeted gay people worry about: “I wanted to explore that because that’s a very, very, very common thing: nobody knows, you get caught, your parents are upset with you, your sister is upset with you, the world crashes down around your shoulders. But I’ve never heard about what happens after.” The work of writing that play and thinking about its structure and its emotional spectrum —“the [different] intensity we need at each of the steps”— helped the playwright not only reflect on his own experiences but also talk them over with potential directors. “I was looking for someone who could really understand both the first scene and how to make it work,” as well as “bring in the right kinds of feelings of remorse” in the later scenes. Another alumnus, who noted that he probably would not have explored personal issues in a creative or expressive way if not for the theatre program, its new play festival, and the opportunity to pursue credit in the humanities, said, “I think having the opportunity to write about difficult subjects and have your work performed, it sort of makes you a little vulnerable but extends your comfort zone a bit, seeing your work performed.”<sup>10</sup>

---

<sup>9</sup> Email conversation with alumna, March 8, 2017.

<sup>10</sup> Interview with Alumnus 2. December 18, 2017.

Finally, these plays offer the campus community a chance to open their minds to different lives, and—for queer students—the affirmation of having their lives represented on stage. Ann Palmer Anderson, the woman who wrote *Why Did You Tell Me* in 1987, recalls the responses she received after it was performed: “The aftermath was even more amazing. I had so many people seek me out. People I didn’t know—they would ask me if I was Ann Palmer and then shake my hand or just say ‘Thank You.’ It was extremely humbling because I wasn’t trying to be some sort of crusader, I just had a story to tell.” Both of the other alumni we interviewed also recalled conversations with grateful people who had seen their plays.

### **What can be transferred from a theatre program to engineering?**

Of course, not all engineering programs have a theatre program, nor are all engineering students able or motivated to be involved in theatre. What can engineering programs learn from what our research has revealed?

### **Collaborating on important projects**

Susan Vick, WPI’s Director of Theatre, describes the theatre as a laboratory, indicating that engineers and scientists understand this work better than most humanists. Particularly in an engineering setting, where technical course and project work demands so much of a student’s time, theatrical productions are short, intense, experimental, and often suggestive rather than elaborate. “You start with a script, and then it’s trial and error, trial and error, trial and error.”<sup>11</sup> She pointed out that during this intense and highly collaborative work, “when you get close, when you go through an experience together that is miraculous and wonderful, it’s so much easier, and differences don’t matter as much.”

We heard something very similar from the theatre students who reflected on their most inclusive experiences in engineering classes and projects. Alumnus 2 told us that he came out at the end of his sophomore year because of a project team in his chemical engineering class. “Just over the course of the term with us working together so much we became friends, and I met their friends and they became my friends. And so after meeting those people it was just tremendously easy to come out of the closet [to them]. I don’t think anyone was surprised, but they just said, great, it doesn’t change anything and we love you still.” Because their reaction was so warm, this student came out more broadly: “it was just very easy to come out to other people after that, after I knew I had a good support system.”<sup>12</sup> Alumnus 1, whose team projects were usually with friends, recalled the first few team projects, before he knew many people. “There’s a bigger goal in place, so the obstacles that some people might encounter —‘I don’t work well with this person’— well, you have to work well with this person regardless of their work habits or their likes and dislikes. And at the end of the day there is a goal that you have to be working towards.” We heard from many LGBTQ+ students that their sexual orientation was never an issue for their teammates because their project work was the primary

---

<sup>11</sup> Interview with faculty director. August 31, 2017.

<sup>12</sup> Interview with Alumnus 2. December 18, 2017.

concern. In a typical explanation, one transgender student told us that they can make a reference to being queer and their classmate will say, “I just care that you passage the cells and we get them imaged by the time that we have to send in the report.”<sup>13</sup>

### **Close student-faculty collaborations**

Just as student teams can foster a climate of inclusivity, close student-faculty collaborations on meaningful projects can also break down barriers, help students and faculty experience each other as humans, and provide opportunities for building a culture of respect. Alumnus 2 told us about two engineering faculty in particular he worked with in a class, on a paper, or as a guest lecturer in a class. “I guess just through working together so much on academic work, you know, you just naturally end up shooting the breeze and talking about other personal things and I think just by virtue of working together so much you learn about the other person.” One of these relationships became more explicitly personal when the professor suggested to the student that he apply to a graduate program in the South. “I said, ooh, maybe that’s not a good idea. And I said, you know I’m gay, I don’t know if that matters. And he said no, no, no, and . . . it was very easy to talk to him about it.” In a circumstance like this, it matters that a student can talk freely with a professor about the personal as well as academic factors that go into choosing a job or graduate program. As an important and extensive 2014 research study revealed, a college graduate’s overall sense of well-being and workplace engagement (the depth of involvement, enthusiasm, and commitment to one’s work) greatly depends on two factors from the undergraduate experience: first, if they recall having had a professor—even just one—who cared about them personally, made them excited about learning, and encouraged them to pursue their hopes and dreams; and second, if they took up a research project that extended for at least one semester.<sup>14</sup> When we heard recently from this engineering graduate about a radical career change, it was clear that he both felt comfortable disclosing his new plans to his former engineering professors, and that he had developed a healthy self-awareness and confidence that grew, in part, out of the relationships with students and faculty he’d developed in college.<sup>15</sup>

### **Opportunities in classes to interact and to discuss human topics**

Although a theatre class obviously offers a wider range of human themes for class discussion, we learned from our interviewees that the approach taken in humanities classes can be effectively adapted for engineering classes. Several students and alumni mentioned the value of breakout groups in large lectures to facilitate conversations and human interactions. Others speculated about how more human content might be brought into engineering courses—by, for instance, introducing students to a real person with a particular design need whom students can interview; or questions about what kinds of data might be stored on a particular

---

<sup>13</sup> Interview with Student 1, August 3, 2017.

<sup>14</sup> *Great Lives, Great Jobs: The 2014 Gallup-Purdue Index Report. A Study of More than 30,000 College Graduates Across the U.S.*

<sup>15</sup> Interview with Alumnus 2. December 18, 2017.

database. “A big thing that can be missing” from engineering classes, Alumnus 1 told us, is the “personal.” This graduate had majored in chemistry but now works as a software engineer because he couldn’t imagine himself as a chemist. “It didn’t feel personal. It didn’t feel like I was actually solving for a person. It felt like I would be going into a lab and my coworkers would be molecules. They wouldn’t be the people I’m working with or the people who would end up using this drug or this technology. It felt a lot like I’m making a chemical because I’m making a chemical.”<sup>16</sup>

We heard repeatedly in our interviews that, contrary to a norm within engineering that disregards the personal as irrelevant,<sup>17</sup> queer engineering students crave opportunities to be human and to acknowledge the human element in their engineering classrooms. The director of theatre at WPI suggests that this goal is not so elusive: “You can’t leave those [personal] values at the door. It’s not humanly possible. And my whole thing has been, don’t be afraid to get your hands dirty, to wade into difficult subject matter. The people [here] who run laboratories know right off what I’m doing.”

**Acknowledgement:** Support for this research was provided by the National Science Foundation, award #1640499, “Research Initiation: Understanding the Conditions for Inclusive Spaces for LGBTQ Engineering Students.”

---

<sup>16</sup> Interview with Alumnus 1. December 8, 2017.

<sup>17</sup> Erin Cech (2013). “The Veiling of Queerness: Depoliticization and the Experiences of LGBT Engineers.” ASEE. Paper # 6540.

**Appendix A: Survey responses regarding the campus climate  
[Name of performance redacted] Post Survey FINDINGS**

**Survey Respondents**

Of the 80 survey respondents, 14 indicated they were either current [name of institution redacted] engineering majors ( $n=11$ ) or [name of institution redacted] engineering alums ( $n=3$ ) who identified as LGBTQ+ individuals. The findings that follow refer to this group only.

**Q3 As a place for LGBTQ+ people, how do you describe [name of institution redacted]?**

- Not welcoming at all
- Not very welcoming
- Neither not welcoming nor welcoming
- Somewhat welcoming
- Fully welcoming

**As a place for LGBTQ+ people, how do you describe [name of institution redacted] as a whole?**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Neither unwelcoming nor welcoming (3)	1	7.1	7.1	7.1
Somewhat welcoming (4)	4	28.6	28.6	35.7
Fully welcoming (5)	9	64.3	64.3	100.0
Total	14	100.0	100.0	

**Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
As a place for LGBTQ+ people, how do you describe [name of institution redacted] as a whole?	14	3	5	4.57	.646
Valid N (listwise)	14				

**Q4 As a place for LGBTQ+ people, how do you describe [name of institution redacted]? Please explain.**

10 provided responses

1. Fully welcoming	I've never felt unwelcome
2. Fully welcoming	I've always met accepting people and never any openly non-accepting people.
3. Fully welcoming	I remember my first week at [name of institution redacted] and it was very stressful, but I went to the first safe zone reception during NSO [New Student Orientation] and that's where I met most of my friends for the first time
4. Fully welcoming	I have never once felt belittled, judged, or out of place by anyone I have encountered while on campus for my sexuality/orientation.
5. Fully welcoming	I have always felt welcomed at [name of institution redacted] regardless of my sexual orientation or gender identity.
6. Fully welcoming	I had no problems throughout my entire [name of institution redacted] career, from professors to students to staff, it was just never an issue.
7. Somewhat welcoming	People are typically at least welcoming to sexual orientations (particularly LG), but once you move past those, you get a lot more indifference. Particularly as someone who is trans, it can be extremely difficult to be accepted by people on campus.
8. Somewhat welcoming	I've never felt unaccepted for my identity, but I know trans students who haven't always been completely welcomed.
9. Somewhat welcoming	I think it's a live and let live attitude
10. Neither unwelcoming nor welcoming	There is not overwhelming visible support for the LGBTQ+ community at [name of institution redacted], but when the topic comes up, no one has any issues with it.

**Appendix B: Other supportive spaces on campus**

**Q6 Are there any spaces or experiences at [name of institution redacted] that you regard as either particularly supportive of LGBTQ+ people or supportive of an environment of inclusivity?**

- Yes
- No

**Are there any spaces or experiences at [name of institution redacted] that you regard as either particularly supportive of L...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	11	78.6	78.6	78.6
No	3	21.4	21.4	100.0
Total	14	100.0	100.0	

**Q7 Please describe the spaces or experiences at [name of institution redacted] that you regard as either particularly supportive of LGBTQ+ people or supportive of an environment of inclusivity.**

1. The staff of residential services, and the university leadership e.g. [names redacted] etc
2. I always applaud the SDCC [Student Development & Counseling Center] for their acceptance, understanding, and teachings around supporting LGBTQ people. I have also found to a lesser extent the strong acceptance in the choral groups.
3. Music, Drama/Theatre, [lens & lights student organization]
4. All music groups (band, orchestra, choirs, acapella, etc) and all theatre groups
5. [Theatre club], and the various groups like the [oSTEM student organization].
6. The theatre department and music department - the arts programs as a whole I guess are very inclusive
7. The [oSTEM student organization] provides a safe and supportive environment for LBGTQ+ students to feel supported and visible. They do this through their discussions, and there visibility tabling events, such as Bisexual Visibility Day, or Transgender Day of Remembrance.
8. [oSTEM student organization]
9. [oSTEM student organization]
10. Rugby, theatre, coffee house

11. The theater program is extremely supportive of all things LGBTQ+, including many of the gender-related identities. My sorority is also in incredibly inclusive place.

Academic arts programs or extracurricular arts programs: 7/11

Alliance: 4/11

**Appendix C: Unsupportive Spaces**

**Q8 Are there any spaces or experiences at [name of institution redacted] that you regard as either NOT particularly supportive of LGBTQ+ people or NOT supportive of an environment of inclusivity?**

- Yes
- No

**Are there any spaces or experiences at [name of institution redacted] that you regard as either NOT particularly supportive...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	5	35.7	35.7	35.7
No	9	64.3	64.3	100.0
Total	14	100.0	100.0	

**Q9 Please describe the spaces or experiences at [name of institution redacted] that you regard as either NOT particularly supportive of LGBTQ+ people or NOT supportive of an environment of inclusivity.**

1. Certain fraternities on campus have generally negative attitude toward LGBTQ people. There is also a lot more difficulty for transgender members of our community to find acceptance in nearly as broad a fashion as gay, lesbian, or bisexual students.
2. The social Greek organizations on campus - I say this with some hesitation as I was also a member of a social sorority at [name of institution redacted], but those were the only spaces I ever felt uncomfortable or unwelcome as a queer person, even if that feeling was only on occasion.
3. Frats
4. classrooms of certain professors, Greek life (for certain identities)
5. Occasionally professors will not respect student's preferred pronouns.

Appendix D: Supportive Academic Spaces

Q11 **Are there any academic spaces or academic experiences at [name of institution redacted] that you regard as either particularly supportive of LGBTQ+ people or supportive of an environment of inclusivity?** Examples of academic spaces and experiences include (but are not limited to) the following: courses, projects, labs, tutoring, department seminars or colloquia, Insight advising, meeting with other advisors, and attending office hours.

**Are there any academic spaces or academic experiences at [name of institution redacted] that you regard as either particular...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	4	28.6	36.4	36.4
No	7	50.0	63.6	100.0
Total	11	78.6	100.0	
Missing System	3	21.4		
Total	14	100.0		

Fully welcoming	1. Yes	English department
Fully welcoming	2. Yes	The biology department is particularly inclusive of everyone.
Somewhat welcoming	3. Yes	Any class taught by [name redacted]
Somewhat welcoming	4. Yes	Very few professors are overall 100% awesome

Appendix E: Unsupportive Academic Spaces

Q13 **Are there any academic spaces or academic experiences at [name of institution redacted] that you regard as either NOT particularly supportive of LGBTQ+ people or NOT supportive of an environment of inclusivity?** Again, examples of academic spaces and experiences include (but are not limited to) the following: courses, projects, labs, tutoring, department seminars or colloquia, Insight advising, meeting with other advisors, and attending office hours.

**Are there any academic spaces or academic experiences at [name of institution redacted] that you regard as either NOT partic...**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	1	7.1	9.1	9.1
No	10	71.4	90.9	100.0
Total	11	78.6	100.0	
Missing System	3	21.4		
Total	14	100.0		

Somewhat welcoming	1. Yes	[Name of professor redacted] ("Some people identify as neither a girl nor a boy. HA" "I thought about it for a while and decided that just could not be possible." Additionally, other professors do not respect names. I had a professor who would say hi to me every day until he saw me at the [oSTEM organization] table.
--------------------	--------	---

**Appendix F: The role of the theatre program in promoting an inclusive environment**

**[Name of performance redacted] Post Survey FINDINGS**

**Q5 Think of [name of institution redacted] drama/theatre program. What role do you think it has played/plays in the campus climate for LGBTQ+ people? Please give specific examples or identify specific elements.** Examples and elements can include the experience of being in the audience, the experience of being involved in productions, or any other relevant experience.

13 provided responses

1. Fully welcoming	Unsure
2. Fully welcoming	Theatre is always on the cutting edge of social and cultural issues, and [name of institution redacted] program has never backed down. From my very first year in [name of institution redacted] theatre when we produced The Laramie Project, I have always seen the theatre push the discussion to the [name of institution redacted] community. The individuals in theatre are some of the most accepting and welcoming for LGBTQ, many of them identifying and nearly all allying. Through theatre, I was able to bring representation of gay struggles to the stage in two plays submitted and accepted to New Voices, both of which were featured again in the Showcase, that centered around the difficulties members of the LGBTQ community run into just for existing.
3. Fully welcoming	The drama/theatre program over the years has showcased the different aspects of the LGBTQ+ community and I think has had a positive impact in doing so.
4. Fully welcoming	Not much. But it doesn't need to.
5. Fully welcoming	I think that it really showcased all of the different struggles that LGBTQ+ people have and gives a new perspective to everything.
6. Fully welcoming	I think a lot of drama/theatre people tend to be very accepting and, even if you're not involved in theatre, befriending people in theatre can be very beneficial for your self-worth and feeling accepted at a place where all of your time is spent.
7. Fully welcoming	Being involved in masque productions, I have felt no doubt that everyone is accepted. It is a place where I feel total freedom from judgement for any reason, and particularly for sexuality.

8. Fully welcoming	As a "theatre kid," the environment is very accepting of all types of people, especially queer people. We are a very inclusive part of an already
9. Fully welcoming	A lot of the student's involved in drama theater here identify as LGBTQ+. Theater people tend to be very open minded.
10. Somewhat welcoming	I think the drama/theatre program has a lot of power in regards to the campus climate for LGBTQ+ people. A lot of people attend drama/theatre productions, making it a valuable setting for education.
11. Somewhat welcoming	I think any theatre program is going to be one of the most welcoming places for the community at any school. The fact that don't shy away from the topic has played a role as bringing awareness
12. Somewhat welcoming	During the Showcase, there weren't a lot of variety in the types of identities shown. Typically it was the same identities (though pansexual was mentioned!) I just wish that further identities were broached in a way that does not show the identities in a ad light.
13. Neither unwelcoming nor welcoming	When the plays/musicals contain content regarding the LGBTQ+ community, it can be extremely validating to see a representation of your life on stage.