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Barriers to Student Engagement with Waste Diversion: Recycling and Composting Practices on the University of Denver Campus

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Barriers to Student Engagement with Waste Diversion: Recycling and Composting Practices on the University of Denver Campus

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Barriers to Student Engagement with Waste Diversion

*Recycling and Composting Practices on the
University of Denver Campus*

Izzy Beltran and Madeline Bonner (editors)

Ethnographic Methods, Fall 2022

Introduction: Waste Diversion at DU

Izzy Beltran and Madeline Bonner

University of Denver

10 November 2022

This project sought to investigate barriers, facilitators, and behavioral patterns related to waste diversion on the University of Denver (DU) campus. In general, waste diversion can be defined as the methods of disposing of waste that prevent it from being deposited in a landfill. At the University of Denver, waste diversion is achieved primarily through recycling and composting. It is these two methods that our report will focus on.

In 2021, the University of Denver diverted 21% of waste from landfill sites. In other words, 21% of waste was recycled, composted, or otherwise reused (AASHE 2021). According to The Association for Advancement of Sustainability in Higher Education's Sustainability Tracking, Assessment and Rating System (STARS), the University of Denver holds an overall silver rating and a score of 59.6% related to the subcategory of waste. The University of Texas at San Antonio was the #1 ranking U.S. institution in the AASHE's 2021 Campus Sustainability Index Report, scoring 84.2% related to waste with 81% diversion of waste from landfills. Subcategory scores are calculated based on the percentage of possible points earned within the category. The calculation related to waste takes into account waste minimization and diversion as well as hazardous and construction waste management. Performance in the waste minimization and diversion category dictates up to 80% of an institution's waste subcategory score.

The average waste score for U.S. institutions in 2021 was 45.4%. The University of Denver scores above U.S. average, but compared to other reporting Colorado institutions, the university does not perform as well. Five higher education Colorado institutions submitted a report on waste practices in 2021. They are as follows, ranked from highest to lowest waste subcategory score: University of Colorado Boulder (64.5%), Colorado College (62.7%), University of Colorado at Colorado Springs (60.3%), University of Denver (59.6%), and Colorado School of Mines (35.1%). This national and state context for waste diversion in higher education demonstrates that while DU performs above the U.S. average, there is room for improvement.

We situate the investigation of waste diversion through recycling and composting at DU within the larger conversation of campus sustainability. In January 2016, the University of Denver launched DU IMPACT 2025, a mid-term institutional strategic plan. Within the plan, the strategic initiative titled "Sustainable DU" outlines the university's vow to "expand DU's focus on a just and sustainable future" to address regional environmental concerns and build on efforts to improve sustainability in Denver. The current DU Sustainability website echoes the 2016 strategic plan in identifying sustainability as a core university value. Waste diversion is one of many elements that make up the picture of DU's campus sustainability.

Waste diversion is related to sustainability through its direct and indirect impact on the environment. Environmental challenges presented by landfills include groundwater contamination, toxic emissions, methane production, and destruction of wildlife habitats. One of the most significant threats, methane, is among the most potent greenhouse gasses and a significant contributor to global warming. As our industrialized society produces increasing amounts of waste, it is critical to consider effective ways to divert waste from landfills. Through reuse, recycling prevents or delays the deposit of solid waste in landfills. Similarly, composting is the reuse of

organic materials, which are essentially unable to decompose at a landfill site due to low aeration (Oliveira and Regina da Cal Seixas, 2019).

Institutions of higher education have been identified as valuable places to meet the universal challenge of waste management and diversion for several reasons. Firstly, universities manage the waste of their community, varying in size, but often with high numbers of students, faculty, staff, and visitors. The amount of waste produced in the university microcosm presents the opportunity to make a difference through waste diversion efforts. Thinking beyond an individual's time on campus, waste diversion education within the university sphere is meaningful in educating leaders that are equipped to tackle waste and environmental issues that will only become more critical in the future (Oliveira and Regina da Cal Seixas, 2019).

This report was designed as a course-based research project embedded in the fall 2022 Ethnographic Methods course taught by Dr. Alejandro Cerón. Through the examination of interviews, journals, and observations conducted by University of Denver students, this report will discuss commonly cited factors affecting DU's waste diversion rate. The goal of this project was to identify and analyze barriers and facilitators to recycling and composting efforts in hopes of informing future sustainability efforts on campus. This was accomplished through the thematic analysis of qualitative data that was collected in 2016 supplemented with novel data obtained by the students of the aforementioned 2022 anthropology class. The data was collected with a focus on student recycling behaviors, so all interviews were conducted with university students, and observations were typically gathered in areas more frequented by students than faculty. Each of the 17 interviews was designed as a one on one, semi-structured interview conducted with the purpose of gathering ethnographic data pertaining to waste sorting behaviors. Participants gave verbal consent to being interviewed and recorded. All audio recordings were destroyed following transcription. Report authors also had access to 11 auto-ethnographic journals as well as 14 observational reports examining student recycling behaviors. This data was gathered in 2016 as a part of the Cultural Anthropology course taught by Dr. Cerón. Each piece of data was coded by members of the 2022 class at which point students chose a theme to explore further. Afterwards, the class conducted observational fieldwork, each with a concentration on their pre-identified theme, resulting in 10 field reports. The final result was a written report synthesizing the findings from this data set. Some of those reports will be included below.

The chapters that follow explore the intersecting barriers to student engagement with waste diversion at the University of Denver. We have chosen to describe this intersection using the "three C's": confusion, convenience, and culture. In this instance, culture refers to both DU's campus culture as well as an individual's cultural background. Izzy Beltran's chapter explores student confusion related to signage and education, the specifics of waste diversion systems, and the importance of sustainability efforts. Dan Oxendine's research into the effect of campus infrastructure demonstrates how the distribution and location of waste receptacles as well as accompanying instructional elements contribute to confusion and lack of convenience regarding waste diversion. While further investigating convenience, Jason Tipler considers how motivation and infrastructure work in tandem to influence diversion outcomes. Both Jules Mello and Madeline Bonner examine how campus culture factors into waste diversion success. Mello explores how interpersonal relationships affect the way community members sort their waste by analyzing the impact of social pressure and cultural backgrounds. Furthermore, Bonner's chapter looks beneath DU's recycling image to identify elements of distrust and contradiction on campus. Lastly, Tommy Dainko engages these concepts in his presentation of innovative recommendations for improving waste diversion at the University of Denver.

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Exploring Ambiguity, System Challenges, and Skepticism related to Waste Diversion

Izzy Beltran

University of Denver

12 October 2022

Introduction

A lack of understanding was a commonly cited barrier to waste diversion at the University of Denver. The participating students referenced a number of subjects where knowledge seemed to be lacking, namely, how to recycle and why it is important. In fact, a significant portion of the interviewees admitted that they themselves are unsure of what exactly can go into the recycling bin. This, in conjunction with ignorance about the broader recycling systems that the university is involved with, appears to be a significant contributor to the university's low diversion rates.

More often than not, students expressed that a misunderstanding of what can be recycled led to them disposing of much of their trash in the landfill. One student explained, "Yea, it's ambiguous and then I end up throwing away things that probably could have been recycled. There's always a warning on them that says if you don't know just throw it away." As was noted at the end of this statement, students are taught to utilize the landfill bin if they are unsure about where their waste should go. This is because improper sorting can contaminate the recyclables and compostables, rendering them useless. Beans, the student-led coffee shop on campus, has already experienced this issue. An employee shares: "What we found was that a lot of our guests at Beans were not composting correctly so we couldn't even put it in the compost because whoever the authority was wouldn't take it because it wasn't properly compostable." With this in mind, it is evident that a clear understanding of how to properly sort one's waste is of the utmost importance.

Ambiguity

Given that proper waste disposal is as important as the decision to sort waste at all, it is alarming how many students were unclear about which bins to use for which items. Within the data, there were several instances of students providing personal anecdotes of proper recycling habits that they participate in that were, in actuality, incorrect or ambiguous. One notable example was an employee of the Health and Counseling Center who wrote, "After I am done entering the IMM records, I am to put paper with sensitive information into a 'shred bin' where it will be shredded then recycled and non-sensitive information directly into the recycle bin. I shred/recycle hundreds of papers a week doing my job." The city and county of Denver does not accept shredded paper as recyclable. At this time, there is no way to know whether this person was uninformed about where the shredded paper was going, or the waste was being sorted incorrectly. Regardless, it exemplifies a concerning pattern of misinformation at this institution. In a similar instance, an employee of Beans confidently expressed that their plastic cups are recyclable. However, when questioned further about the issue, it was revealed that they were actually unsure of how the system

works in practice, “‘Our plastic cups are recyclable.’ ‘But technically it’s wet?’ ‘Yeah, it is wet, which is a big question mark, and I don’t know the answer to that.’” One can assume, or at the very least hope, that this employee is correct in that the cups are recyclable even after use. Still, the distinction between a soiled item that can be recycled and one that cannot and, by extension, *why* the acceptable one remains recyclable, does not appear to be widely known. Without a stronger understanding of such intricacies, students will continue to have difficulty distinguishing between what can and cannot be recycled.

Signage

The university attempts to facilitate understanding by placing explanatory signage, mostly in the form of infographics, on or around the majority of recycling and composting bins. However, students have suggested that these signs are not as helpful as they could be for several reasons. To start, the signs were criticized for being, “ambiguous,” “confusing,” and, “the text in the sign [is] too small to read.” Aside from these complaints, there remains a deeper issue behind the decision to use infographics as the main explanatory tool. As stated above, recycling is more complex than one might imagine, and the specifics are difficult to convey in a simple, convenient manner. One student observed that relying on images may be causing confusion because similar items cannot always be processed in the same bin, “Yeah. I think that’s super helpful, but I also know that certain coffee cups can’t be recycled, like Starbucks coffee cups, aren’t able to be recycled. But then at DU we have the green coffee cups from Jazzmines or Front Porch that are able to be recycled... So, it’s kinda like, how do people depict which ones are supposed to be recycled and which ones aren’t?” Perhaps this is why one student admitted they, “try to read the sign and get flustered and end up throwing everything into the general trash.” There are simply too many similar-looking products made of different materials for this image-based system to work well. Again, a more extensive knowledge of waste systems and the specificities of the city of Denver’s requirements appears to be the more effective solution.

System Misunderstanding

These gaps in knowledge extend beyond the specifics of recycling. Students also expressed the belief that an understanding of broader systems can encourage others to be more mindful when disposing of waste. For example, students coming from other countries, or even other states, are not well-versed on the processes by which our waste system functions. Multiple students referred to the fact that many other countries do not rely on the public to sort their waste. Instead, there are professional waste managers, who separate the recycling, compost, and landfill. As such, foreign students may not be aware that they have to sort their waste, let alone how to do so to Denver’s standards. Moreover, There is a lack of understanding about the necessity of recycling and recycling systems as a whole. In specific, students posited that ignorance of the effects, causes, and severity of climate change can lead to apathy and carelessness. One participant noted that it can be difficult to acknowledge the importance of recycling when you are not seeing where the landfill waste is being thrown, “They just need to become aware...of where their waste goes. There’s no floating island of trash anywhere near Denver. We’re in the middle of the United States. Where does our trash go?... Because you don’t think about when you’re throwing away a water bottle that this is going to go...burn inside of a mountain... You don’t know where it’s going to

go. And you don't see that, so you don't really think about it." The reference to the infamous "trash island" in the Pacific Ocean is interesting here because it is a particularly dramatic visual representation of how great accumulations of landfill waste harm the local environment. In contrast, the pristine campus of the University of Denver could be promoting an "out of sight; out of mind" mentality. This is in line with the responses of other students who recognized that some people, "are like, global warming doesn't exist," while others, "don't know if people know that recycling is important." As such, transparency about where our landfill waste goes and its detrimental effects on the environment could prompt students to take recycling more seriously.

Distrust and Skepticism

In a similar vein, several participants were skeptical about whether the recyclable and compostable materials were actually being taken to their proper destinations. "Um, yea, no, not a single clue... that would be a good idea too to tell people 'this is what we do with recycling, this is what we specifically do with recycling, this is specifically what we do with compost' and maybe that could also encourage people to recycle and compost more because they know where it is going." This does not appear to be a baseless thought that a couple of students happened to develop. Instead, it seems to be a rumor that may be spreading around campus, as one participant stated, "Yeah, and going off of that, I have heard from multiple different people that when you're in Nelson or in Nagel or in Halls, that everything goes to the same place. Do you think that's true? Because then I guess these DU students would be way more inclined to not bother with recycling." The fact that several students expressed this sentiment was quite concerning. If students have the idea that the waste sorting systems put in place are a fabrication made to create the illusion of an ecologically minded campus, then they have no incentive to sort their waste. As with the aforementioned concern over the destination of the university's landfill waste, it is likely that any obfuscation of the recycling process is detrimental to the waste diversion goals set in place.

Conclusion

The interview participants spoke on many different factors that may be impeding the success of the university's sustainability efforts. Within that, a lack of knowledge was cited as a significant obstacle time and time again. Students are unaware and distrustful of how their waste is being managed, which may be contributing to a sense of apathy toward the recycling process as a whole, and the students who do care about waste diversion are completely unsure of how to do it properly. This may be because they are not used to Denver's waste management system, but it also seems to stem from the fact that the specifics of waste sorting are actually quite complex. While the university has tried to offset this confusion by providing signage at most bins, it is difficult to convey those intricacies through the simple infographics that they have chosen as their primary explanatory tool. In any case, the general sense of uncertainty present amongst these participants demonstrates the need for increased transparency and education about the university's waste management systems.

Waste Receptable Distribution, Location, and Signage

Dan Oxendine
University of Denver
11 November 2022

Introduction

One of the most critical barriers currently affecting student ability to recycle and compost relates to campus infrastructure. I reviewed interviews, journals, and observations (including my own observations and interviews) to try and understand what correlating themes appear when investigating what is preventing students from correctly diverting their waste through recycling and composting. Several possibilities emerged from this ethnographic research. These findings include the distribution of recycling, compost, and landfill bins (including tri-bins), the location of bins inside and outside buildings, inadequate signage, and unique recycling areas. Through analysis of these findings, I aim to address some possible solutions to increasing waste diversion rates by the students at the University of Denver.

Distribution

I would like to begin with the distribution issue that many students mentioned in the 2016 interviews conducted at the University of Denver. In one interview, a participant noted, "There aren't recycling bins placed as frequently as they should be." Many students expressed similar assertions. From the above statement, we can see that the distribution of recycling, compost, and landfill bins on campus could be improved. From student observations, the outdoor bins are mainly available around the busiest buildings on campus and along the main campus pathways. That indicates that the infrastructure currently in place at DU is focused on prioritizing the central parts of campus that get most use. This distribution issue ignores the outskirts of the DU campus and means that if a bin is far away, a student would have to hold onto their trash for a long period of time, or, they might even choose to litter.

From our data, I identified another infrastructure issue; most of the bins distributed on campus only offer a landfill disposal option. So, if students only see landfill bins, they will not feel the need to recycle or compost. Thus, the distribution of bins directly affects students' waste diversion rates on campus. Changing the distribution is essential for fixing the infrastructure problem tied to the issue of students recycling and composting.

Location

A similar issue lies in the problem of the location of recycling, compost, and landfill bins. In one interview, a participant said, "Well, [on] our campus, the recycling bins only exist in public areas, such as [the] library, dining hall, and the first floor of [the] dorm. In other places, such as

our classroom, there are only two common trash bins." I would like to break apart what this interview tells us. First, the bins are located primarily in public spaces. If the bins are only in public areas, as this student says, then the infrastructure at DU is lacking, and the implications could affect the waste diversion rates. Also, what of private spaces? I decided to look around campus to investigate further this issue of the location of recycling receptacles. I discovered that most classroom buildings have bins, as does the library, but some classrooms, study rooms, hallways, and pathways do not. A possible solution is to be more selective of where bins are placed and add new bins in private areas.

Secondly, this interview made me wonder why there are only bins in particular public areas. Could it all just be for show? Or, to give the impression that the University of Denver cares about recycling? I believe that the Sustainability Council at DU will have to make adjustments to demonstrate that they care about recycling and that it's not just performative. The idea of "performative" sustainability was mentioned in several interviews, where students wondered if their recyclable items were actually even being recycled. Changing the location of the bins and purposefully listening to students' feedback on the infrastructure will motivate students to properly recycle.

Another issue I noticed relates to the color of waste bins. One student shared in an interview, "You know a blue trash can in your classroom is for recycling because it's a blue trash can. Why are the recycling bins around campus red, maroon? It looks like everything else." Changing the colors of the recycling and compost bins to look different from the landfill bins will help students distinguish between bins. This is an example of how infrastructure is tied to students' understanding of how to recycle and compost. Making the bins different colors will make recycling easier for students and should help decrease the amount of improper waste diversion to the landfill.

Inadequate Signage

Additionally, I have chosen to include inadequate signage as a form of infrastructure, whether these signs are physical or digital. In one student's journal, they noted, "The signage fluctuated much ranging from absolutely no signs to confusingly detailed and lengthy signs to handwritten signs with unclear instructions." This student was correct on many accounts. Most of the recycling, compost, and landfill bins around campus have no signage whatsoever. How will students know what to recycle if there are no signs? Adding signage will help students recycle and compost more accurately and feel confident in their choice. Including no signage brings up the issue of contamination. If a student throws an item into recycling with food waste, it could contaminate the entire bag. So, adding signage as a form of infrastructure will help with the confidence and accuracy of recycling and composting for students on campus.

Furthermore, the interviewee noted that the signs' clarity could have been more transparent. I conducted my observations at the University of Denver library, also known as the Anderson Academic Commons, to see if this claim holds up. What I discovered was very intriguing. As you walk into the library, there is a massive sign over a tri-bin that lists in three sections what can be recycled, composted, and relegated to the landfill. In these sections, physical items are attached to the sign as examples of what can be deposited in each bin. This sign was also strategically placed perpendicular to the 'Front Porch Cafe,' a food vendor in the library. From my observations, this sign is an excellent example of what other signs could look like and what could be beneficial for helping students divert waste correctly.

Having clear and concise signage is crucial. However, my observations also present a counterargument. I witnessed a student immediately walk over and throw all their items into the trash without consulting the large informational sign. The student had items that matched up on the sign with what could be recycled, but because they did not look, it was all tossed into the landfill. My observations supported what other students saw as well. Another interview participant said, "let's be honest, it's not like people actually read the signs anyway." So, perhaps infrastructure can only go so far with what can help students recycle and compost. However, it will likely still be beneficial to others even if some students choose not to participate. I prefer to see signs of what can or cannot be recycled, and many other students do too.

Unique Recycling Areas

Lastly, I would like to mention that at the University of Denver, there are sometimes special occasions to recycle unique items. When I say, 'unique items,' I mean things that students often have that must be recycled in a specific manner. However, coming across these particular recycling areas on campus is an outlier. The recycling of clay, described by a student interviewee, is one example of a commonly used item on campus that can be recycled. This unique example of recycling made me seek out other models on campus.

From an informal interview with a library attendant, I found that the university has at times recycled or composted things such as pizza boxes and batteries. However, it seems that the university is no longer doing so. From additional questioning, the librarian told me that students want to see these forms of waste diversion reinstated. Allowing students to recycle or compost pizza boxes and batteries again could be one way of investing and changing the infrastructure at the University of Denver to increase waste diversion rates. The Sustainability Council should also look into other types of 'unique recycling' that could be created on the campus, such as recycling old cell phones, laptops, printers, and printer ink cartridges.

In conclusion, the University of Denver has infrastructural barriers to recycling and composting that need to be addressed if the university wants to increase waste diversion rates. Some work has been done to make recycling and composting easier for students, like having bins accessible on campus. However, there is much more that can be done and that can be changed to improve recycling and composting practices. I have included possible solutions above, but I also want to stress the most basic solution: create more recycling and composting bins. Simply having the bins available will help with waste diversion rates, and some of the landfill bins could even be repurposed and turned into recycling and composting bins. If the issues and solutions that I have mentioned are addressed, then student practices related to recycling and composting should improve.

Diversion Practices at the Intersection of Motivation and Convenience

Jason Tipler

University of Denver

12 October 2022

Introduction

People are raised differently and in different places. Some may have never learned about recycling, never had to, or it was not available to them. I think that the University of Denver is going through a big change of wanting to be a “green” campus and a significant part of that is finding a way to get students and staff to care about disposing of items in the proper bins. The quotes referenced in this paper are from interviews and observations on recycling conducted at the University of Denver (DU). One of the things that was very noticeable in the reports was the lack of motivation people had.

Laziness and Convenience

Under the umbrella of lack of motivation, the most frequent word that came up in interviews and observations is “lazy” or “laziness.” When asked for the reason they believe recycling isn’t more successful on campus, one participant said, “honestly, I think it’s lazy. When you think of the average college student, I think we have some sort of reputation of being super lazy and I definitely don’t associate caring about the environment, let alone recycling, with the average college students. I think not recycling is lazy and maybe even a little ignorant. It’s not like it’s hard. It just requires a little more thought when you’re throwing stuff away.” I agree with that statement based on what I have seen while on campus. I think that sometimes convenience issues look a lot like laziness. As one interview participant said, “like if there are no recycling bins nearby why hold on to this newspaper for who knows how long if there’s an obvious trash can right there.” So, in that case, it is more of a convenience or infrastructure issue more than it is actual laziness. However, I can see where some people may get that mixed up. Someone else in the interview said, “like at the beginning of the week we start off really well but then when the recycle fills up, it’s I guess just easier to put it in the trash than to take out the recycle.” So that fits the mold between convenience and laziness. Sure, they are starting off good with recycling, but when it fills up that is where the laziness comes in.

As stated before, looking at all of the interviews, I saw a lot that falls within laziness but also convenience. This makes sense because a lot of laziness stems from convenience. When asked, another student said, “I know this sounds bad but I’m usually in such a big hurry between classes that I just throw it away in which ever I see first. Like I know that some of it recycles or composts or whatever, but like I don’t usually have the time to go and find one or like there’s food stuff on it.” According to this person, it’s not so much that they are lazy or don’t care, it is all about the convenience and the infrastructure at the University. Perhaps if there were more bins located

around and between the buildings then maybe this would cut down on the amount of trash that is not recycled because then, they would have no excuse.

This in no way makes people who don't recycle bad people, it could be that they are not informed or didn't grow up recycling. One interviewee said, "Now if people don't really choose to recycle that doesn't really make them bad people, but they probably just don't really think about the consequences of not really recycling or, um, uh, you know don't really think about how much trash we put in landfill and all that." To go along with this, another student shares, "I just think that it's pretty much the same anywhere you go. I mean I have only really learned about recycling like once in my life if that makes sense, other than that it's just kind of expected from you, but even if you don't do it there's no social stigma behind it, there aren't people who are going to criticize me for not recycling something." As I stated, this does not make them bad people, and no one will criticize them, however, hopefully they will improve with more opportunities and by having the infrastructure to support it.

Conclusion

In conclusion, I would like to share a quote from one of the students: "There are people who go into cafes and don't think twice about leaving all of their dirty dishes on the table even though there's a bin for them. There's just a certain kind of person who doesn't think about anything but themselves. And that's toxic and it's tough to make that type of person to want to care about problems in general and to care about, what's the word...something not as prominent in everyday life like recycling. Like you don't open up the news and see headlines about recycling." We are hearing about recycling more and more, but it still isn't as widespread or required as it should be. The University of Denver needs to commit if it wants to be the greenest campus it can be. Until the University spends the money to get appropriate bins in all of the buildings, on all of the floors, and in areas where people frequently pass through, it will be hard to see any sort of major change from what we see today. In my opinion, training students and staff on how to properly recycle and also providing the infrastructure needed around campus to make it more accessible is one potential answer to this. If the University can eliminate the inconvenience factor, then I believe more people would recycle. Hopefully, we can change answers like, "I don't really care that much about looking around to find the right place to throw it away...it just isn't worth the time to do that." This was an answer I received recently during the University of Denver's Hocktoberfest. In the end, training can be done, but it will always be up to the individual person on how important it is to them and if they understand the significance of taking their time and disposing of their waste in the appropriate bins.

The Impact of Social Pressure and Cultural Influence on Waste Disposal Practices

Jules Mello

University of Denver

30 October 2022

Introduction

The 2016 interviews and observations which compose the data of this ethnographic project were procured in the wake of an increased commitment to sustainability by DU. Under the topic of ‘other interesting information’, a recurring theme I found throughout the data, was that of people feeling that social pressure impacted whether and how they recycled. Additionally, there were a number of cases where people who lived in or visited other countries or regions commented on how recycling habits differed in those areas. Subsequently, the idea that will be explored in this section is the concept that people’s recycling habits and general proclivities relating to sustainability are more often shaped by their cultural and social surroundings than by the inherent logic or net benefit of recycling. People often emulate the groups they are a part of as a natural consequence of social structures, whether those groups are their friend groups, their familial units, or, to some degree, their native cultures.

Social Pressure

In a number of interviews, students appeared to believe that social expectations on campus played a significant role in a person’s motivation to recycle. As a student mused: “Yeah. I think people will definitely comment on it and you’re all throwing out your trash together. And you just happen to throw your entire box of Chinese takeout in the recycling bin. Yeah, I think someone’s going to comment on that.” (Interview 3). It appears that it’s seen as irreverent or trashy to blatantly not care at all about recycling properly, as this student and others noted receiving ‘weird looks’ if not verbal comments in those scenarios. Other students seemed to believe that it was not necessarily conscious social pressure that encouraged recycling on campus, but more so social norms themselves: “Yes. To be honest, it is not true. You do recycling in Starbucks because everybody does it, so you just follow them. Yes, we always like to follow other people. The same reason can be used to explain why we do recycle in dining hall. In public area, we feel that we are supervised by other people. We wonder whether some people will blame us if we do not sort our waste. But when you stay alone, though you know recycling is good, you would not care so much about the it.” (Interview 13). The same interviewee details a story wherein she discarded a Coke can in the wilderness and the people with her fetched what she tossed and chastised her, which she might even think of to this day when she discards something. All of this makes implicit sense; it’s fairly normal for people to slightly alter their behavior to fit in better in all strata of society, and responsibly recycling or composting is not an extremely high effort behavior alteration. Are groups of people more consistently responsible than individuals, though? One could certainly argue that irresponsible groups exist and reinforce their own negative habits. Observations collected from the

present year suggest that groups actually more frequently mass landfill their recyclable materials than dispose of them responsibly, which is somewhat converse to the 2016 data, where people felt social pressure tended to apply in a way that encouraged recycling, as opposed to groups adopting a ‘who cares’ mentality towards the affair.

Cultural Influence

Several students interviewed also cited them not being used to recycling because of the areas they hailed from not having much of a robust recycling culture. A student from a small town says: “That really meant something to me because coming from a very small town where recycling is not really a thing, and like immediately that was just the norm. snaps fingers, like of course you would recycle and compost every day when you eat. And I thought that was really good to instill that and so now as a junior I wish I saw more recycling. I’m like ‘DU you did so good when we were in the Freshmen dorms and in their dining halls, there’s recycling all over those places!’” (Interview 9). This quote is vague; it isn’t expanded on very much, so the student’s precise intent is unclear, but it appears to suggest that people in that town don’t have a cultural impetus to recycle and thus they also haven’t bothered with developing recycling infrastructure. At DU, conversely, people are supplied not only with many more ways to recycle, but are given significantly more information on how to. If this student’s interpretation is indeed the truth of the matter, this would suggest that there is a link between the barriers of a lack of motivation and a lack of infrastructure; they feed into each other, either positively or negatively, and naturally, increased infrastructure leads to better info and facilitators. So, this perspective seems to give useful insight into the baseline paradox of it all: people have to be motivated for the other beneficial qualities to arise, and it’s easier to be motivated with some modicum of infrastructure. Another student corroborates with different places in Colorado (or America at large) having different degrees of motivation and infrastructure: “I don’t know if it’s because I am at DU all the time but when I go to Boulder, I don’t feel like I see recycling there as much all the time. And when I visit my friend’s campus and dorm, I don’t see them having the option to recycle and have a trash bin but only a trash bin, but I may have not paid as much attention. And other than that, it’s just when I studied abroad and like I said, you had the option, but it was harder to find.” (Interview 12). Jenny, the interviewee, unfortunately does not specifically talk about where she studied abroad (nor does the interviewer prod her), a relevant data point. Nevertheless, her point about Boulder is interesting, but it would be ideal if more corroboration in the other data was obvious. Even without her account being the most specific, however, it is still of note. Another eye-catching account on this specific topic was one from ‘C’: “I like to think I’m green and eco-friendly. Am I in actuality? Probably not. When I think of someone who’s very serious about recycling, it’s usually someone who has some sort of environmental connection. Where, you know, they lived in the city of Seattle and Seattle forces people to recycle, or you’re fined. Or they’re a park ranger and they see waste being in the woods. The people who are really adamant about making sure the right things get recycled and composted are those that are actually directly being affected by it or directly working with it.” (Interview 11). C and a few other students mention the more stringent recycling requirements on the West Coast, in some Californian cities and Seattle primarily. The question to pose is: have these requirements shifted the culture in those areas to forcibly improve incentives to recycle, or were these requirements put into place because of this being the sustainability culture in those areas? More data would be needed, ideally from interviewing people in those areas as to which they believe it

probably is, in order for us to attain meaningful information from this, but it is another piece of the puzzle for the central hypothesis.

The last general category of useful information for this purpose is concentric around non-US countries. How do they recycle, and again, is that from culture or from imposed regulation? From what could be easily figured out, there were two main ways non-US countries could have simultaneously responsible and different recycling cultures both DU and the US at large overall. First of these is exemplified in this quote by a Chinese international student: “Yes, I remember when I was in primary school, our school helped each student order the milk every day. And we were told that the milk carton was made by the recycling materials, and we should throw the carton in special recycling cage in order to make new milk carton. We even visited the factory to see that how the new milk carton was created from the old and used carton. It was a magic process for children. I think that kind of visiting is very educative(...)I am sure it can help them to develop the good habit.” (Interview 13). This particular method is a top-down one: create the infrastructure and educate people about it so that they are motivated to be passionate about recycling. It’s the artificial change of a cultural attitude towards recycling. While the interviewer and interviewee for Interview 13 are quite positively receptive to this method, it isn’t necessarily the only possible way that sustainable habits are influenced by culture. Open another quote by a student who visited Pau, France, a rural and mountainous French prefecture: “Well, they don’t have vending machines everywhere like we do or a whole lot of packaged food in general. So, like, they just generate way less trash than I see we do here. Most of the food that you buy when you’re out and about is fresh and there isn’t a lot of trash associated with that. But here I feel like we constantly have trash from everything all the time. I think being mindful of how we get rid of all that trash is way more important here because we just have so much more of it. It just isn’t as huge of an issue, I don’t think.” Admittedly, this specific aspect would be much less plausible as a learning experience for a culture so consumerist as mainstream American culture, but it is an important and overlooked aspect of sustainability. It is simply not as important to be hyper fixated on recycling if you are not creating a lot of trash or pollutants that are recyclable at all and if your culture is altogether living a more natural lifestyle. Another student, from Germany, also expressed the sentiment that students at DU simply consumed too many disposable things: “I am from Germany and for me the eating and drinking culture here are very different(...) First, people here are drinking or eating something all the time(...)Just look at you! How many of those paper cups have you consumed during the day?” (Interview 1). So, some countries needed to recycle more and there was governmental change aiming to stop that, and other cultures simply didn’t need to downscale their consumption or waste at all because they weren’t producing enough of it in the first place. Which one of these conclusions is most beneficial for ascertaining the most accurate conclusions possible on the matter from the perspective of the sustainability department? Should one specific conclusion be arrived at all, or should merits from both be considered?

Conclusion

Certainly, a combination of these approaches could be useful, but if one presumes American culture is, at least in part, an influence upon how Americans consume, a ‘reduce’ perspective would possibly be harder to spread at DU than a university in another country because it is quite probable that Americans must recycle more to account for increased waste production in any case. Input from other countries and from the data in the interviews would suggest that the most plausible way to cause a culture shift at any specific place in the US in this matter would be

top-down. If not by making improper waste sorting illegal in some fashion, as in Seattle, it seems more plausible that the most ideal way to change recycling culture would be to build enough infrastructure that there can't be an excuse to not recycle, and this would likely amplify the group mentality-induced social pressure covered earlier. On the other hand, DU appears to have sufficient, if not extraordinary, recycling infrastructure, and a common observation from the data is that by far the most frequent excuse for people not recycling across interviews, journals, and observations was simply a lack of motivation. Recent data would suggest that students also very frequently ignore comprehensive information resources including infographics near waste receptacles, either already knowing what is recyclable or choosing to ignore the nuance and landfill everything. 2016 data corroborates this as well, even in the same place with the most detailed infographic on campus, the Front Porch Cafe in the AAC. To some extent, everything needs to come from motivation, and for an authoritative body to want to change recycling culture from a top-down perspective, there has to be political will for it, paradoxically. This applies to even a scale such as DU: the sustainability department will never get sufficient funding for ideal infrastructure if the student and administration culture is not in sync with sustainability goals such that the motivation is present. How can people feel the importance of recycling enough for there to be a meaningful culture shift, and how can that impetus be facilitated? It's an extremely tough question and there may need to be serious environmental consequences before the culture can altogether change towards it. However, as covered earlier, 'shaming' and societal expectations do seem to be effective for the average person, either in a positive or negative way. Perhaps it's partially up to each individual to hold other individuals accountable for sustainable infrastructure to meaningfully progress, daunting as that would be. Though it is an unfulfilling answer, it seems plausible that multiple disciplines need to be taken from in order to truly elevate the recycling culture at DU in such a way that groups would self-police each other, as, presently, they are not doing so in a satisfactory manner.

DU Sustainability: Distrust and Contradiction Beneath the Image

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12 October 2022

Introduction

In January 2016, the University of Denver (DU) committed to making sustainability a priority in the university's long-term strategic plan, DU IMPACT 2025. The strategic initiative titled "Sustainable DU" within this report vows to "expand DU's focus on a just and sustainable future" to address regional environmental concerns and build on efforts to improve sustainability in Denver. Within the university, there are several forces in place to support this strategic initiative. Some examples include the Center for Sustainability, the Sustainability Council, Facilities Management and Planning, various student-run organizations, and supportive community members. The DU sustainability website affirms that commitment to sustainability as a core university value and outlines how each institutional arm contributes to this pledge.

Waste Disposal at DU

Walking around campus, students note that there is an abundance of landfill and recycling bins in busy and centrally located areas, such as outside entrances to most buildings. There are less found along walkways, and only some landfill bins are located next to a recycling receptable. Within each campus building, the options for waste disposal vary significantly. In the Anderson Academic Commons, one can find several tri-bins with options for landfill, recycling, or compost. There is also a large educational display on the main floor that shows what should be placed in each bin. Additionally, students appreciate a designated pizza box area during finals week that reminds those snacking while studying that pizza boxes should be composted, not recycled. Some other buildings, such as Sturm Hall, have no compost options but offer trash and recycling.

Students moving into their freshman dorm and away from home for the first time appreciate that they are provided with a desk size trash and recycling bin. They both must be emptied by residents through a trip to the disposal room or a large, outdoor recycle receptable. When they eat at the dining hall, students are usually given the waste disposal options of landfill, recycle, and compost. Many students learn to scrape leftover food into the compost.

Individuals purchasing food or drink on campus usually receive recyclable or compostable containers, cups, and utensils. Those enjoying campus events catered by DU's dining partner, Sodexo, are provided with recyclable or compostable options as well.

Patrons of a DU hockey game at the Ritchie center will notice numerous bins offering landfill, recycling, and compost options. They might also be told exactly where to divert their waste by one of the volunteers who leads a Zero Waste Hockey Game initiative. The goal of this initiative is to have a high rate of successful waste diversion that results in accurate sorting of landfill, recyclable, and compostable items.

Capturing the Image

These structural and ideological elements of campus life form the basis of DU's recycling culture. The university has made a clear commitment to sustainability which is achieved partially through utilizing resources to facilitate waste diversion. When asked what they know about DU recycling, most students first note the number of waste receptacles provided on campus for both trash and recycling. However, investigation beyond DU's surface recycling image reveals elements of distrust and contradiction.

When asked what they know about recycling at the university, one student responded: "I feel that DU tries to have some kind of green profile... it seems like they have spent a lot of money on all the trash bins all over campus... at first glance it looks like the University cares." Another participant expressed a similar sentiment, noting that "there is a visible, conscious effort on [DU's] part to be environmentally friendly. Whether or not it's followed through is another issue." In these excerpts, both students speak to an image of DU - a "green profile" or a "visible, conscious effort" towards sustainability and waste diversion. However, this image is immediately met with skepticism. Another participant cited the Center for Sustainability, environmentally focused living learning communities, and educational signs as evidence that the university "really pushes the idea of recycling the environment." However, she does not expand on why or how they do so. It is clear that DU's recycling culture is noticeable, even to those who may have a limited knowledge of the intricacies of the university's sustainability efforts.

When asked why recycling is easy at DU, one junior student noted that the university introduces it as "part of DU culture from the day you get on campus as a freshman." This is achieved through a focus on waste diversion in the freshman dining halls. A student observer describing patron behavior at Centennial Dining Hall witnessed that most people followed the "cultural norm in the dining hall" of scraping leftover food into the compost bin. Many dining halls offer landfill, recycling, and compost options while some offer only landfill and compost. Though one participant expressed frustration with the lack of recycling options in Nelson Dining Hall, a student observer noted that the dining hall visitors only received items that should go to the landfill, compost, or be rewashed, such as dining wares. The choice to exclude a recycling bin may be strategic to prevent contamination with items that should be placed in the compost. On campus, contamination of recycling bins leads to disposal of the entire bag and may incur fees for the facilities department. However, not including a recycling bin eliminates a convenient recycling option for dining hall visitors who may have outside trash, such as plastic water bottle, that they would like to recycle.

Each of the elements discussed above contribute to the image of DU recycling culture. These include making a visible effort toward waste diversion, instilling waste diversion practice early in education, offering a pizza box compost stack, providing recyclable or compostable utensils, Zero Waste Hockey Games, etc. When a participant was asked if the university does enough in instilling waste diversion as a core value, they responded: "I think they make it accessible, but they don't, I don't know that I would say they push it as a university... orientation week was about recycling... but they don't talk about it much after that." Another student argues that "we need to really do something rather than just say some slogans." These excerpts suggest that, in some ways, the DU recycling image is superficial.

Distrust

In addition to the skepticism discussed earlier, there is evidence of distrust among some students related to how waste is handled behind closed doors at the university. One student mentioned that they appreciated the option to compost when they ate at the dining halls, but “[she] was skeptical about. [She] was never convinced that the composting thing went to a different pile.” Furthermore, another participant described a dining hall setup in which patrons place their plate with everything on it on the rotating carousel, so composting leftover food becomes the responsibility of the kitchen staff. They expressed distrust that this composting actually occurred in the back and was disappointed that students no longer had to practice composting themselves. Recycling in the dining hall can also appear as a bit of a mystery to some consumers. One student observer noted that “the people who unpack the food set our standards for recycling,” and “the students eating in the dining hall are left to wonder how all the food gets here and how all the plastic and cardboard is disposed of.” This individual felt that patrons had little control over recycling that occurs in the food preparation stage and expressed interest in increasing accountability in this area. Employees at campus food amenities such as Starbucks, Rollin N Bowlin, and Front Porch Café all stated that they recycle and compost in back of house.

This distrust, which goes in hand with a lack of understanding, may be mediated by educating students on what Custodial Services, Facilities Management, and other involved parties do with the waste once it is diverted. One participant noted that an effort such as this might encourage people to recycle and compost more because they “know where it is going.” This is just one example of how improving understanding of the recycling process might lead to improved waste diversion rates.

“On-the-Go” Culture

The DU recycling image also appears to conflict with some other elements of campus culture. For example, a few students spoke to the on-the-go nature of many campus amenities. A student observer at the Front Porch Café in the Anderson Academic Commons noted that most people who purchased food took it to other parts of the library. Furthermore, another student mentioned that they often see individuals with portable food or beverage, much more so than they experience in their home country of Germany. The campus Starbucks has no indoor seating with limited outdoor seating, and patrons are not offered the option of a washable mug or plate. Items are automatically provided to-go, however, an employee indicated this is due to company policy. Similarly, Rollin N Bowlin, a healthy food option in the Community Commons, only offers items to-go and seating in an area that is limited to small tables and couches. Furthermore, Front Porch Café only offers items to-go, despite providing numerous table seating options and Health Department code that requires meals from the establishment be eaten in the immediate area. Lastly, the dining halls allow patrons to take full meals to go. This was a very popular option during peak COVID-19 academic years, but it has since abated. The to-go option may make waste diversion challenging if patrons are eating in a space that doesn’t offer the diversion options found at dining hall receptacles. Additionally, several students expressed appreciation for the DU water bottle provided by the university at orientation and noted that they saw many students adopting that option. This may indicate that if the university provided more reusable options to students, they would be embraced. For example, if the university provided a hot drink thermos to students, they could fill it with a morning coffee or tea from Starbucks.

One initiative that the university has introduced in an effort to reduce to-go waste from the dining hall is the 2GO by OZZI machine located in the Community Commons. After arriving on campus, freshman receive a token. This token can be turned in at the dining hall in exchange for a clean, reusable to-go container. The patron fills this container with food, eats their meal, and returns the container to an OZZI machine in exchange for another token. According to a first-year student, this initiative was discussed as an effort to combat the increased to-go waste resulting from COVID-19 pandemic behavior. The success of this initiative is unknown, but it a step toward reducing the amount of waste produced on campus.

While on-the-go campus amenities does not necessarily mean waste diversion is less successful, it does create significantly more waste than the alternative. With more waste, there are more opportunities to improperly divert items. Additionally, several students expressed concern with their own and other's waste output in general, beyond whether they were recycling or composting. Considering DU's commitment to sustainability in general, it is important to consider not only how the university can achieve better diversion rates but also reduce waste production across the board. Providing recyclable or compostable utensils, cups, and plates is step in the right direction. However, these items must go somewhere, as some students point out. Also, the proper diversion of each foodware item varies by establishment. For example, a Starbucks cold cup is recyclable, while a Beans cold cup is compostable. This inconsistency can lead to misunderstanding and improper waste diversion.

Conclusion

In summary, the University of Denver has made a significant effort towards improving sustainability and waste diversion on campus. This effort is clearly visible to campus visitors and most DU community members. However, underneath the visible DU recycling culture lies elements of skepticism, distrust, and contradiction within the university community. Skepticism and distrust can be met with communication and accountability measures from the DU structural arms that handle waste diversion and sustainability, more generally. Addressing the on-the-go nature of campus amenities and the waste generated by these entities may extend beyond an operational shift. Students have become accustomed to eating and drinking on-the-go or multitasking by eating while studying at the library. This on-the-go nature might be an element of campus culture that fundamentally contradicts with DU's recycling culture and commitment to sustainability.

Recommendations for Improving Waste Diversion Rates at the University of Denver

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30 October 2022

Introduction

With concerns related to improving the University of Denver's diversion rates, asking students what they recommend to improve recycling behavior can provide valuable information on what infrastructure DU should invest in. By examining common themes and ideas from a variety of students' recommendations, a clear picture of what students need arises. Students' recommendations fall into four categories, (1) signs and how information is displayed, (2) methods of organized education, (3) infrastructure, which can be further divided in to (a) general infrastructure and (b) receptacles, and (4) what I have termed as 'radical ideas,' given their nature of calling for drastic changes; the students who suggest these "radical ideas" tend to comment on how drastic the ideas seem.

Signage

While signs can be found near waste receptacles across DU's campus, several students have reported either issues with their clarity or a lack of signs in appropriate places. Referencing the square-shaped receptacles near building entrances, a student says that they "only had signs on a few of their four sides." So, while the signage exists, it might not be easily seen depending on what part of the bin it is placed on, leading to students' confusion. If signs were on all sides of the receptacles, it would be clear to students where to dispose of their waste.

Students express a want for more signs and several offer ways the signs should be formatted. One student suggests that signs include information on "the benefits of recycling" but also warns against making them confusing. They suggest using clear pictures to show what waste can go into what receptacle to help alleviate confusion. This student finds clarity to be one of the most important aspects of signage to facilitate good recycling behaviors. They also finally add that it might be helpful to have information on signs showing what recycling helps with or even showing how much waste a person produces on average. This suggests that students want to have some sort of statistical information to place value on their recycling effort, or at least hope that such information would inspire others to take on good recycling habits. Creating informational signage and signage that denotes what each bin is for could incentivize students to create or maintain good recycling behavior as they will have information on 'why' it is important to use the different waste options and provide clear information on where to dispose of their waste.

This information can even be specialized to a building or area if need-be. In an informal conversation with a friend of mine at the Newman Center, we were discussing how to dispose of our ticket and program for a concert we were attending. We both were saying that composting is

a better option (and the Newman Center has several bins dedicated to this), but recycling was the safe option. There was a lack of signage around the Joy Burns Plaza we were having this discussion in, so my friend suggests that it should be made clear how to dispose of these. If the Newman Center included signs somewhere about what to do with these paper items (which there are normally at maximum about 1,000 each for a large-scale event) disposing of them could be an easier experience. This specified signage makes sense with the context of what the spaces at the Newman Center are used for and what sort of waste those spaces will generate.

Students want signage to be engaging. One student describes their ideal sign by saying “I love posters and signs. Like, really colorful ones that have like five words on them but they’re meaningful. I love posters, but I never walkthrough Driscoll. I think the place I read the most signs or see the most about school activities is in bathrooms.” Posters that are colorful can draw the eye, and by keeping information concise (although five words is probably too small of a word count to get all needed information out) students can quickly glean information. Photos might also provide another useful way to share concise information on these posters. This student also suggests where these posters would be best suited: in bathrooms, and where the posters would not best be suited for them: in Driscoll. Everyone will need to use the bathrooms on DU’s campus at one point or another, so putting information up in those locations will be helpful for spreading information. In this example, the student brings up Driscoll because it is a popular place on campus that they happen to not frequent. I think what is best learned from this student’s mention of Driscoll is that information needs to be everywhere, not just in popular buildings since not all students will frequent these popular locations. If informational signage is limited, there will always be groups of students left out.

The student who suggests placing informational signage in bathrooms later states what information they wish was shared with the student population. They suggest including “what happens if you don’t recycle properly. Like you said if there’s food product in it that would ruin a whole batch. If that was communicated that would make an impact, I think.” This ties back to an earlier student wanting informational signage. Regarding information about what happens if someone does not recycle properly, some places on campus do include information like this, specifically those in the dining halls. These signs, however, encourage students to throw something into the landfill if they are unsure about how to dispose of it instead of providing ways to approach the situation. This student might instead be asking for clearer instructions that do not just say to just dispose into a trash bin when unsure. Perhaps what might be better suited is information on how to make waste recyclable, such as by rinsing out a clear plastic food bowl before putting it in the recycling bin. This student could also be asking for clearer signage about what happens, other than just ‘when in doubt, throw it out’ to encourage other students to take the extra effort in disposing of waste properly.

Signage placement is another important recommendation of several other students. One student suggests “adding signs to above all of the bins that say, ‘pay attention!’” Another student says that the signs above the bins are easily seen, but they need to be clearer about certain items, such as specifying that you can recycle certain items “but not if it has liquid or food residue.” Others say pictures are helpful in figuring out how to dispose of their waste and when bin labeling is clear. One student suggests that pictures might be confusing as they observed other students staring at signs and still choosing incorrect bins to dispose their waste, but they also add to their own observation that students were moving quickly during this time and probably did not have the time to properly examine signage. It is important in making a clear and concise sign with regards to these, as students have also complained that it is hard to work with “detailed and lengthy signs”

but also with “handwritten signs with unclear instructions” that they have seen. Even if a student feels confident in their recycling capabilities, these can still serve as helpful reminders or as a method for a student to double-check themselves before deciding where to dispose of waste.

Students would like to see clear signs about what to dispose near receptacles and informational signage about recycling in other parts of campus. These need to draw the eye through color and have concise language, while also being in prominent viewing spots that every student can see. This signage provides opportunities for students to figure out where to dispose of their waste, but also way to learn about why they should recycle and how they can.

Organized Education

Students have suggested that being taught by a variety of organized education methods can help encourage good recycling. These methods would require the university to implement some sort of way for students to actively engage and learn. This would allow them to be better equipped with the knowledge to maintain good recycling behaviors and with knowing how DU manages its different types of waste.

A popular idea is to include an aspect of recycling education with incoming freshmen students. One student says recycling education “should be an integrated part of the introduction week.” Introduction week, sometimes referred to as “O-week” for orientation week, is a week before the start of the fall quarter where freshmen on campus are led through activities and taught about aspects of DU. Another student goes into more detail, saying “They make you sit through all those seminars. Like I mean we probably had like ten different sessions about alcohol. Switching ones of those to recycling and sustainability and how to use the resources on campus.” Students want to have opportunities to learn about recycling that fit with their schedule; they are already attending seminars during O-week, it makes sense for them to have the opportunity to learn about recycling at DU at a session. This is a convenient method as well, which can facilitate good recycling behaviors.

Students also bring up recycling as something to be taught in their freshmen seminars, FSEMs for short. This is the first class that incoming freshmen sign up for. This class is what also forms the student’s cohort during O-week. These classes are themed to a very specific topic, so it might be difficult to add a recycling unit to the course, but it is a possibility and might have the benefit of fostering community between students. Again, this is also another convenient way to implement education as all undergraduate students are required to take one of these courses.

Another important aspect of this is that whatever form the education takes, it needs to be mandatory. One student, in response to being asked if they would attend optional seminars responds “no, actually, I don’t think so. Realistically, if it was optional, no. I think that it was, not a seminar, but an RA thing, then I would go. If they were mandatory, people would complain, but if it was interesting and engaging then it would be more appealing to go to and sit through.” By making recycling education mandatory, students have a reason to go that directly affects them. It also would help make sure that all students get access to this education. Other sorts of required methods students suggest include creating an online Canvas course, completing some sort of online quiz, and (one of the more popular ideas) having a resident assistant (RA) teach their residents what can and cannot be recycled. When students suggest having an RA teach about recycling, they normally suggest being taught what sort of receptacles to look out for, what options for waste management are in the dining halls, and what sort of material can be recycled or composted. RAs are required to have mandatory meetings with their residents, and so making the topic of one of

these mandatory meetings about recycling can help facilitate education and good recycling behavior.

Students also want to learn certain aspects about recycling. While being shown what can and cannot be recycled or composted, several students have expressed wanting to be told why this is important. One student suggests that education should highlight “the fact that recycling benefits our community somehow.” Another goes into detail saying they want DU to “tell people ‘This is what we do with recycling, this is what we specifically do with recycling, this is specifically what we do with compost’ and maybe that could also encourage people to recycle and compost more because they know where it is going.” That same student also says they want DU “to educate students more on not how to compost and recycle, but why? Like why should we do this? What are the bigger implications? Like how does it affect our environment if we don’t do it?” Students want to have a reason to dispose of their waste correctly as opposed to opting for landfill. Education on how to recycle is important, but it needs to be supplemented by a reason to do so. If students are aware of how DU disposes of all waste, they might feel that their choice to recycle actually has an impact on DU’s large-scale recycling program.

Organized educational methods are a popular recommendation from students. By offering an effective way to learn, students can comfortably learn about recycling methods available at DU and can understand why it is important to do so. Students want to be taught how to recycle and why it is important. By implementing it either as a required online course for the whole student body or as something future years of incoming freshmen will learn, education will help facilitate good recycling behaviors.

Infrastructure

Good infrastructure will help facilitate good recycling behavior. Students who need to use DU’s infrastructure and use them on a day-to-day basis can offer valuable recommendations on how to improve them, as they are able to offer insight on the infrastructure they use regularly. These recommendations tend to revolve around receptacle placement, receptacle options, receptacle appearance and size, and other sort of infrastructure methods DU could implement or has implemented in the past that students wish to see return.

Some students have complained about a lack of recycling and compost receptacles being available outside. One student explicitly says when walking across campus “every four feet there was a trash bin on the way. The seats next to the soccer field and the path between the stadiums only had trash cans and no recycling or compost bins.” Access to trash receptacles outside is not an issue, but access to recycling or compost is. A different student adds “just having the recycling bins next to the trash bins encourages you to make that choice without having to go out of the way.” By providing the option to recycle at every place a student could throw something away, students are encouraged to recycle. If all outdoor trash bins have a recycling bin next to them, every opportunity to dispose of waste presents the student with the option to recycle. Another student’s thoughts confirm this when they say:

“The more bins there is to choose from, or the more bins you have accessible to you, the easier it is, to put in the extra step to tether recycle or compost or put something into the landfill. Though if there aren’t any options for students to choose from, then it’s just automatically going to go into waste. So just putting more numbers of recycling bins and compost bins around campus will

definitely help out with reducing waste that we have and contributing more to recycling and compost.”

Options can facilitate good recycling behavior since they make the student think about their choice, but also give them the ability to make a choice.

Other students offer creative ideas when it comes to providing options for waste disposal. One student says “composting, trash, and recycling, all right next to each other. All very clearly marked. All very clearly... you know like even the openings for the holes are different so you have to think about what can fit and what, and why it might fit and why it might not. I think that that’s a strong strategy.” By placing these options next to each other, providing signage to help differentiate, and making the openings different shapes, several methods are put in place to make sure a student is encouraged to make a good recycling choice. Students have also requested that the recycling bins provided to dorms to be bigger “because if you have this small, tiny bin it is hard to fit a lot in there so when its full you’re just like ‘I’m just going to throw it away.’” Adequately sized recycling bins must be provided to facilitate long term, good recycling behavior. Students have also recommended placing composting bins in dorms. Students do eat plenty of food in their dorms, and so providing a way for them to dispose of it in a clean way would be advantageous in reducing DU’s diversion rates. An international student also makes a case for offering more ways to dispose than just landfill, recycling, and composting. They bring up how in America, they have found it difficult to dispose of things like batteries that cannot go into the usual waste disposal options. If DU offered ways to dispose of things like this to their students, they would help facilitate healthy waste management.

Some students express interest in reducing the amount of landfill receptacles on campus or making them harder to use. One student recommends turning some into recycling or composting bins by removing any signs that mark them as trash and changing them to recycling or composting. This can help increase options for waste disposal. Another student’s idea of changing the colors of the outside trash receptacles would work well with this idea. While they do not suggest what colors the receptacles should be, they do say the receptacles should be colors other than the crimson ones that are currently on campus (the best option would probably be to do the standard blue for recycling, and green for composting). Another student suggests making sure all trash receptacles have lids that students would have to lift, or some sort of method that makes them more difficult to use. The student hopes this would make other students think about how they want to dispose their waste instead of just utilizing an automatic response of putting waste into the trash. This student also explicitly says to not do this to recycling bins (I do think this could be a viable solution, however I worry this recommendation might encourage students to instead have an automatic response of throwing away waste that cannot be recycled into a nearby recycling bin for convenience of not having to open it. Perhaps lids on all forms of receptacles could work as students would have to make some sort of laborious movement to dispose their waste, at least with this they might pay more attention to what receptacle they are opening to dispose their waste into.)

There is also plenty of advocacy for methods of reuse. One student suggests that using washable cutlery in the dining halls is better as opposed to compostable ones because “why have more things to biodegrade or process when you could just wash something.” Reusing materials is a great way to help reduce waste, and something used by a large portion of the student body several times a day is a great way to help reduce waste. Several other students have brought up reusable water bottles they were given during their freshmen orientation and how helpful those are. If DU continues to do that, every student should have at least one water bottle they can keep reusing,

without having to buy plastic ones that either go to waste or become another item in the recycling system.

Most infrastructure recommendations surround what are the receptacle options, where are they available, and how many of each are there. By reducing the number of trash receptacles while also increasing the number of recycling and composting receptacles, students are provided more opportunities to make the right choice in disposing of their waste. Options also encourage students to think about how they dispose of their waste, hopefully encouraging clean behavior.

Radical Ideas

This section comprises of suggestions from students that tend to be more ‘radical.’ These recommendations typically involve change to aspects other than DU’s infrastructure or education and would definitely have a larger impact on students’ day-to-day lives. I include them here because although they may be polarizing and drastic, aspects of these suggestions might prove beneficial in helping DU’s diversion rates and might even inspire other ideas to reduce diversion rates.

A student has suggested removing all single trash receptacles. This would leave the only way for students to dispose of their landfill waste with dual trash receptacles (which have recycling and waste) and the tri-bin waste receptacles (which have recycling, waste, and compost bins). This recommendation does not eliminate all options for waste disposal, but it does make them extremely difficult to seek out when thinking about how many single-bin receptacles dedicated to landfill are on campus. This initiative would, however, increase options for waste since students would have to seek out the multiple-bin receptacles. Another student wants to ban all disposable plastic water bottles. If this is paired with DU providing a reusable water bottle to students, this is less of a drastic recommendation. It is important to understand that this suggestion does not outright ban all forms of disposable water bottles. Other ways of being able to provide disposable water bottle options for people on campus (since plenty of non-DU community members come on campus) is to use recyclable, disposable aluminum bottles that have recently become popular.

Including some sort of clause about recycling and composting in the DU Honor Code is another suggestion. The student who suggests this does not provide an idea of what that looks like, but perhaps it is a clause stating that DU students will dispose of waste in correct receptacles on campus. This would, however, require some sort of way to keep track of this and a method of enforcement. Another student makes a suggestion of monitoring waste receptacles but adds, “I don’t think you can go that far.” The idea here would be that someone would need to monitor these receptacles and make sure that students are disposing of their waste correctly. A group of people to monitor this could be Campus Safety, as one student points out with frustration how if a student breaks DU’s U-Lock rule for bikes they can get a ticket, so Campus Safety should also be able to do something like that for incorrect disposal. This is not unlike the real world as another student shares “I have a friend who moved here from Seattle, and she said it is required by the city to recycle and if you don’t, you’re fined.” These are some of the most drastic measures offered by students. The implementation of such methods would probably be effective, but it is hard to know what the communal response would be without any further opinion from students on such a recommendation.

Again, these recommendations are meant to facilitate possible ideas for implementing new ways to facilitate good recycling behavior. These are some of the more extreme ideas posed by students and did not necessarily come up in other students’ recommendations. I hope that their

inclusion can prove to be beneficial in some way of inspiring ideas to help facilitate good recycling behavior.

Conclusion

Students have come up with a myriad of ways to help facilitate good recycling behavior at DU, whether that be implementing and remaking signage, having extensive forms of education, or restructuring DU's waste infrastructure. Each of these types of recommendations are most effective when implemented together. Education facilitates knowledge of how to recycle effectively, signage helps to maintain this knowledge and makes where to dispose clear, and good infrastructure makes the act of recycling easy. By reexamining what DU is currently doing to facilitate good recycling and using these suggestions from students, DU's diversion methods can be greatly enhanced.