

Breaking the Hustle: How Institutional Culture Impacts Academic Resource Engagement in Engineering

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I. Abstract

This Complete Research Paper will describe the barriers impacting student resource utilization. Effective use of academic resources is essential for student success. But in many academic environments, personal, social, and institutional barriers often hinder engagement with such resources. This qualitative study explores how “hustle culture”—the pervasive pressure to overcommit academically, professionally, and personally—impacts resource use among engineering students. At a mid-sized private R1 university, a thematic analysis of interviews with twenty engineering students conducted by a faculty–student research team revealed that hustle culture impacts the academic resources that students engage with. The results of this study emphasize the need to design academic resources with the school culture in mind and the importance of both understanding the needs of the student body and identifying the barriers and incentives to resource engagement. Specifically, the study identifies the accessibility, flexibility, and clarity of resources as key features that, when optimized, can improve student resource engagement.

II. Motivation

The Value of Academic and Student Support Resources

Academic resource use is a key determinant of student performance [1]. High-achieving students demonstrate self-regulated learning by consistently engaging with academic resources [2]. In response, universities have expanded the variety of academic resources available to students and have designed a variety of interventions to improve student resource engagement. For example, some interventions work to improve student understanding of the available resources by providing all students with regular advising sessions in first-year seminars [3] Others acknowledge the need for support structures that connect to students’ identities [4].

But personal [5], social [6], and institutional [7] barriers can influence student help-seeking behaviors and hinder the effective use of academic resources. Past studies have documented the incidence of reduced help-seeking behaviors, especially among underrepresented engineering students [8]. Given the importance of help-seeking for student development and academic performance, lowering barriers to resource engagement is crucial to diversifying the engineering field [9], [10]. As institutions continue to invest in academic support programs, educators and administrators must evaluate the impact of these programs on student retention and outcomes.

As part of this effort, Lee et al. developed the STEM Student Perspectives of Support Instrument (STEM-SPSI) to quantitatively assess how core support structures such as academic and career advising, peer connections, and university diversity and inclusion efforts impacted different groups of students [11]. Quantitative instruments such STEM-SPSI are helpful tools in assessing the academic-resource landscape of the university. While evaluation of the impact of resources is important, it is vital to understand the context or culture surrounding resource engagement. Researchers have used quantitative methods to analyze the culture of academia. Jensen and Cross describe engineering “stress culture” using the framework of organizational culture [12] to

describe how group norms dictate social interactions that further reinforce and influence individual behavior. By quantitatively analyzing engineering stress culture, Jensen and Cross define the key constructs and underlying relationships that drive student stress. Qualitative studies can also be used to analyze the culture of an institution and provide insight into the drivers behind student resource engagement [13].

In this study, we use qualitative methods to understand the cultural and individual drivers of academic resource use. This study identifies the prevalence of “hustle culture” in the engineering department of a mid-sized private R1 university. In the professional context, hustle culture is defined as the group norm to overcommit to the work at hand to achieve professional goals and objectives [14]. Hustle culture is prevalent in such environments, where workers can feel pressure to maintain a certain level of productivity to adhere to the unspoken norms of the workplace [15].

In the academic context, we define hustle culture as the tendency of engineering students to exist in a state of extreme busyness where they struggle to prioritize or integrate academic support resources. While we use the term hustle culture to describe a culture of overcommitment, we acknowledge “productivity culture,” [16], “stress culture,” [12] or “burnout” [17] as related terms and potential outcomes of the hustle culture described in this study.

III. Methodology

Positionality of the Researchers

This study was conducted by two researchers with distinct but complementary perspectives. One researcher is a faculty member with extensive experience in teaching design and advising students in the first year of their academic journeys. Through discussions with students, the faculty collaborator has developed an understanding of the challenges students face during the transition to college and is committed to using the design process to enhance educational experiences. The other researcher, a third-year undergraduate student in industrial engineering, brought valuable insights into the lived experiences of engineering students, which informed the project’s scope and objectives.

The student researcher has dealt firsthand with academic struggle in first-year engineering courses and navigating the various on-campus resources. This student identifies as a first-generation and lower-income student, which has significantly impacted how they interact with academic resources. The student researcher is a peer leader and mentor and must refer students to many on-campus resources. Because of this background, the student researcher has observed firsthand that academic resources outside the classroom are often hard to find or utilize.

Study Design

The study was designed to answer a broad research question: What barriers and incentives shape student resource use? To understand the incentives and barriers to resource use, the student researcher conducted twenty approximately one-hour-long semi-structured interviews of sophomore and junior-level students between April 4, 2024 and May 23, 2024. To identify participants, after receiving approval from the Institutional Review Board, staff members in the Undergraduate Engineering Office (UEO) were asked to nominate students who may be interested in participating in the study. The UEO recommended student peer advisors, leaders of engineering

student organizations and affinity groups, and those who completed a pre-college summer program.

The study design was informed by the stages of the Design Thinking process. As designers engage in the iterative stages of Design Thinking they (1) empathize with the user, (2) define the problem, (3) ideate and generate possible solutions, (4) prototype, and (5) test their ideas and receive user feedback that works to re-define the problem or the design requirements [18]. In the interviews, the student researcher asked participants to reflect on their academic experiences transitioning from high school to college. Students were then asked about their personal experiences with academic resources on campus. Questions ranged from the usefulness and popularity of resources to potential resource improvements and participants' reasons for using specific resources. Due to their positionality, the student researcher was able to empathize with the participants to gain information about student needs and the barriers students face when engaging with resources that students may be reluctant to share with a faculty member.

Data Collection and Analysis

All interview recordings were transcribed using Otter.ai and imported into Dedoose (a web application for qualitative and mixed methods research). Errors in the transcripts generated by Otter.ai were manually corrected. Dedoose was selected because it allowed remote collaboration across different device types [19].

The research team used an *a priori* coding method to analyze the interview responses, generating an initial coding framework by considering the research questions, grounding theories, and key themes the research team aimed to explore [20]. As the team coded the interviews, the coding frame was adjusted by adding new codes and refining coding definitions to best represent the data.

Assuring Quality of Thematic Analysis

The student researcher completed the initial rounds of coding. Interrater reliability (IRR) tests [19] were used to ensure the codes were being applied consistently. For each IRR test, the student researcher would select codes and example passages. The faculty researcher would then review the code definitions and assign codes to each passage. Dedoose then calculated the level of agreement between the code application of the student and faculty members and generated a Kappa score for each code. The research team then discussed codes that received a low Kappa score (less than 0.7) to clarify the definition of the code. These low Kappa score codes were then tested in future IRR tests, which allowed the team to iteratively verify the consistent application of coding definitions and ensure the data analysis quality.

As the research team coded the data, a coding journal was created to note common observations or concepts that were presented in the interview data. These observations were used to motivate the thematic analysis and develop themes and conceptual frameworks following the method outlined by Naeem, et al [21].

IV. Findings

Impact of Hustle Culture on Resource Engagement

As described above, hustle culture in the educational context refers to the pressure members of academic environments feel to be constantly busy and overcommitted to professional, academic,

and personal activities. The applicability of this term is evidenced by the informal definitions of the term study participants provided during their interviews:

“I guess, it’s just a limited amount of time that you have, [because] everyone’s trying to do so much that you don’t really find time to seek support.” (edited for clarity)

“So I think the busyness of this school is kind of a deterrent in itself. Like I can only use the resources if I have time for it. So like these things that you have to sign up and do every week, I’m not really likely to actually sign up for them.”

These participants explain how the “busyness of the school” or hustle culture of the campus has limited the time they spend finding and using academic resources. Notably, students tend to prioritize other commitments over academics. Oftentimes, participants feel unable to interact with resources due to time constraints and refer to the busyness of their peers and professors. In other words, participants noted that they perceived busyness as a cultural component of the university environment:

“I think a big thing is time, I guess time is always a big problem. Because everyone’s so busy, [there are] so many extracurricular things going on. Once you go to research all your afternoons are chunked out. So I can’t really go to office hours or anything like that. Or even like setting up meetings with academic advisor or things during the afternoon period. So it’s like [you] can’t really do any of those if you’re so busy like that. So I think time is a big problem” (edited for clarity)

The participant quoted above highlights how time conflicts are a common struggle. Participation in extracurricular activities, such as research opportunities or clubs, makes it harder for students to engage with the academic resources provided by the university. The university encourages students to be involved with many extracurricular activities, and when choosing between receiving academic help or participating in extracurricular activities, students often choose the latter. Through the interviews, the research team identified the busyness of students as a key factor to consider when designing resources for this student population.

Considering Peer-Guided Study Groups as a Case Study

Along with questions about their personal experience with resource use and time management, the student researcher also asked participants for feedback on specific academic resources offered by the university. Participant responses to the Peer Guided Study Group (PGSG) program illuminate the contradictions between university support systems and the student culture. PGSG is a university-wide program that allows undergraduate students to sign up for structured weekly course-specific study group sessions led by a peer facilitator. Students must register for these study groups to participate, and attendance at each session is mandatory.

Participants mentioned that they were less likely to participate in PGSGs because of the required weekly time commitment:

“Because for me, I'm not in a position where I can commit an hour every week to PGSG, because I'm just so busy with other things. And PGSG is actually like really hard to sign up for some classes to, and they'll fill up like right away.” (edited for clarity)

“For me, the drawback was like the required attendance, because there were just some weeks where like, I really didn't need it. And it was like two hours of my Sunday that were being spent reviewing content that I felt very comfortable with.”

Participants also noted that enrolling in the PGSGs was difficult due to the limited number of PGSGs and high demand for the program, and that they would consider joining more PGSGs if there were a wider variety of time slots or if the meeting times were shorter:

“And then drawbacks are, time slots aren't great a lot of the time. They also get filled up really fast. And so it can be kind of challenging if you missed that email.”

These responses indicate that resource accessibility and flexibility were primary drivers of resource engagement at the institution.

Student Use of External Resources

PGSGs are one of the flagship programs promoted by the university's formal academic support network. These programs, however, are not as easily accessible as informal learning communities or online resources. Participants specifically mentioned that they prefer to work with peers or use internet resources as a way to receive timely support:

“So I think it's also that level of comfort too as well as convenience. Yeah, I can text my friends at 11pm... My professor, maybe not.”

“Yeah friends first, like friends and classmates first, just because, they're most accessible. They're right there in class, or I have their phone number. They're probably working on the homework at the same time as me. Or, I know, they'll be up at like, 12am. If I have a question.” (edited for clarity)

Both of the above participants identified accessibility as the key reason they turned to peers for academic help. As opposed to PGSGs, which occur at a set time that may not align with a student's schedule, participants can more easily contact peers and receive the necessary academic support without sacrificing what they consider to be a large amount of time.

Similarly, participants discussed using internet resources for further support:

“And so if that doesn't work, if I can't get everything I need to or don't understand everything I need to, then YouTube is sometimes a good resource” (edited for clarity)

“And sometimes I’ll look at outside sources, like a YouTube video or something if there’s a topic that I really don’t understand.” (edited for clarity)

These participants used YouTube as a resource to find videos that improve their understanding of course materials. Again, online resources can provide students with academic support on their timeline and are not viewed as a separate commitment like PGSGs.

Emergent Themes

The results of this study highlight the priorities and needs of the student body. From this information, we can define a set of requirements for an academic resource that students are likely to utilize. Schein’s levels of culture framework notes that perceptions and beliefs of the group work to define the group culture and actions [22]. Figure 1 illustrates the relationships between the culture of the student body, their actions, and the implied design requirements.

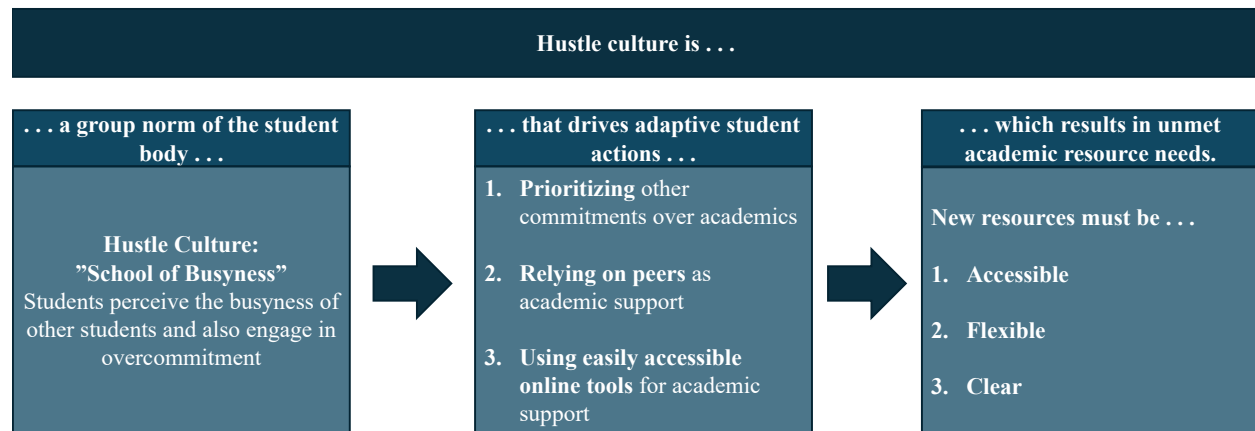


Figure 1: Schematic describing how academic resource engagement is impacted by group norms and actions. The outcome of this analysis is the generation of key requirements for resources that will meet student needs.

The university hustle culture and the high levels of student busyness drives student actions and engagement with resources. These actions include how they prioritize their many commitments, their tendency to turn to their peer community for academic support, and their resourcefulness as they engage with external resources such as YouTube. These observed actions imply the observed needs of this user group and the requirements that define a useful academic resource. We specifically find that students need accessible, flexible, and clear resources. Resource clarity refers to the students’ need to understand how and why resources are structured in a specific way. For example, students should understand the university’s motivation for requiring attendance in a PGSG. The way students adapt to their environment when needs are not being met, such as engaging with external online resources or peers for academic support, then feeds into the institutional culture.

Limitations

While this study revealed key insights into campus culture and resource usage, there are limitations to our results. One such limitation is the lack of participant demographic data. While we originally asked participants questions about first-generation and minority status, we did not define these

identities, resulting in inconsistent responses. Future research could explore the relationship between different identities and resource engagement.

Our findings are also limited by the sample size and population composition. Given that each class in the engineering school contains over 500 students, our small sample size of twenty participants may not accurately represent the study body as a whole. Notably, many of the students interviewed were peer advisors who had completed trainings about campus resources and, therefore, were more knowledgeable about resources than the general student population. Future research should include a larger number of students who hold no peer advisor roles and are completing a wider variety of academic majors.

V. Conclusions and Future Directions

Through this study, we have identified resource accessibility and flexibility as essential requirements due to the hustle culture prevalent in engineering education. Additionally, students often lack a clear understanding of how resources are structured, indicating that improving the transparency of resources could be highly beneficial. These results suggest that in many contexts, educators and administrators must redesign the resource landscape to promote resource engagement. This effort will require a dual approach: engaging university administrators (top-down) and collaborating with students (bottom-up).

A top-down approach to a resource design involves modifying the resource environment at the institutional level. Academic resource programs at our university could be redesigned to reduce the time barriers. This may include offering multiple sessions at many different times or identifying times that work well for different groups of students. For PGSGs specifically, the program could increase the number of study groups to allow more students to participate, reducing enrollment issues. Eliminating the mandatory-attendance requirement could also make engagement easier and more flexible.

Bottom-up collaboration with students is also necessary. While institutional changes can be made to redesign the resource environment to match the student culture, students should also be encouraged to reprioritize so they can see the value of engaging with academic resources. To shift the hustle culture, we must help students understand that a maximalist approach to college where they join too many extracurriculars may hinder their academic progress. Helping students understand how effective engagement with academic resources can improve their academic performance is also vital. Educators must equip students with information about academic resources and encourage students to explore these resources to find ones that best fit their needs.

The findings from this study are only the beginning. In future studies, we hope to explore the connection between student demographics, such as race, gender, or prior academic experiences, on academic resource use and student perception of institutional culture. We encourage other institutions to empathize with their students and work to define the problems that exist with their academic resource landscape by considering the institutional culture. Finally, as evidenced by this project, students can and must be part of the design process by collaborating with faculty to co-create solutions for student resource engagement.

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VII. References

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