

F25.24: Construction Management of Inclusive Gathering Space for Students with Autism Spectrum Disorder (ASD) in NAU Student Housing

Overview

Autism Spectrum Disorder (ASD) is a neurological condition that affects social interaction, communication, and behavior. On-campus housing poses several challenges for students with ASD, including sensory issues, social isolation, lack of structure, communication barriers, and limited support services. Students on the autism spectrum often experience difficulties with social interaction, which can make them feel uncomfortable in shared spaces with their housemates. While several studies have proposed design guidelines for accommodating the sensory needs of autistic individuals, little attention has been paid to spatial aspects related to social interaction.

Northern Arizona University (NAU) offers several student housing options on campus, aiming to provide a sense of community, security, connection, and convenience. However, NAU's student housing facilities need to cater to the specific needs of neurodivergent students. Many NAU students have disabilities that hinder their learning and socializing on campus, with around fifteen people per month requesting accommodations from disability resources for conditions such as ASD, ADHD, and mental health issues. This figure does not include self-diagnosed students or those who do not seek school accommodations. Therefore, it is essential to design student housing that enhances social interaction and creates a sense of belonging among all students.

This study comprises three parts. The first part involves investigating the existing conditions of NAU's student housing facilities, which was conducted through photo analysis, interviews, resident surveys, and site surveys during the 2023-2024 academic year. The second part will explore the role of physical factors in enhancing social interaction and a sense of community and belonging within one of NAU's student housing facilities, McKay Village, using a virtual reality program. The program will be designed based on the proposed design guidelines for students with ASD, and it will be implemented in a community room at McKay Village as a mock-up space. The final part will involve construction and management of a mock-up space in collaboration with a faculty member and an undergraduate research assistant from Interior Design program, School of Art + Design at NAU.

The study's findings will contribute to designing student housing that caters to the needs of NAU students with autism and enhances social interaction, creating a sense of belonging. As the college experience involves integrating oneself into a new population and making connections without the assistance of family members, the study's findings will help support the success and well-being of all NAU students.

This request specifically pertains to Phases II and III, which focus on exploring the physical factors in student housing and the construction/ management of a mock-up space. The project will utilize both internal NAU resources and external resources to modify a space to enhance social interactions and create a welcoming sense of belonging.

What the student will DO and LEARN

Student's responsibility:

- Capture information gained from phase I of the research, including the physical environmental changes
- Create work packages to modify the space based on the research
- Create a work schedule to accomplish the physical modifications
- Create a work package estimate and develop a full budget for the environmental modifications
- Assist with obtaining quotes from internal NAU Facilities Services resources (and external resources as necessary) to accomplish the modifications
- Assist in scheduling the work once approved

- Inspect the work progress weekly
- Prepare written weekly work progress reports
- Alert the research team of any issues that develop during the physical modifications
- The objective of learning:
 - To gain advanced knowledge of construction project management
 - To gain experience creating construction project work packages, estimates, and weekly reports
 - To develop abilities of collaboration as a research team
 - To exchange knowledge and skills with other students in design disciplines
 - To improve project management skills

Additional benefits

This platform will serve as an opportunity for students in design disciplines to learn how to implement a research project in design. Additionally, students will gain hands-on experience in mock-up space design and construction by collaborating with the Department of Construction Management. As an undergraduate student, it is uncommon to observe a research-based design project and actual design and construction taking place at school. Therefore, this platform will provide students with the opportunity to discuss research projects in design disciplines and their implementation.

Additional qualifications

- The most preferred qualification is responsibility and passion to learn about the design research project
- Experiences living in NAU student housing
- Estimating skills
- Skills and knowledge using Micro Office suite (PowerPoint, Excel, and Word), Microsoft Project, and Bluebeam Revu
- Skills to interpret construction documents (floor plan, elevation, section, details, and reflective ceiling plan)
- Organization skills with paper documentation
- Good oral and written communication skills

Time commitment

6 hrs/week for 30 weeks