TCD Sense

Dr Kieran Lewis, Occupational Therapy Manager, Trinity Disability Service, TCD Sense Project Lead

25/03/24
Outline

1. Background
2. Research
3. Project Description
4. Resources
5. Discussion
Introduction
“The experience of being human is embedded in the sensory events of everyday life. When we observe how people live their lives, we discover that they characterize their experiences from a sensory point of view”

(Winnie Dunn, 2001, pp 608-609)
Why is this important?

- Consistent reports from students of difficulty in managing the sensory environment of Trinity
- Increasing numbers of neurodivergent students connecting with student services
- College can be an overwhelming environment
What is Sensory Processing?

• Sensory processing is the means by which individuals obtain information about the world and their own bodies (Brown, Steffen-Sanchez, Nicholson, 2019)

• Each of us has an individualised pattern of sensory processing (Dunn, 2007)

• For some individuals, sensory stimuli have a much more significant influence on their perception than others, making for a notably different experience of the world compared to other people whose perception is not as influenced by sensory stimuli.

• We all have different sensory needs that can change depending on neurotype, energy levels, mood, context, and mechanism of perception.
Our Sensory Systems

**Auditory**
The auditory system is responsible for hearing and detecting sounds, sound frequency, sound loudness and interpreting language.

**Visual**
The visual system is responsible for seeing and detecting objects, shapes, colours, orientation and motion.

**Tactile**
The tactile system helps us process touch sensations from the body and detect light touch, deep pressure, texture, temperature, vibration and pain.

**Olfactory (smell)**
The olfactory system is responsible for processing smell and detecting different odours, discriminating between odours, determining the importance of odours and signalling to the brain about their significance.

**Proprioception**
The proprioception system is responsible for sensing position, location, orientation and movement of the body muscles and joints. Detecting where our body parts are in space relative to other parts and how much effort we use to move our body parts.

**Gustatory (Taste)**
The Gustatory system is responsible for our sense of taste and detecting safe and harmful foods, and signalling when we need hydration.

**Vestibular**
The vestibular system senses our balance and orientation in space. It informs us about the movement, rotation and position of our head relative to gravity. It influences our posture, head and eye movement and breathing.

**Interoception**
Responsible for detecting and interpreting internal senses that inform us about our physiology and what our internal organs are feeling. Reports what is going on inside our bodies. Detects hunger, thirst, tiredness, nausea, heart rate, breathing and other bodily sensations.

*Image - Jessica K Doyle, 2021*
Dunn’s Sensory Processing Framework (Dunn, 2014)

Dunn’s Sensory Processing Framework explains the interplay between neurological thresholds and self-regulatory behavioral responses to explain how we process sensory information.

- **High Threshold** = slow to notice sensory stimuli
  - **Bystanders** miss more sensory cues than others
  - **Seekers** are busier and more engaged in sensory experiences

- **Low Threshold** = quick to notice sensory stimuli
  - **Sensors** react more quickly and more intensely than others
  - **Avoiders** are more likely to retreat from unfamiliar situations

**Passive Self-Regulation**
- Allow sensory experiences to happen and then react

**Active Self-Regulation**
- Engage in behaviors to manage or control sensory input
Research
Research

● Sensory environment of college can be a barrier to engaging in learning, socialising and activities of daily living and an overwhelming place to be (Johnson and Irving, 2008)

● Gearhart and Bodie (2012) identified that sensory processing sensitivity was related to college stress

● Students can experience a range of issues in managing the sensory environments of college and this can make it difficult to engage in the academic and social elements of college life (Clince, Connolly & Nolan, 2016).

● Thompson et al. (2019) maintain that Autistic students are likely to encounter many sensory challenges including loud or crowded environments and may require assistance in managing these effectively.

May 2019: Survey of Disabled Trinity Students

• 68% reported that there is no quiet space on campus that they can access easily if feeling overwhelmed.
• Over 50% commented that they go home/leave campus if feeling overwhelmed.
• 93% would use a quiet space if it was available in the library.
• 49% reported difficulty with acoustics (e.g. noises, echoes, humming) in the library.
• 41% reported difficulty with acoustics in lectures.

2018 & 2019: Library UX Study & Library Survey & DS Sensory Audit

• Highlighted issues with wayfinding, lighting, noise, privacy, escape, heating and a lack of people to help
TCD Sense Project
Project Statement

The TCD Sense Project aims to make Trinity more inclusive by reviewing and improving new and existing spaces, building sensory awareness, and delivering specialist support to students and staff who experience barriers to managing and adapting to the sensory environments of college.
Theoretical Underpinnings

- Dunn’s Sensory Processing Framework (Dunn, 2014)
- Person Environment Occupation Model (Law et al, 1996)
- Universal Design Principles
Key Principles

1. **Diverse Sensory Experiences**: Recognising that sensory experiences are unique to each individual, TCD Sense ensures that there isn’t a one-size-fits-all approach. Instead, there are a variety of spaces created to cater to different sensory preferences and requirements.

2. **Inclusivity and Accessibility**: TCD Sense is built on the foundation of inclusivity. By considering various sensory needs, we aim to make spaces that are accessible and reflect the neurodiverse student and staff community here in Trinity.

3. **A Holistic Approach**: Trinity is a place where students and staff come to learn, work, socialise and relax. TCD Sense takes a holistic view of college life, by creating spaces for the broad range of activities that make up life here in Trinity.
Key Principles

4. **Adaptive and Evolving**: As we learn more about sensory needs and gather feedback from the TCD community, TCD Sense will continue to evolve. Spaces might be adjusted, new spaces might be introduced, and old ones might be reimagined.

5. **Education and Awareness**: An integral part of TCD Sense is to raise awareness about the importance of sensory environments and how they impact well-being, learning, and daily functioning. It's about informing and educating the larger community on why these spaces matter.

6. **A Collaborative Effort**: TCD Sense is not an isolated initiative. It involves collaboration with students, faculty, and external experts to ensure the spaces created are genuinely beneficial.
Project Structure

- Strand One: Student Approaches with the Disability Service
- Strand Two: College Environment
- Strand Three: Awareness and Training
- Strand Four: Research
Strand One – Approaches within the Disability Service

- Online resources – Beacons and Disability Service Website
- Sensory-based question included in Disability Service needs assessment process
- Occupational Therapy Process based upon Trinity Student Occupational Performance Profile (Lombard, Nolan, & Heron, 2022) Adolescent / Adult Sensory Profile (Brown and Dunn, 2002) & Sensory Environment Evaluation Tool (adapted with permission from Prof Winnie Dunn).
- Sensory Training delivered to Disability Service staff
- Sensory Tours for staff and students
- Noise Cancelling Headphones and headsets & sensory resources provided to students from needs assessment / OT process.
- Review of low distraction exam venues and purchase of suitable equipment
Eleven Library Areas – used by 100’s students daily

Five social spaces developed with sensory design principles used by hundreds of students daily.

Three sensory respite spaces
Strand Two – College Environment

- Planting across areas of campus such as student spaces on campus & St James’s
- Space set up in Oldham House in Trinity Hall
- Outdoor seating in Trinity Centre Tallaght Hospital
Strand Two – College Environment

- Low Distraction Exam Venues – desktop screens
- Desktop Screens & Headphones available throughout libraries
- Outdoor Areas - Trinity Botanical Garden
- Signage in the Library
- Audit and development sensory spaces on consultancy basis
Strand 3: Student and Staff Awareness and Training on-going & Student Engagement

- Communications plan with intern summer – social media
- Sensory Map of Trinity
- Sensory Trails in Trinity Botanical Gardens – online and in-person
- Embed sensory aspect in peer-facilitated tours / orientation
- Workshop delivered to departments, services, and students in PHS
Strand 4: Research & Partnerships

- Research Connection with Disc. of Occupational Therapy in TCD.


- Internships in TCD (sensory map, communications, resources and Botanic Gardens). – 27 applications from students

- TCD Sense Volunteers Group, SU, JCR, Ability Co_op, Dublin University Neurodiversity Society

- Further Collaborations – Trinity Botanical Gardens, Healthy Trinity Online Tool, Healthy Trinity, Trinity Centre St James’s User Group, Student 2 Student peer support.
Resources
Scan QR Code to see more on TCD Sense

TCD Sense Beacons
TCD Sense Map
Trinity Botanical Garden Sensory Trail

The Sensory Trail
Sensory Evaluation Tool
Disability Service Resources

Occupational Therapy:

- Environmental assessment of learning, social and study spaces using Sensory Evaluation Tool
- Individual Sensory Assessment using the Adult Adolescent Sensory Profile
- If you would like to discuss any of these supports / resources, you can book a drop-in appointment

Based upon this assessment process, may recommend some of the following:

- Sensory-based reasonable accommodations for examinations, lectures, work or placement.
- Sensory Spaces for studying, socialising or respite.
- Sensory Items and Furniture to best meet your sensory preferences.
Activity

1. Get into groups of 3 or 4
2. Pick some locations from the Sensory Map – focus either on social, study or quiet (filter) – (outdoor as well if nice)
3. What are some of the sensory characteristics of these spaces?
4. How would this location enable students in engaging in occupation?
5. Meet back here at 11:30 to review and discuss
Activity – Trinity Centre for Health Sciences – St James’s

1. Content - [https://tcdsensemap.ie/space/old-stone-building-common-room](https://tcdsensemap.ie/space/old-stone-building-common-room)

2. Content - [https://tcdsensemap.ie/info/trinity-centre-for-health-sciences](https://tcdsensemap.ie/info/trinity-centre-for-health-sciences)

3. Submit a tip on these spaces
References