Universal Design a Catalyst for Transformation

Dr Ger Craddock

Chief Officer

Centre for Excellence in Universal Design (CEUD)

National Disability Authority

nDA

National Disability Authority
Údarás Náisiúnta Míchumais

"Grownups have failed US"
FFF – Fridays For Future

Global Strike today

Greta has been diagnosed with Asperger syndrome, attention deficit hyperactivity disorder (ADHD), obsessive–compulsive disorder (OCD), and selective mutism

Greta Thunberg

2030 Agenda for Sustainable Development

- 10 targets, 15 indicators (available at https://unstats.un.org/)
- Covering housing (including slum upgrading) and basic services
- Transport systems
- City & settlement planning
- Cultural and natural heritage
- Climate change, disaster resilience and preparedness
- Environmental impact of cities
- Access to green, public spaces
- Urban-rural linkages
- Support for LDCs via local building procurement

National Report on **Student Mental Health** in 3rd Level Education Aug 26th 2019 Ireland

Extreme Severe Anxiety %   - 38% (two in five)

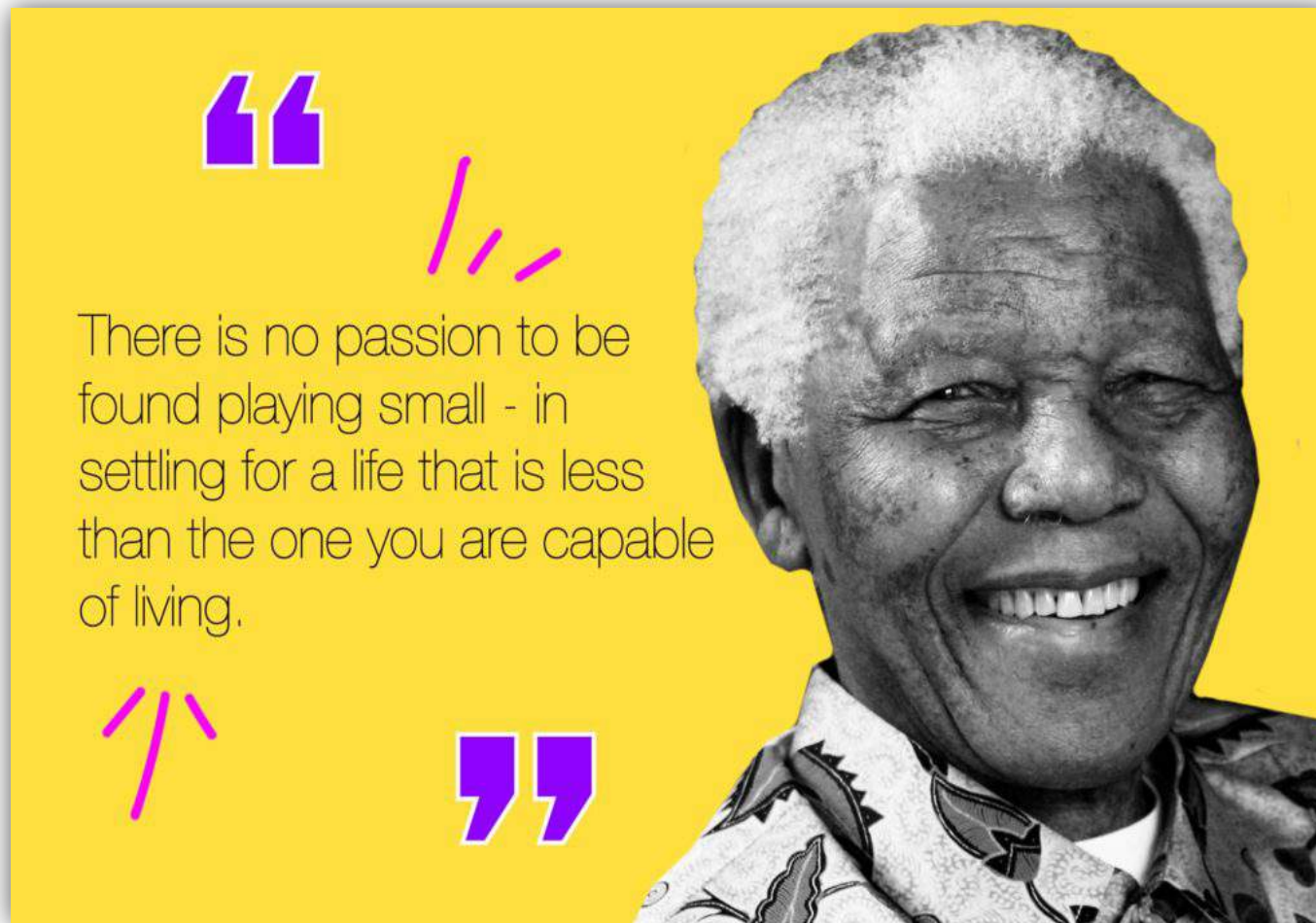Depression % - 30% (one in three)

Stress % - 17% (one in six)

No one to Talk to % - 20% (one in five)

Affected their Studies % - 30% (one in three)

- Universal Design offers an opportunity to re-align and underpin current approaches with the **Values**, & **Beliefs** congruent with **Equality, Justice** and **Human Rights**.

There is no passion to be found playing small - in settling for a life that is less than the one you are capable of living.

Universal Design defined in Irish Legislation

Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.

(Synopsis from the Irish Disability Act 2005)

Universal Design Approach

Universal Design + Universal Design for Learning

UD + UDL = Inclusive Education Environment for all

Universal design for learning (UDL) is a framework to improve and optimize teaching and learning for all people based on **New** scientific insights into how humans learn.

UDL at a Glance

UDL guides the design of instructional goals, assessments, methods, and materials that can be customized and adjusted to meet individual needs.

A Paradigm Shift

Accessibility:

Provides basic access and usability of facilities, products and services for people with disabilities

Universal design:

Enables independence and social participation **for all** through **continual improvement.**

(World Disability Report 2011)

UN Convention on the Rights of People with Disabilities 2006 (UNCRPD) Ratified by Ireland 2018

Convention on
the Rights of Persons
with Disabilities and
Optional Protocol

UNITED NATIONS
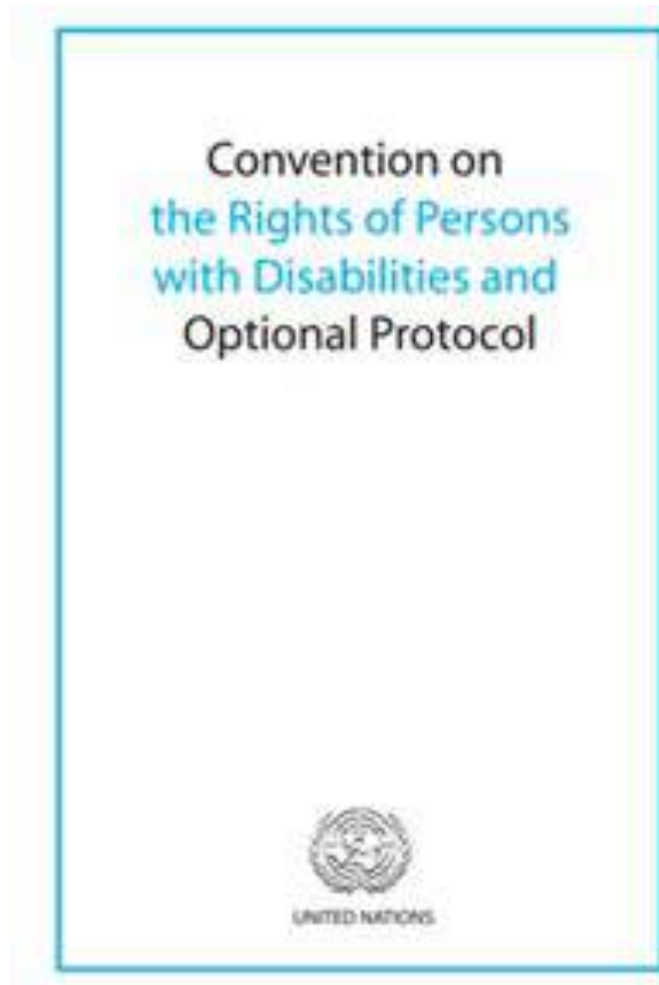
Convention: Article 4:

State Parties: to undertake or promote research and development of **universally designed goods, services, equipment and facilities**, which should require the minimum possible adaptation and the least cost to meet the specific needs of a person with disabilities, to promote their availability and use, and to **promote universal design in the development of standards and guidelines**;

Universal Design in Education

Traditional

- **Disability** as an impairment or abnormality in the person

- **Assessment:** Assure students with disabilities are included in high-stakes assessment
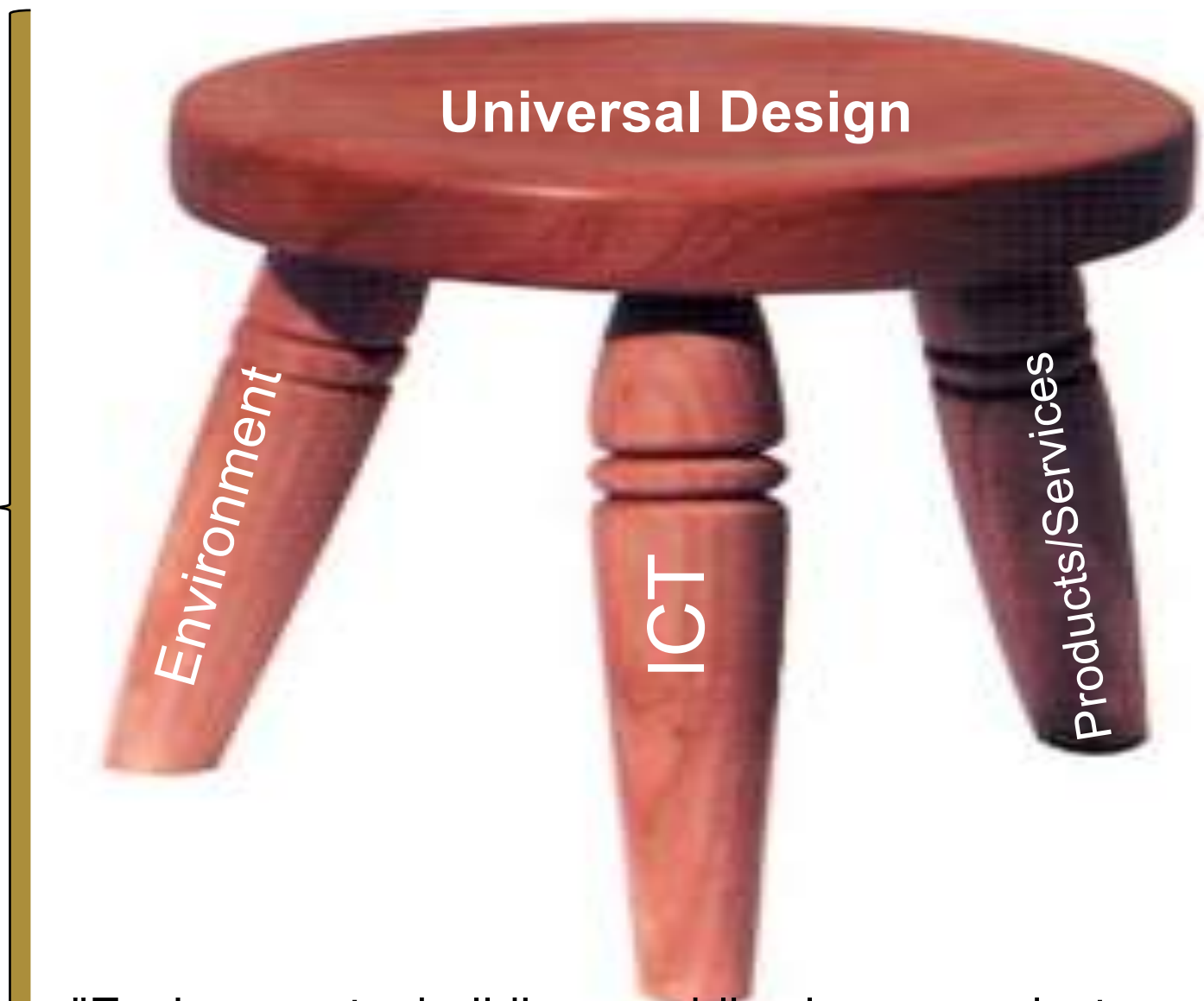
Universal Design

- **Disability**: A component of human diversity

- **Assessment:** Assure that standardised assessments are designed to be accessible to the widest range of students

Standards

Education

Awareness

Universal Design

Environment

ICT

Products/Services

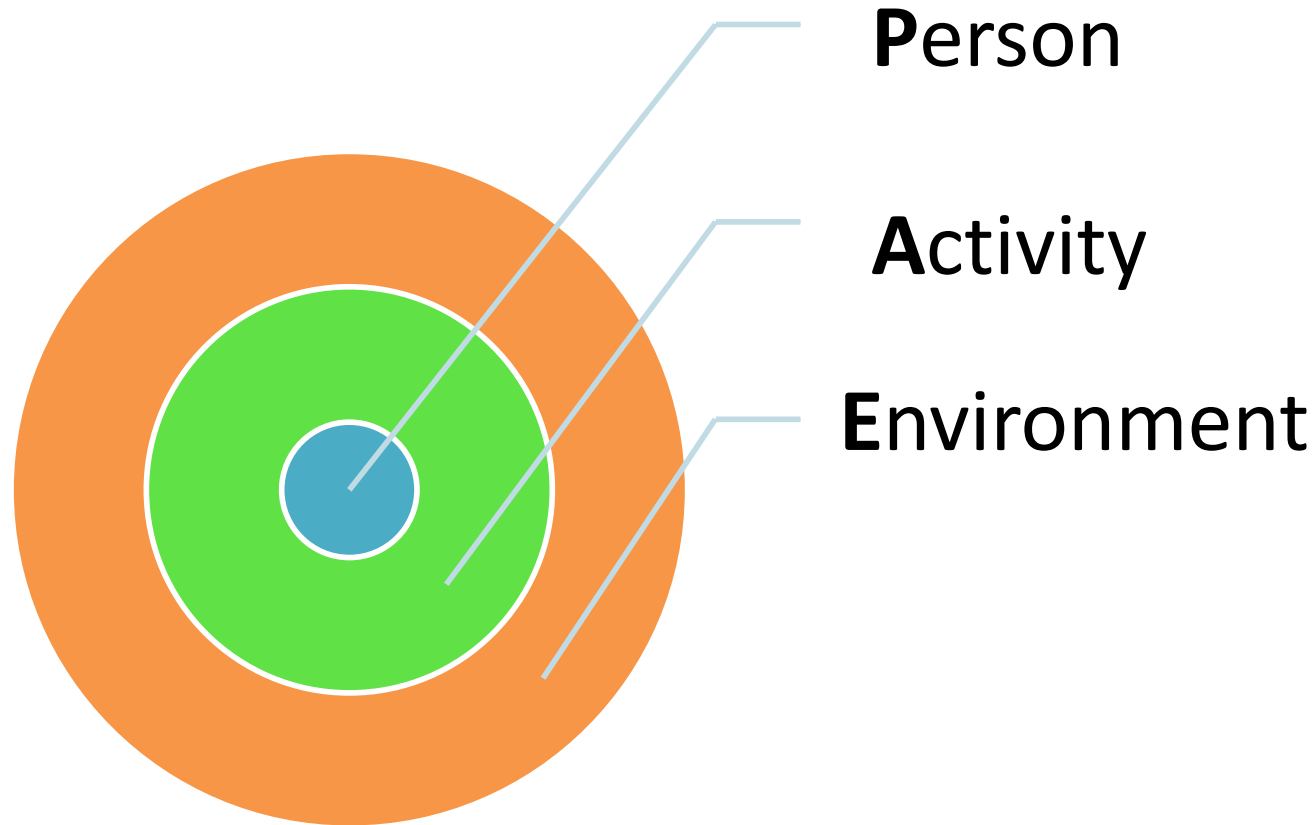"Environment = buildings, public places, products, services and ICT"

Key Elements of Universal Design Approach

- Understanding Difference – person centred
- Based on 7 Principles
- Process – Iterative
- Multi-stakeholder participation
- Whole systems focused
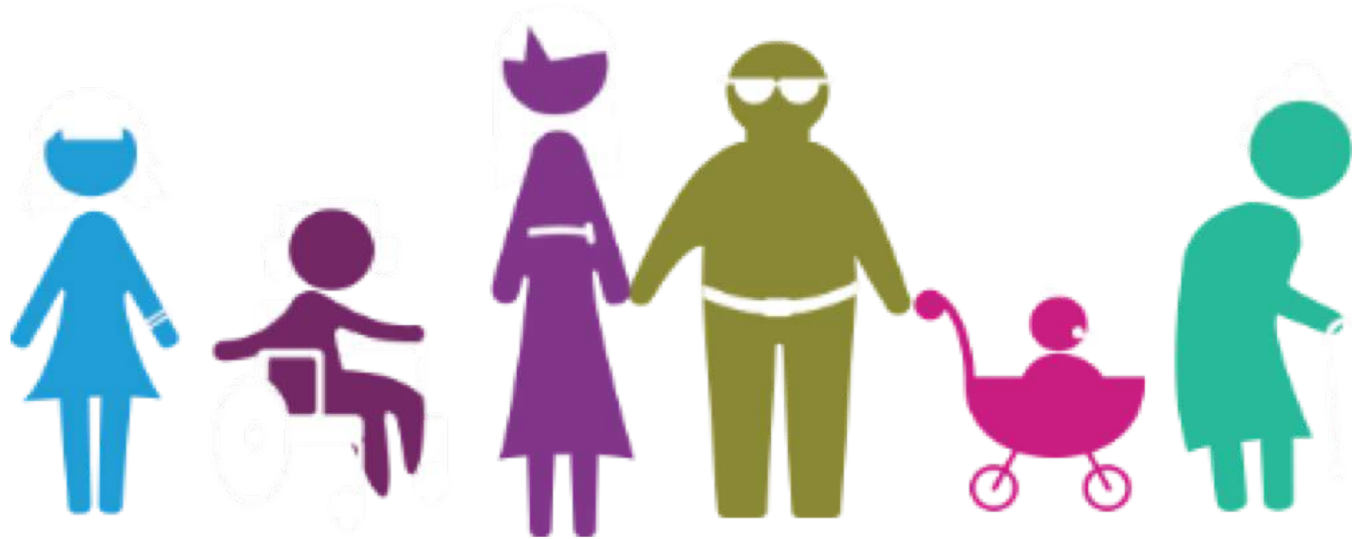
Universal Design System
Person, Activity and Environment (PAE)

Person

Activity

Environment

Diversity

Meet the Normals

Stakeholders in the Irish Context
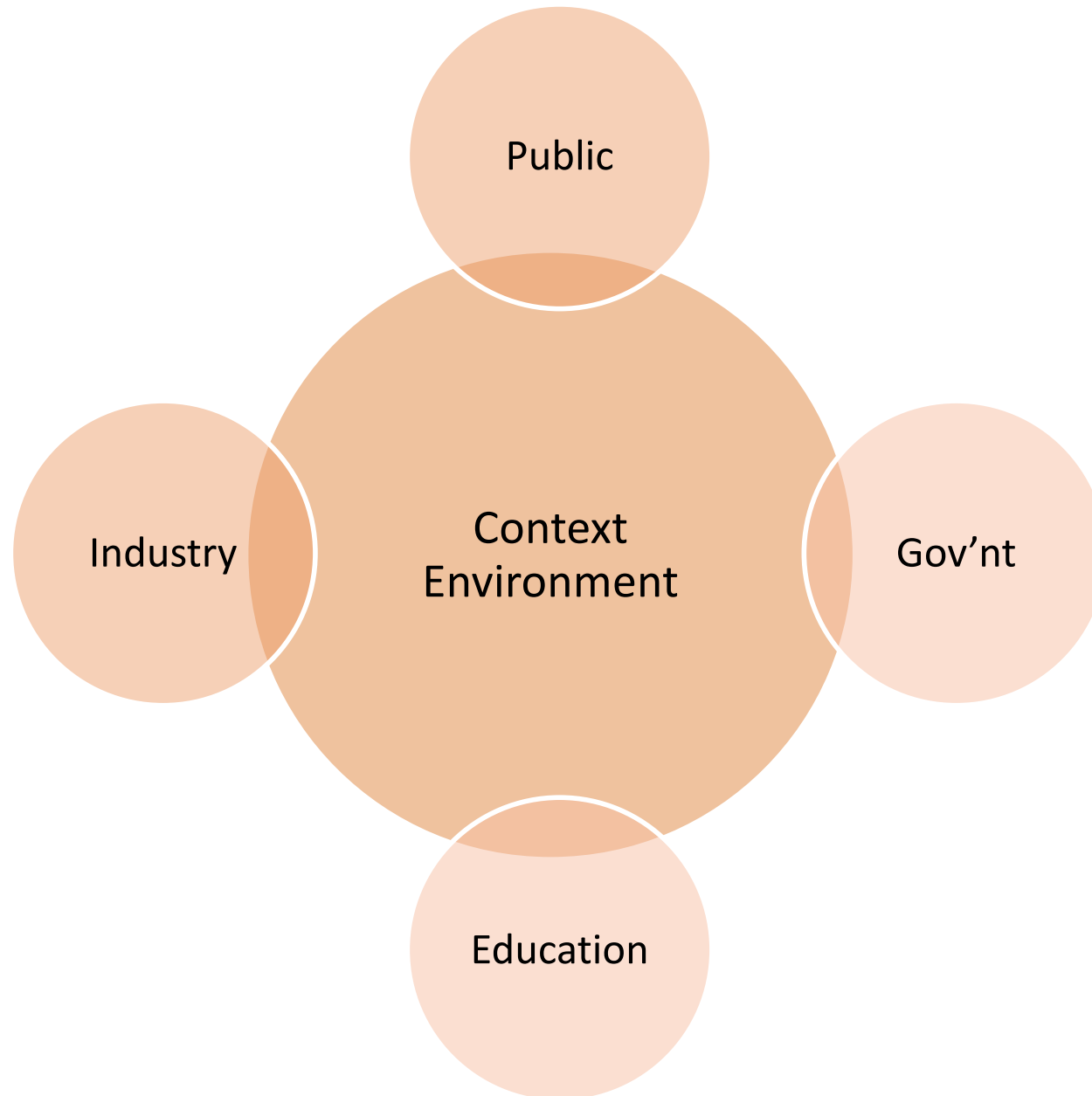
Public

Industry

Context Environment

Gov'nt

Education

Systems Change Process
3 I's

Initiation
- Materials
- Resources
- Personnel

Implementation
- Practices
- Capacity Building
- Professional Development

institutionalisation
- Attitudes
- Behaviour
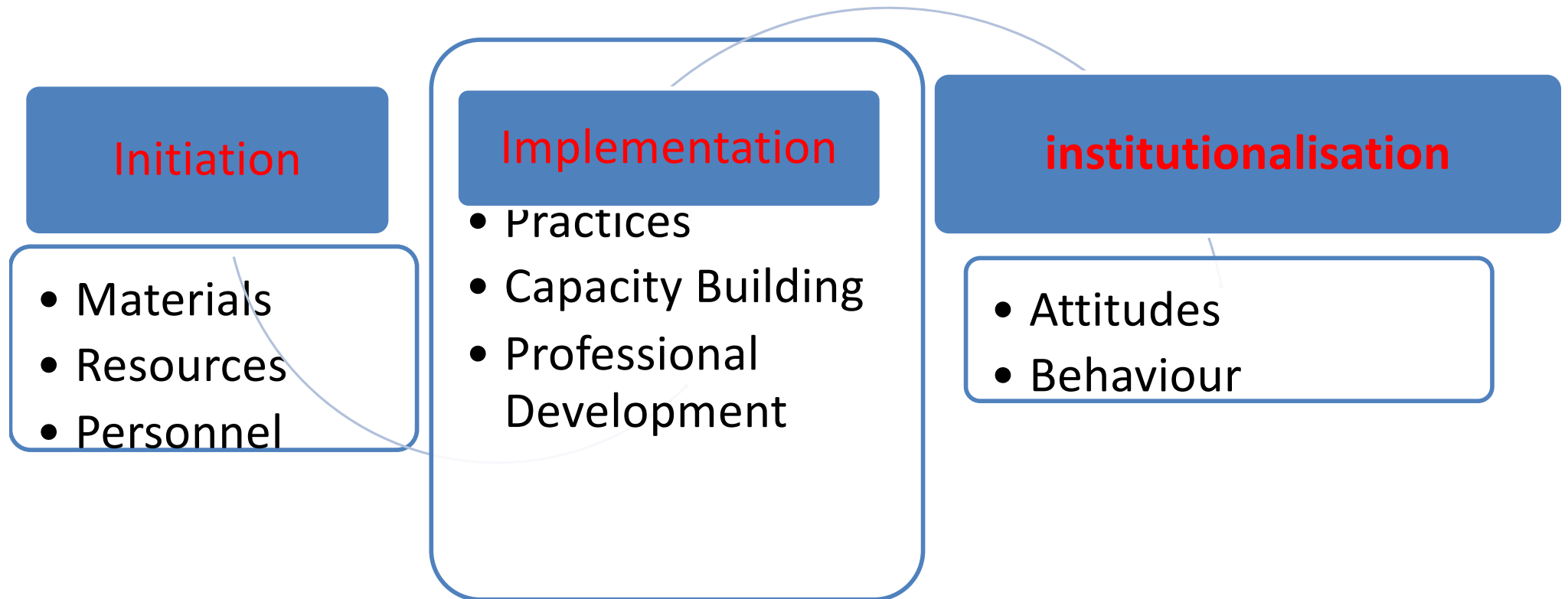
Centre for Excellence in Universal Design
Universal Design Guidelines For Homes in Ireland
2015

Universal Design Guidelines
Dementia Friendly Dwellings for People with Dementia, their Families and Carers
Centre for Excellence in Universal Design

Customer C...
Toolkit for the Public Service
— A Universal Design Approach

Written / Verbal / Digital

Technical Guidelines

Universal Design of In-Home Displays
Guidance on Smart Metering Systems for Ireland

NSAI
Universal Design for Energy Suppliers

UNIVERSAL DESIGN
ENERGY SUPPLIER
HOUSEHOLD CUSTOMER
COMMUNICATIONS
REQUIREMENTS
GUIDANCE

Universal Design
Data for considering body size and shape

Steps to Using the Data

Rebuilding Ireland
Homes for Smart Ageing Universal Design Challenge

Building for Everyone: A Universal Design Approach

Universal Design Toolkit for Customer Engagement

Tourism

Universal Design Toolkit for Customer Engagement

Universal Design for customer engagement in Tourism Services

http://www.universaldesign.ie/tourism

Universal Design Toolkit for Customer Engagement

1 Written Communication
2 Face-to-Face, Telephone & Video Communication
3 Electronic & Web Based Communication

Universal Design Guidance for Online Public Services

10 Ways To Create A More Age Friendly Home At Construction Stage
January 2019

3 Electronic & Web Based Communication

DARE

Disability Access Route to Education

The **Disability Access Route to Education (DARE)** is a third level alternative admissions scheme for school-leavers whose disabilities have had a negative impact on their second level education.

DARE | DISABILITY ACCESS ROUTE TO EDUCATION
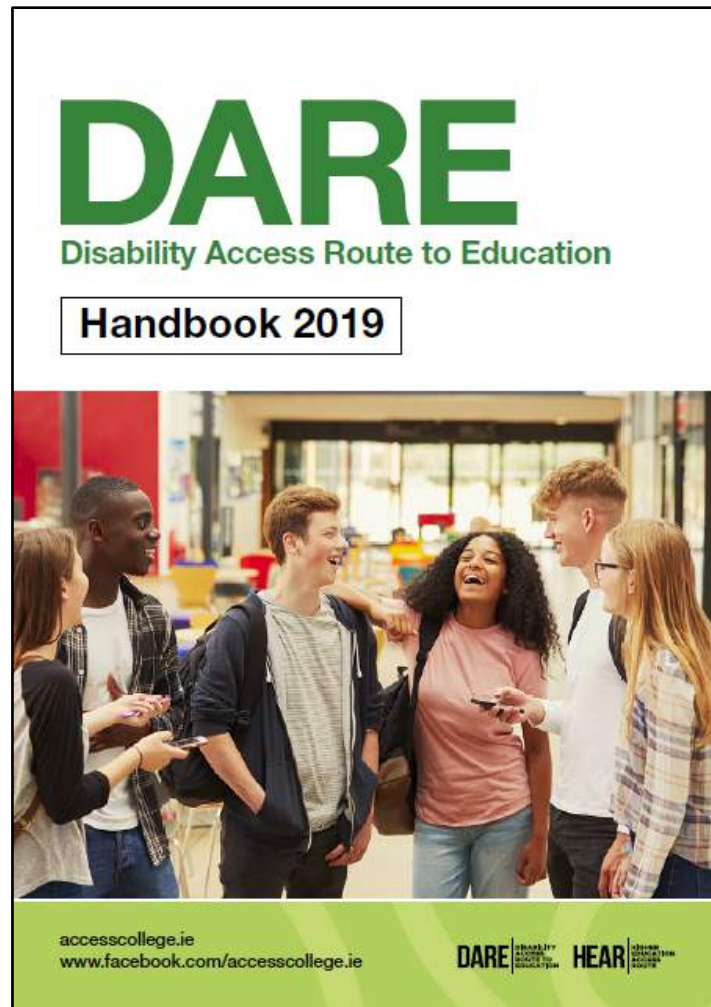
Handbook

Centre worked in 2018 with DARE to make the process and form more accessible, understandable and usable. Re-launched the Handbook.

NB:
Parents mainly fill out the form and many would not have 3rd level education

National Plan for Equity of Access to Higher Education 2015-2019

Principle Eight. Equity of access policies should be mainstreamed into the everyday life of higher education institutions to enhance the quality of the learning experience and progression outcomes for students

It is acknowledged that students from the target groups may require additional academic or other supports in order to complete, but this must be done in accordance with the **principles of universal design** for learning and should not label them in any negative way. Any such support measures must be transparently **available to all**

National Plan for **Equity of Access**
to Higher Education 2015-2019

https://hea.ie/assets/uploads/2017/06/National-Plan-for-Equity-of-Access-to-Higher-Education-2015-2019.pdf

Progress Review National Plan for Equity of Access to Higher Education and Priorities to 2021

PROPOSED PRIORITIES FOR THE NEXT PHASE
OF NAP IMPLEMENTATION

Policy Implementation Priorities
Mainstreaming:
It is recommended that clear information on mainstreaming in practice and universal design is communicated to higher education institutions. The next phase of NAP implementation should develop a vision of what mainstreaming means so that there is a shared understanding across the higher education sector. Included in this work should be consideration of the feasibility of some actions, for example access champions in every faculty.

Progress Review of the
National Access Plan
and Priorities to 2021

https://hea.ie/assets/uploads/2019/01/HEA-Progress-Review-2021-NAP.pdf

Context:

EDUCATION
COMPLEX PROBLEM

The Forces impacting on the Educational Eco-system

VUCA

Complexity Multiple key decision factors

Volatility Rate of change

Ambiguity Lack of clarity about meaning of an event

Uncertainty Unclear about the present

How well can you predict the outcome of your actions?

How much do you know about the situation?

Volatile, Uncertain, Complex, Ambiguous

Systems Response

Whole Eco-System: Universal Design in Education

The Design & Engagement Process
must operate at all scales, from Macro to Micro, and it must include all stakeholders at all levels, while fully considering how they interact at each level and between levels

UD - Placing Learning at the Centre of the Community - At the Macro, Meso & Micro Scale

Micro

Meso

Macro

Design Process & Engagement

School

School Bus

Strategic & Integrated Planning

Micro

Meso

Macro

Placing Learning at the centre of the community
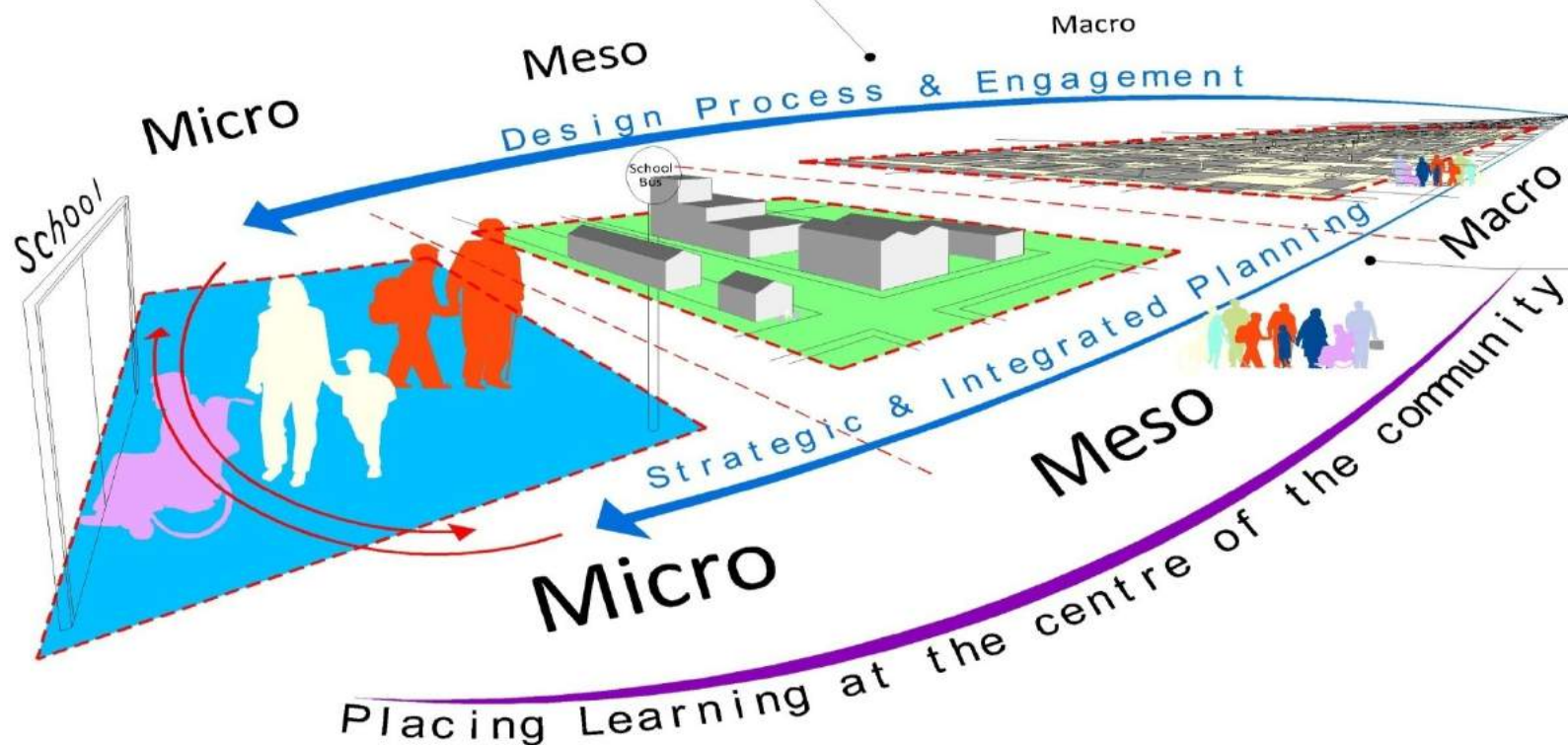
Integrated & Strategic Planning
with a long-term view that operates at all scales and considers how the physical journey from home to classroom caters for student 'access, participation & progress'

http://universaldesign.ie/Built-Environment/Shared-Education-Campuses/

National Hierarchy for Systems Change

Policy

Legislation

Quality Assurance

Standards

Regulations/Codes of Practice

Guidelines/Toolkits

Training and Supports -Champions
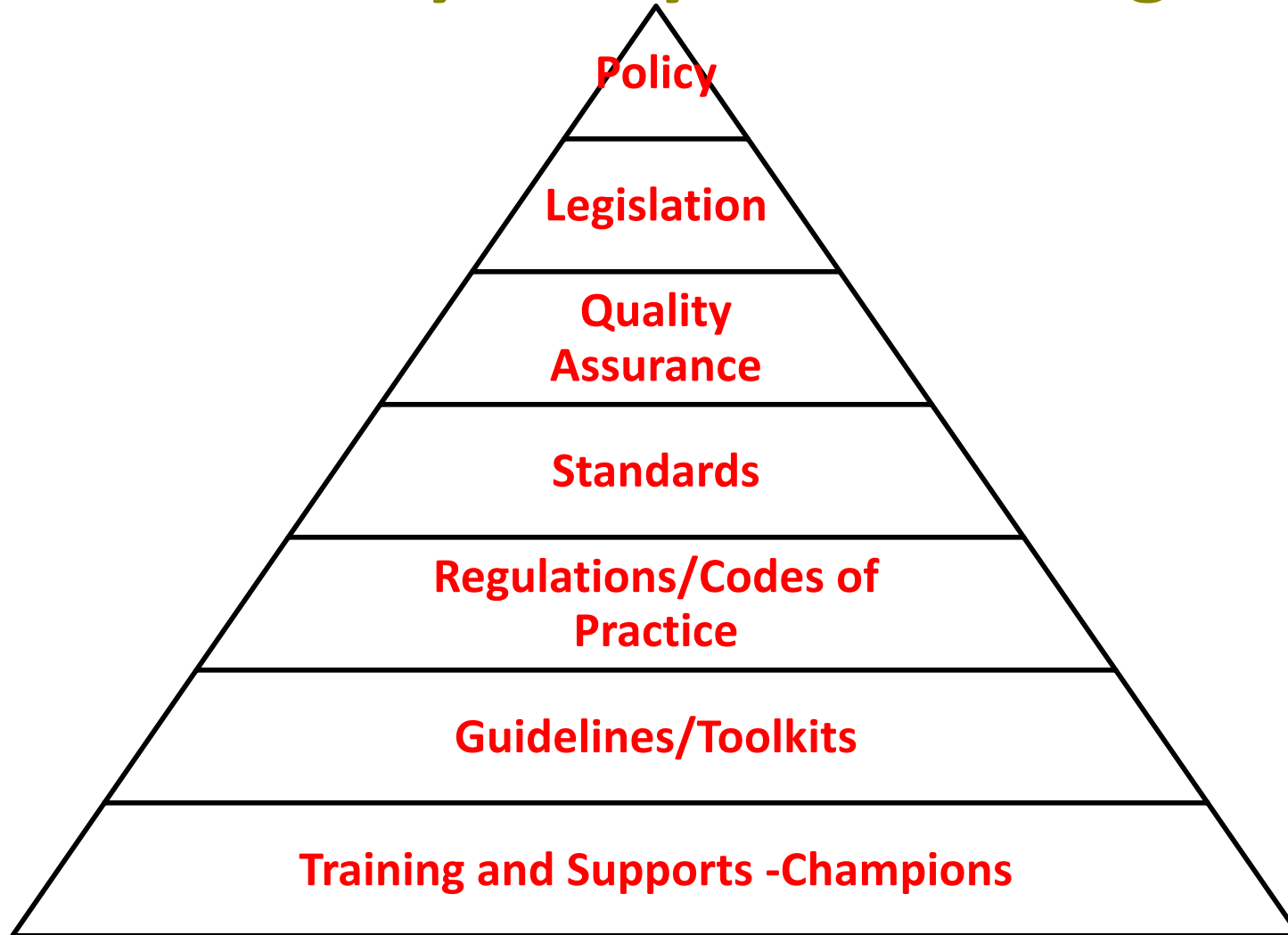
Adapted from NSW Gov Australia (with permission)

Legislation: policies, regulations, standards

Teaching & Learning

- Multiple modes of
  - Instruction
  - Presentation
  - Evaluation

- Programme Design, e.g.
  - Build Environment
  - Product design
  - Engineering
  - Computer Science

Built Environment

- Planning, policies and evaluation
- Sustainable Development Goals
- Procurement
- Aesthetics
- Safety
- Accommodation

Services

- Planning, policies
- Procurement
- Facility Services
- Student services

Technology

Planning, policies

Procurement

Compatibility with Assistive Technology

Interoperability

Maintenance

Culture and relationships

Physical environments, products, technology

Strategy: mission, vision, values, objectives

Systems Change Process
3 I's

Initiation	Implementation	institutionalisation
• Materials • Resources • Personnel	• Practices • Capacity Building • Professional Development	• Attitudes • Behaviour

Access and Inclusion Model (AIM) 2016 –
 Provides supports designed to ensure that children with disabilities can access the Early Childhood Care and Education (ECCE) Programme.
GOAL: Empower pre-school providers to deliver an **inclusive pre-school experience**, ensuring that every eligible child can meaningfully participate in the ECCE and reap the benefits of quality early years care and education.
AIM is a **child-centred model**, involving seven levels of progressive support, moving from the **universal to the targeted**, based on the needs of the child and the pre-school service.

Department of Children and Youth Affairs

A Model to Support Access to the ECCE Programme for Children with a Disability

LEVEL OF SUPPORT - from universal to targeted

1 An Inclusive Culture

2 Information for Parents and Providers

3 A Qualified and Confident Workforce

4 Expert Early Years Educational Advice and Support

5 Equipment, Appliances and Minor Alterations Grants

6 Therapeutic Intervention

7 Additional Assistance in the Pre-School Room

LEVEL OF NEED - from non-complex to complex

An Roinn Leanaí agus Gnóthaí Óige
Department of Children and Youth Affairs

An Roinn Sláinte
DEPARTMENT OF HEALTH

Universal Supports (Levels 1 – 3 of AIM)

Universal supports are designed to promote and support an inclusive culture within pre-school settings through educational and capacity-building initiatives.

A new **Inclusion Charter** has been developed and pre-school providers are invited to sign-up to this Charter by producing and publishing their own Inclusion Policy. To support this process, updated Diversity, Equality and Inclusion. **Guidelines** for Early Childhood Care and Education have been produced and a national training programme on the Inclusion Charter and the Guidelines is being delivered

A **new higher education programme**, "Leadership for Inclusion in the Early Years" (LINC), commenced in 2016. The Department of Children and Youth Affairs funds approx 900 places per annum, over 4 years, on this programme. Pre-school settings employing a LINC graduate (who has agreed to take on the role and responsibilities of Inclusion Co-ordinator within their pre-school setting) will attract an increase of €2 per child per week in the rate of ECCE capitation payable to that setting.

multi-annual programme of formal and informal training for pre-school staff in relation to disability and inclusion will be funded by the Department of Children and Youth Affairs and will be delivered by a number of agencies

Targeted Supports (Levels 4 – 7 of AIM

Expert advice, mentoring and support is available from a team of 60 Early Years Specialists in early years care and education for children with disabilities and are based in the Better Start National Early Years Quality Development Service.

The provision of **specialised equipment, appliances and grants towards minor building alterations (universal design guidelines)** which are necessary to support a child's participation in the ECCE Programme.

Therapy services, which are critical to a child's participation in the ECCE Programme, are available through AIM and will be provided by the HSE.

Additional funding for extra support in the classroom or to enable the reduction of the staff to child ratio.

Universal Design Guidelines for Early Learning and Care Settings

June 2019, the Minister for Children and Youth Affairs, Dr Katherine Zappone, launched the **Universal Design Guidelines for Early Learning and Care Settings.** These guidelines are an important step in making all Early Learning and Care services accessible to all children. This publication offers guidance on the refurbishment, renovation and building of centres for Early Learning and Care in Ireland.

The Universal Design Guidelines for Early Learning and Care Settings

1) Literature Review
2) Guidelines

   Introduction

   Section 1 – Site Location, Approach and Design

   Section 2 – Entering and Moving

   Section 3 – Key Internal and External Spaces

   Section 4 – Elements and Systems

   Appendices, Case Studies and Design Brief

3) Audit Tool

   Self Audit Tool for ELC Settings

Rialtas na hÉireann
Government of Ireland

DCYA in collaboration with CEUD-NDA

Universal Design Guidelines for Early Learning and Care Settings
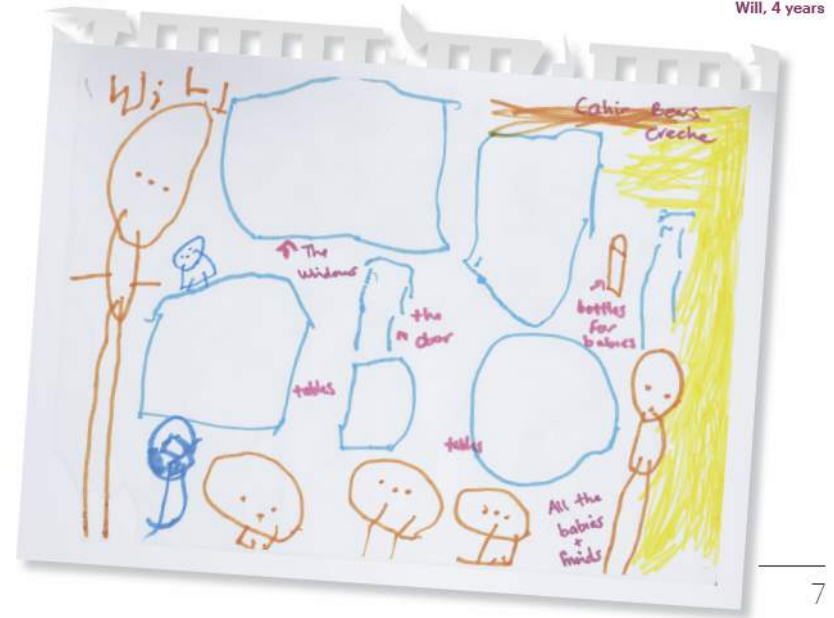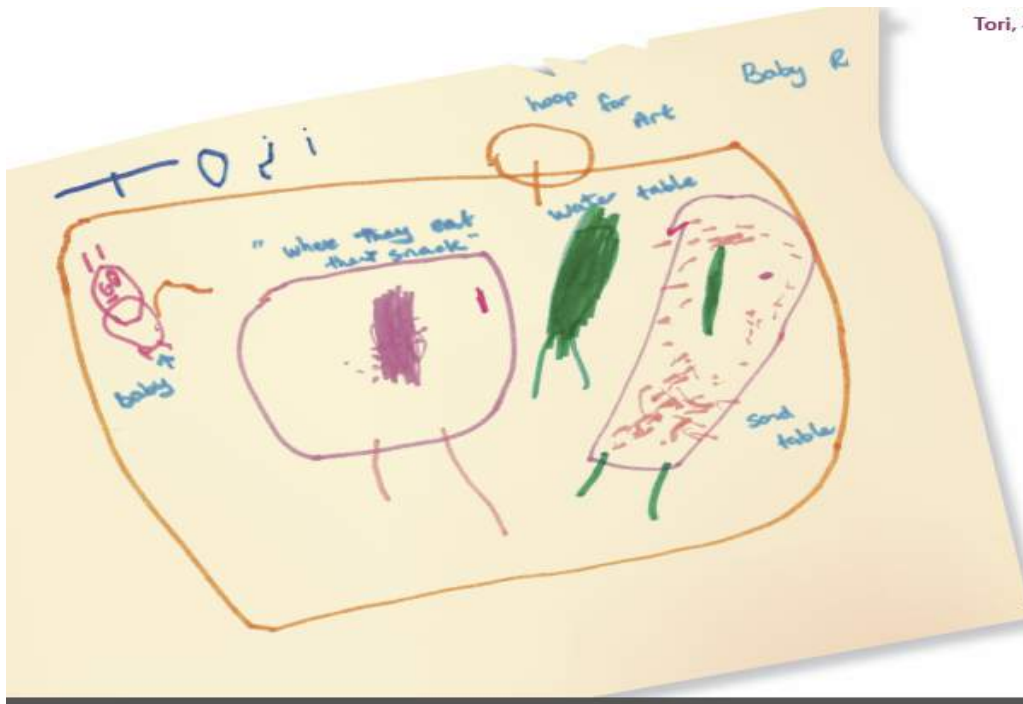
Rialtas na hÉireann
Government of Ireland

"In choosing a pre-school for my daughter, the location with outdoor space to play and explore was very important."

Cabin Bears Creche

The Windows

the in door

bottles for babies

tables

tables

All the babies + friends

7

Baby R

hoop for Art

water table

" where they eat that snack "

baby

Sand table

5

"I think every age group is considered, both in the indoor and outdoor areas. There is something for them all to do, especially outdoor. Kids get to be kids and use their imagination."

Key Early Learning and Care Policy and Best Practice

Key Design Issues as Framed by Selected Síolta Principles

The Síolta principles present a good framework to examine how UD can help to provide a built environment that supports the aims of inclusive, child-and-family centred Early Learning and Care policy in Ireland. While all 16 Síolta standards have some bearing on the built environment, there are **7 Standards** that are directly relevant to Universal Design. **Síolta Standard 2** pertains to **Environments** and this standard highlights how a child's physical environment has a direct impact on their well-being, learning and development. The Environments standard therefore underpins all aspects of these guidelines and provides the backdrop for the other 6 Síolta standards.

The standards are:

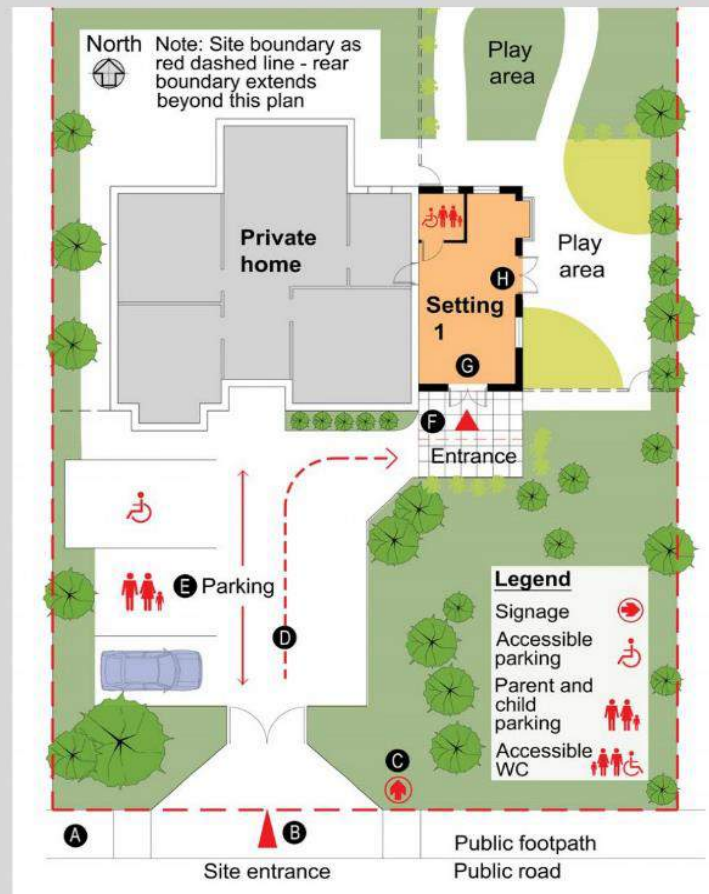|		
	Rights of the Child	Provide spaces and settings that are: • designed so children can circulate and associate with their peers and with older or younger children in mixed age situations. • facilitates children's choice. • provides opportunities for children to express their voice and individuality. • enables children to be appropriately independent.
	Interactions	Provide settings with: • indoor and outdoor spaces where adults and children can interact with each other, or where children can be alone. • a mixture of large and smaller indoor and outdoor spaces for children to navigate and explore to maximise children's talking, listening and overall engagement in learning. • a range of experiences to provoke inquiry or stimulate the imagination placed in central spaces to support collaborative, inquiry-based learning for all children. • dining spaces that echo the home and position cutlery and delph at children's level to support independence. • modify or eliminate environmental stimuli such as excessive noise, glare, or strong odours that may be problematic for some children and hinder their opportunities for interactions and relationship building.

The built environment implications of these Síolta Standards are discussed in the following pages.

	Parents and Families	Create environments that: • provide accessible and welcoming spaces for parents and families. • reflect the diversity of the community and help build relationships between ELC practitioners and families. • make the curriculum visible and provide formal and informal staff-parent meeting spaces. • accommodate families including extended families for specific occasions.
	Play	Support the important role of play through: • adequate indoor and outdoor space for children to play. • accessible, usable and easily understood outdoor spaces with a good transition between indoor and outdoor. • covered outdoor space that can be used during inclement weather or by children who may be sensitive to outdoor conditions. • range of spaces and materials to attract and stimulate children's interests, promote communication and encourage problem-solving and critical thinking. • spaces that encourage free play, group and individual play for children of mixed ages, and allow children an easy transition between play activities.
	Professional Practice	Support staff through: • spaces that facilitate the role of adult-child interactions as part of the child's learning and development. • a physical environment that helps ELC practitioners adopt a reflective approach to their practice. This will be assisted by a calm, supportive environment with office, study areas, or staff rooms that support relaxation and reflection. • a flexible environment in terms of spaces and materials to support the ELC practitioner as environmental planner and evaluator.
	Community Involvement	Promote a positive relationship between the child and the community through: • spaces that connect and integrate the setting with the community in a safe and appropriate manner. • increased visibility or presence regarding the setting and the community.

Universal Design supporting ELC - UD in Typical Settings

1. Small scale single room setting attached to a private dwelling

Setting 1 is a small single room sessional service with 14 children that is directly attached to a private home on a large rural site. The setting has an independent front entrance and a dedicated play area to the side that is enclosed with a fence.
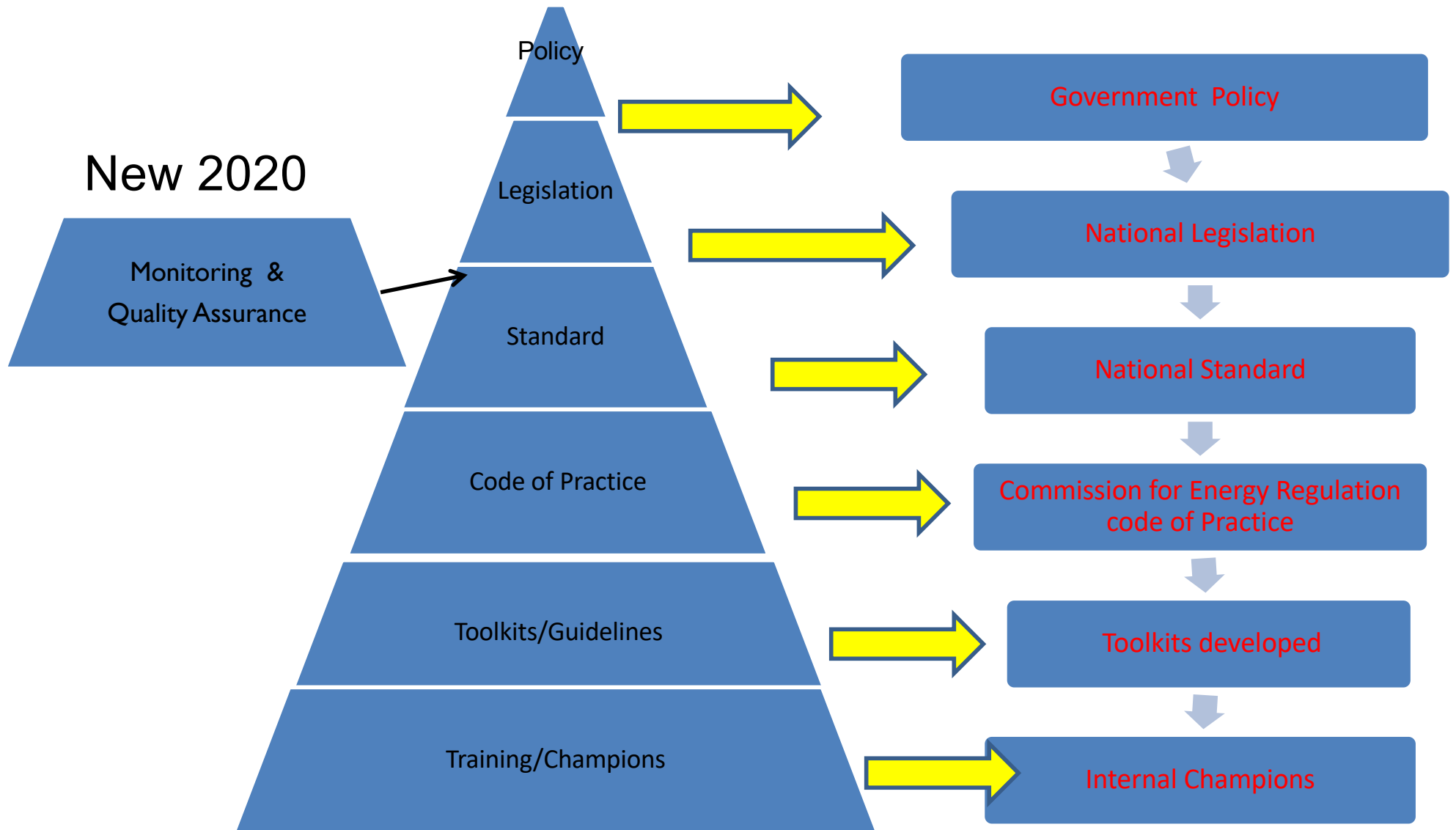

North Note: Site boundary as red dashed line - rear boundary extends beyond this plan

Play area

Private home

Play area

Setting 1

H

G

F

Entrance

E Parking

D

C

Legend
Signage
Accessible parking
Parent and child parking
Accessible WC

A   B
Site entrance   Public footpath
Public road

Some typical UD features evident in this plan:

Ⓐ 2400mm wide public footpath that is clear of obstructions and is flat, even, well-drained and has a non-slip and non-glare finish.

Ⓑ Site entrance is easily identified and accessed from the public road and footpath. Footpaths to have dropped kerbs at the entrance to provide easy access for all users.

Ⓒ Simple and clear signage at the site entrance to identify the setting on approach.

Ⓓ All access routes within the site are smooth and solid underfoot (i.e. no gravel or pebbles) with non-slip and non-glare finishes that avoid strong patterns or sharp colour contrast.

Ⓔ Accessible parking space (6000x4800mm) provided along with a parent and child spaces (4800x3600mm). For safety reasons, parking is reverse only so that when children are entering or leaving the back seat of a car they are at a greater distance from the road. Appropriate signage is provided to inform drivers.

Ⓕ Covered entrance creates shelter and provides a transition area between inside and outside. This also makes the entrance clearly visible and easy to identify.

Ⓖ Level entry front door with double doors for easier access (primary opening leaf with a clear width of 1000mm)

Ⓗ Level exit to external play area through double doors (primary opening leaf with a clear width of 900mm).

Evie, 4½ years

National Utilities Suppliers – Gas, electricity, Water

Policy

New 2020

Monitoring & Quality Assurance

Legislation

Standard

Code of Practice

Toolkits/Guidelines

Training/Champions

Government Policy

National Legislation

National Standard

Commission for Energy Regulation code of Practice

Toolkits developed

Internal Champions

Adopted from NSW Gov Australia (with permission)

Universal design and Higher Education in transformation congress
https://www.udheit2018.com/

Universal Design & Higher Education in Transformation Congress

30th October – 2nd November 2018, Dublin Castle

STUDIES IN | HEALTH TECHNOLOGY AND INFORMATICS | 256

Transforming our World
Through Design, Diversity
and Education

Proceedings of Universal Design and Higher Education in Transformation Congress 2018

Editors: Gerald Craddock
Cormac Doran
Larry McNutt
Dónal Rice

IOS Press

Dublin Castle - Halloween 2018

120 Papers – 42 Workshops
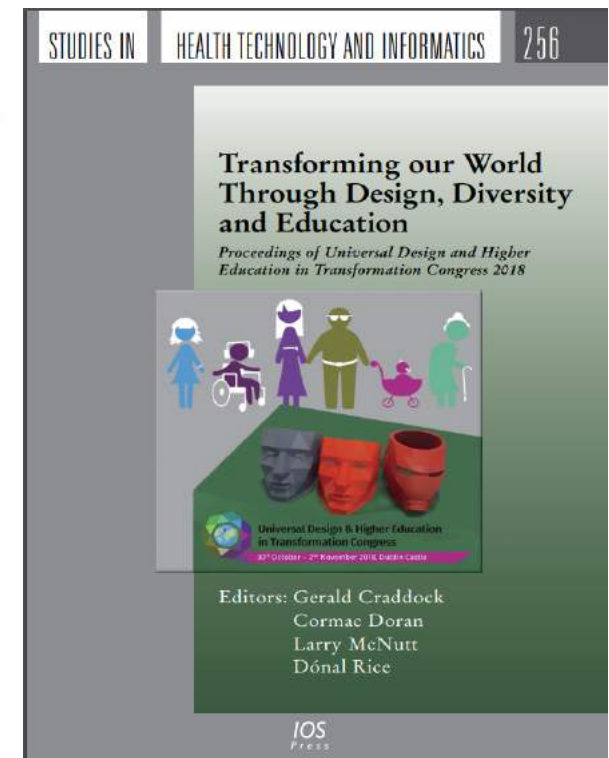
Universal Design for Learning

The most pervasive learning disability in schools, and the number one challenge for Universal Design for Learning, isn't physical or cognitive,

*it's **emotional**—turning around kids who are turned off by school.*

- **David Rose Keynote Speaker 2015 Dublin**

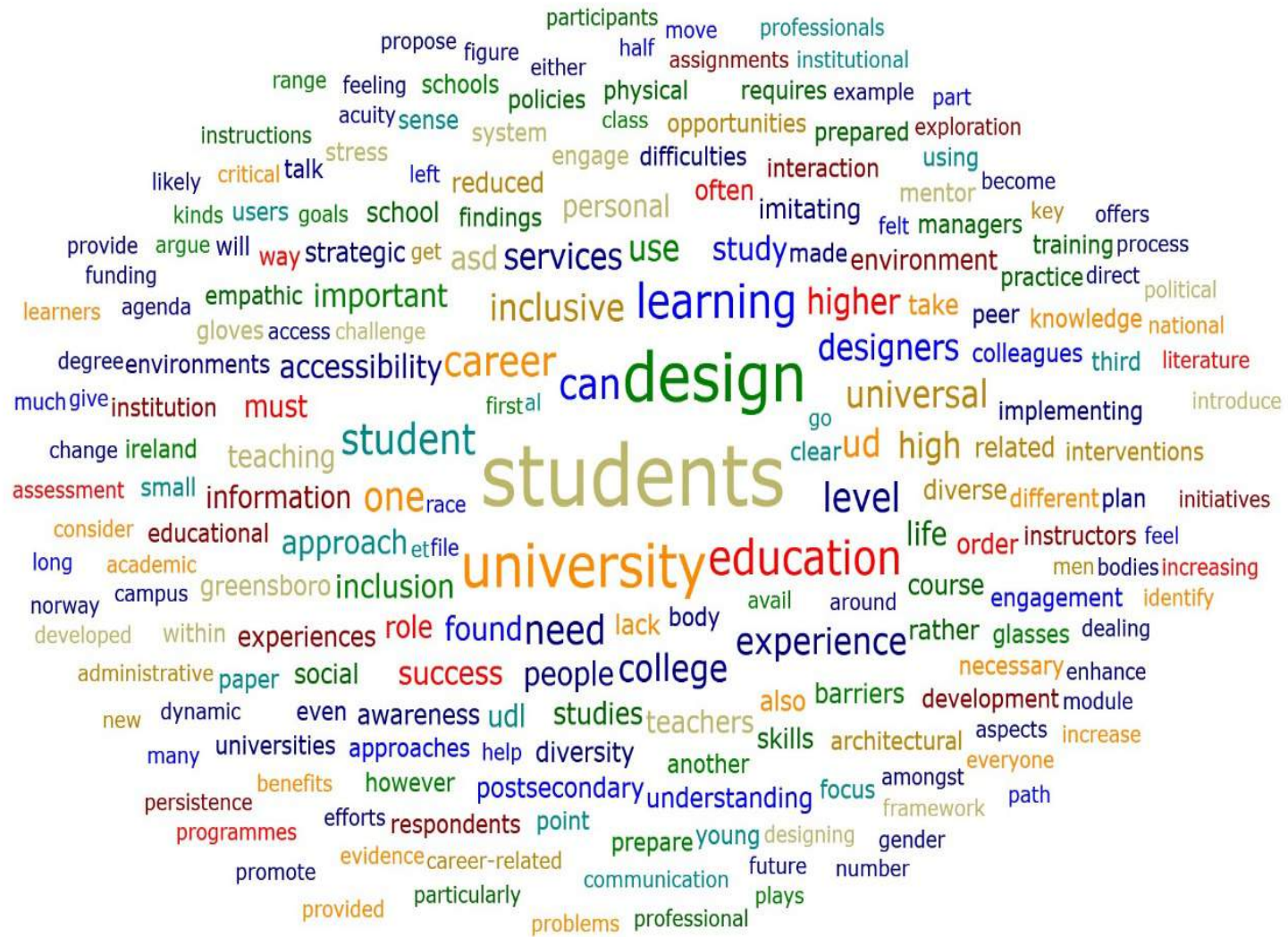We humbly request and give you permission to leave your "Mask" behind and lead with your hearts and souls.

Man is least himself when he talks in his own person. Give him a mask, and he will tell you the truth. Oscar Wilde

Thematic Analysis of the UDHEIT
2018

Transformation Required In Education

New or more inclusive Legislation Required

Legislation has to designed with clear Values and vision – equality and human rights (UNCRPD) – not just social model

Change - Macro Level

United Nations Economic and Social Commission for Asia and the Pacific

Beijing Declaration, including the Action Plan 2017
Develop, adopt and implement laws and regulations to **promote universal design** and accessibility in the built environment, information and communications technology **ecosystems**, facilities and services at **all levels** of government and in the private sector, including by:

> (iii) In collaboration with academic institutions**, providing training programmes** on universal design for policymakers, building inspectors and contractors, and integrating universal design and accessibility into   higher education curricula related to architecture, urban planning, transport, civil engineering and other relevant academic branches;

Moving from

Multiculturalism

To

Interculturalism

From Silos to Dialogue Across boundaries

Change - Macro Level

;

Norway:

     Leadership and Active Role – political, administrative, professional and economic resources - 13 laws and 53 sets of regulations on UD – cross sectoral Education, transport, ICT etc..
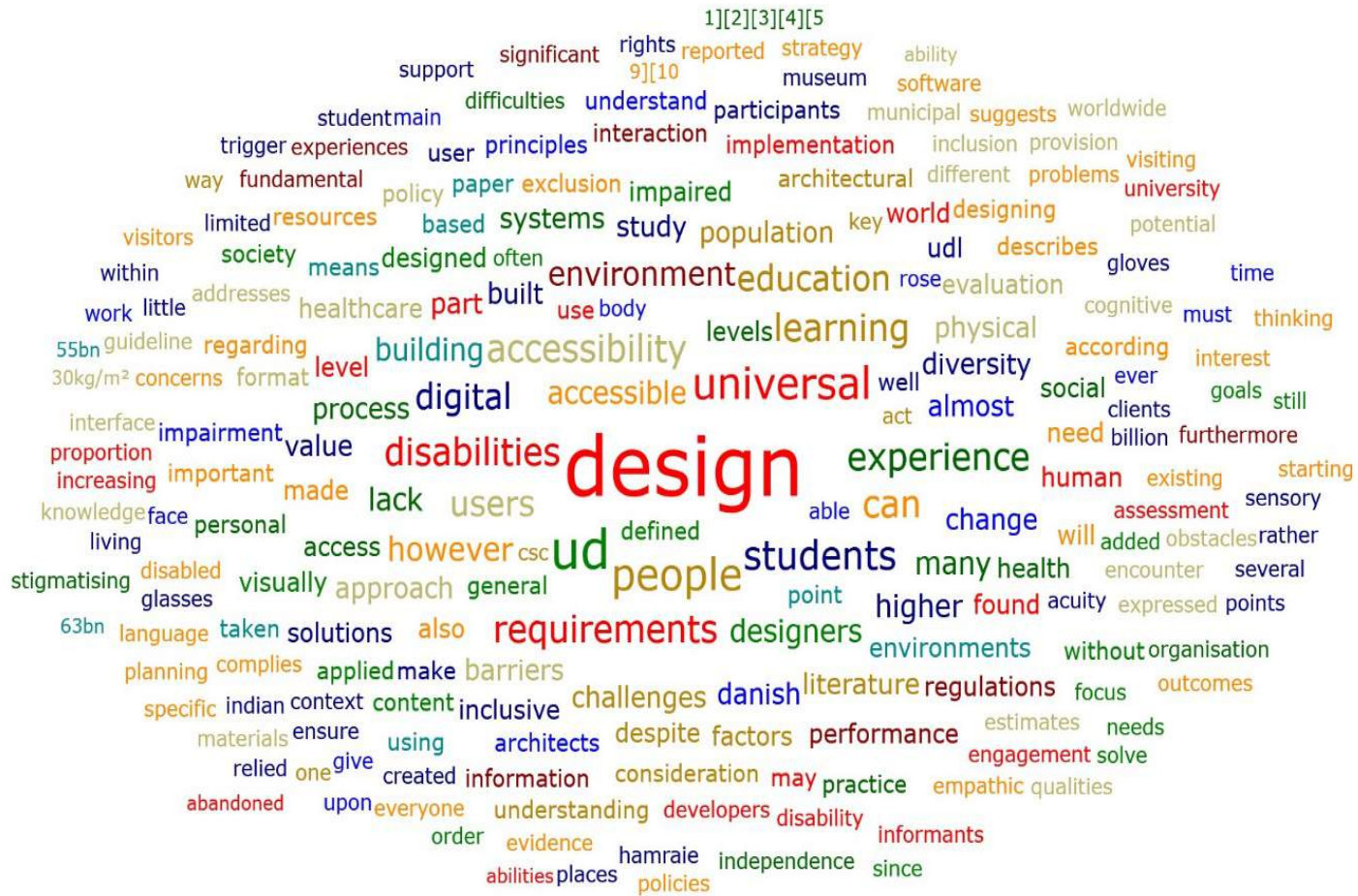
Denmark: - Built Environment

     Spatial **Quality** Versus Spatial **Equality** – Proposed solution - UD paradigm as a means to implement **spatial equality** as a feature of **spatial quality**

India – Modi – national campaign on universal Accessibility

Obstacles and Challenges
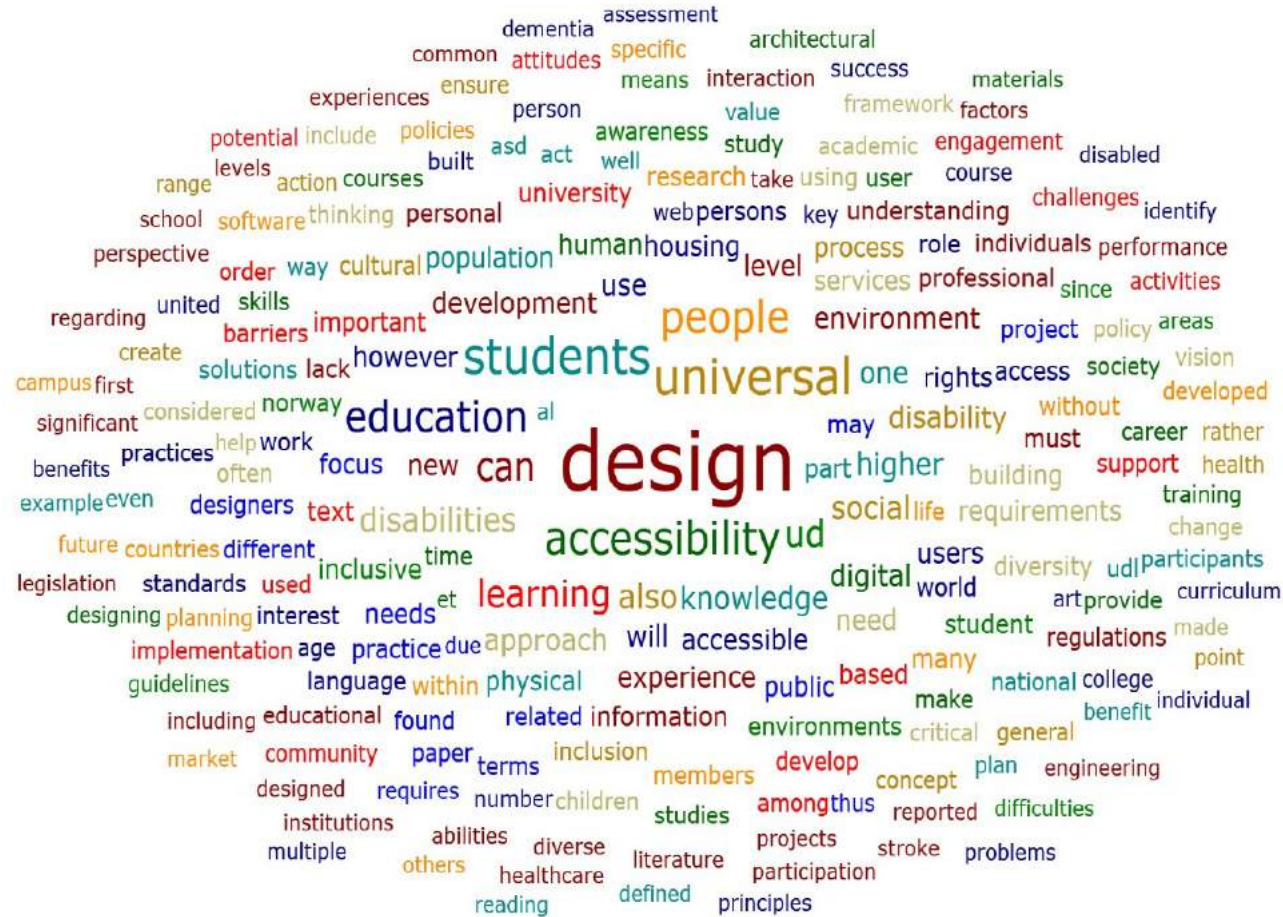

Poor Design

Focus on Compliance

Before

After

Moving Forward

Change - MESO Level – Organisation

University Of Brescia: - implementation requires a number of conceptual and operational shifts on multiple levels:

1) designing learning environments that take **student diversity** as a starting point,

2**) Dynamic** interaction between people and their biological, physical, social, technological environments

3) **governance and policies**, physical, administrative, instructional, technical, and communicative environments and policies need to be systematically described and assessed in order to either plan their initial development or transformation.

Ensuring Universal Design of ICT: Triggering the Triggers!

Miriam Eileen Nes BEGNUM *NTNU Norwegian University of Science and Technology, Department of Design*
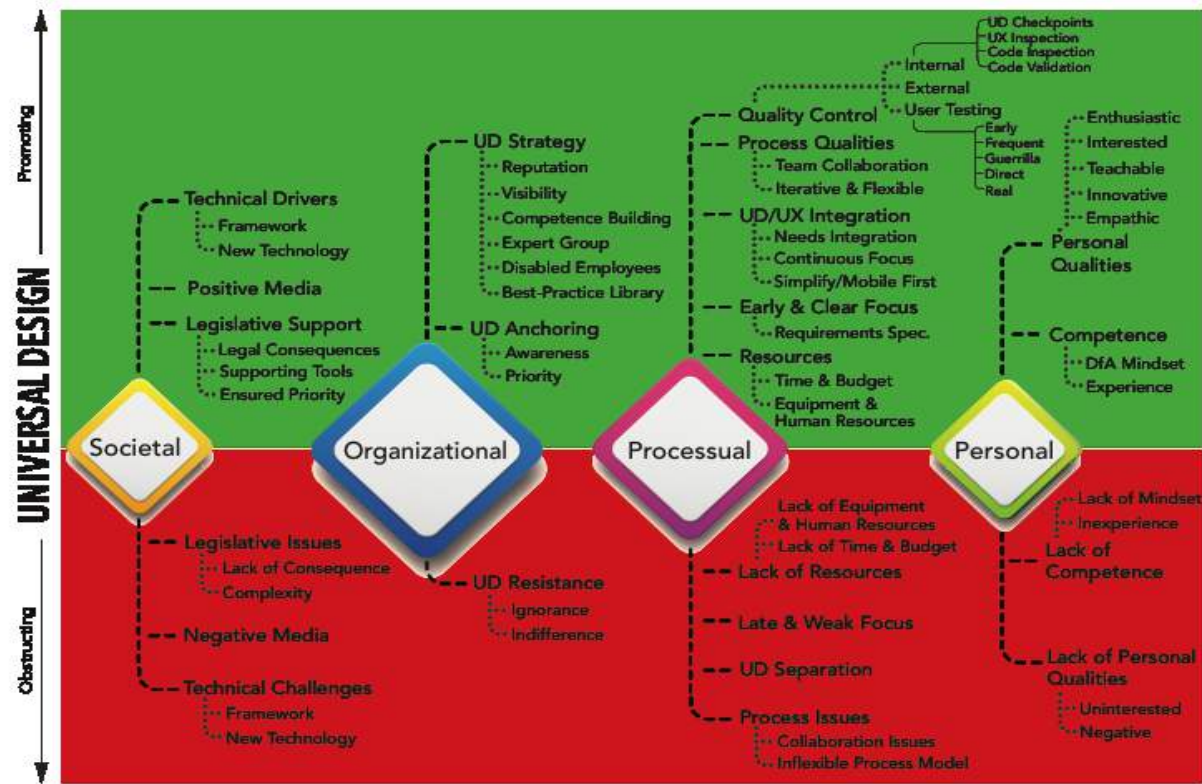
15 Critical Factors

Hygiene Factors or Critical Success Criteria (CSC)

- 1. Legislative Support (Societal)
- 2. UD Awareness, (Organizational)
- 3. UD Priority (Organizational)
- 4. Continuous Focus (preferably iterative, Processual)
- 5. Cross-disciplinary Team Collaboration (Processual)
- 6. Enough Time & Budget (Processual)
- 7. Enough Equipment & Human Resources
- 8. UD Mindset (Personal)
- 9. Interest in UD (Personal)
- 10. Enthusiasm about UD (Personal)

Motivators

- 1. Strategic UD Competence Building (Organizational)
- 2. Requirement Specification of UD (Processual)
- 3. UD/UX Needs Integration (Processual)
- 4. User Testing (preferably with real and disabled users, (Processual)
- 5. Internal quality control (code validation, inspections etc.) (Processual)

Ensuring Universal Design of ICT: Triggering the Triggers!

Micro Level - Practice
"Know- Do Gap"

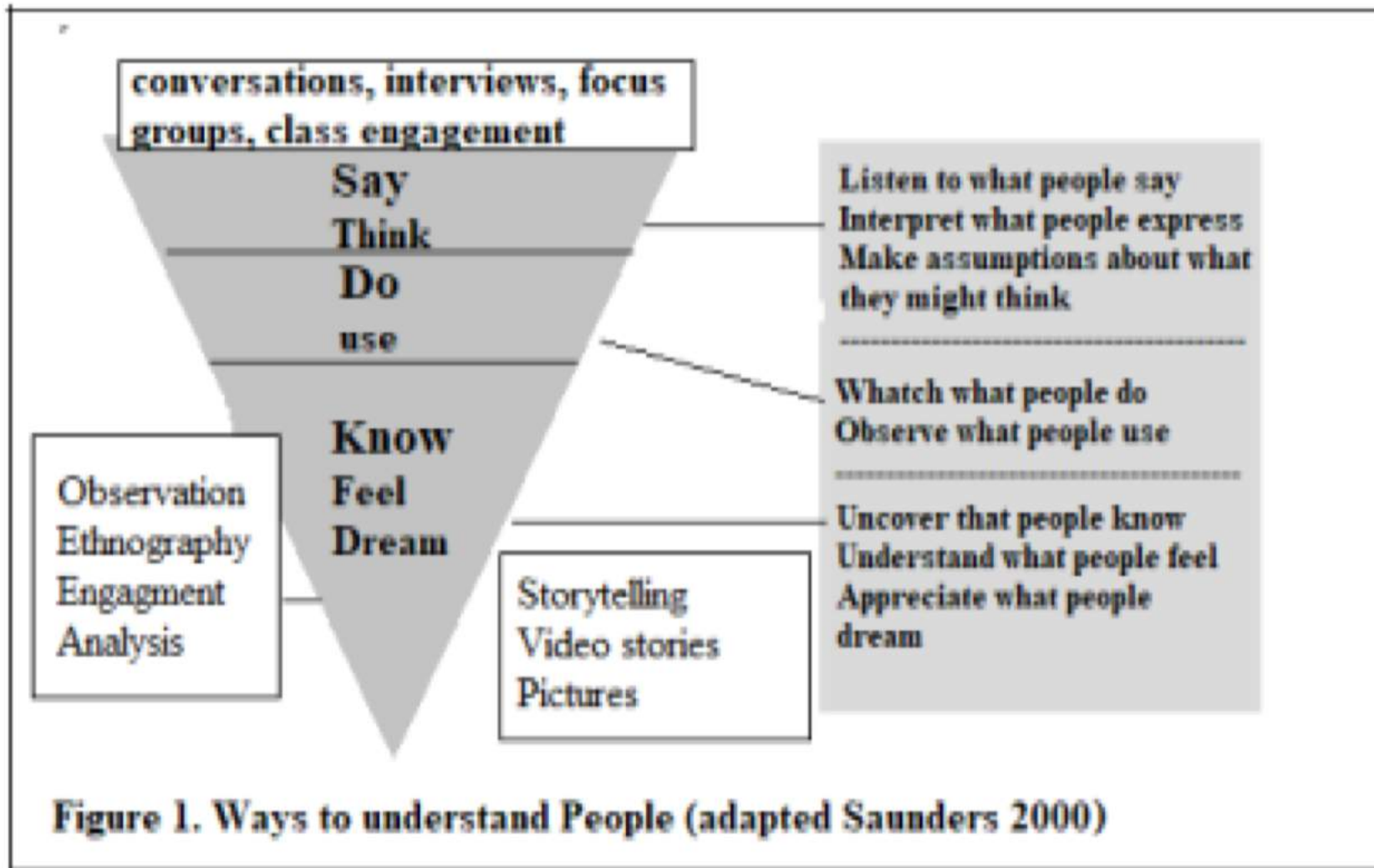# Educating the Educators on Diversity and participation

Supporting teachers through UDL

- Lack of knowledge of educators on how diverse student groups actually learn
- Tendency to promote accessibility rather than inclusion
- Good supports for students with documented disabilities – but stigmatizing
- Spatial awareness Training for educators –redesign classroom
- => developing course modules through UDL
- => need to provide technical design solutions

"Greensboro College – a Model of UDL in the Curriculum"
- Fully committed to embracing UDL e.g. Forensic Anthropology, Criminal Justice department
- Uses multiple means of representation, expression, and engagement
- => *'process is labor intensive and messy but the product is worth it'*

Can't be taught has to be facilitated

conversations, interviews, focus groups, class engagement

Say
Think
Do
use

Listen to what people say
Interpret what people express
Make assumptions about what they might think

Whatch what people do
Observe what people use

Know
Feel
Dream

Uncover that people know
Understand what people feel
Appreciate what people dream

Observation
Ethnography
Engagment
Analysis

Storytelling
Video stories
Pictures

Figure 1. Ways to understand People (adapted Saunders 2000)

Elizabeth Sanders Keynote and workshop

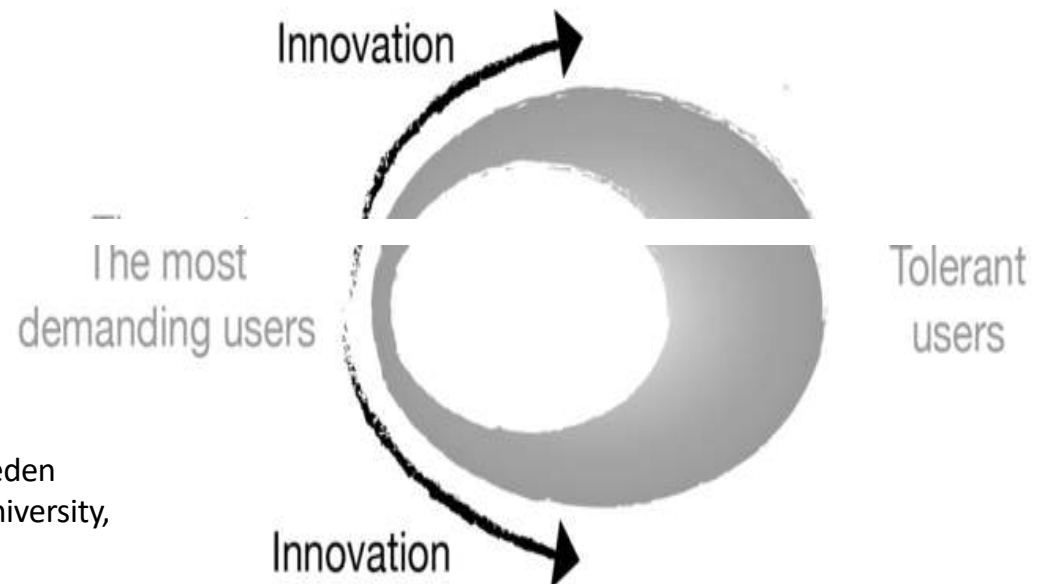# 'Bringing Human Diversity into Design Processes Through Empathic Modelling'

- Designing for the extremes
- Simulating diversity
- Co-designing
- Engaging with people in the community

Lena LORENTZEN, Design Department, Mid Sweden University, Sweden
Per-Olof HEDVALL, Certec, Department of Design Sciences, Lund University, Sweden

Traditional design process

The most demanding users · Tolerant users · Re-design · Re-design
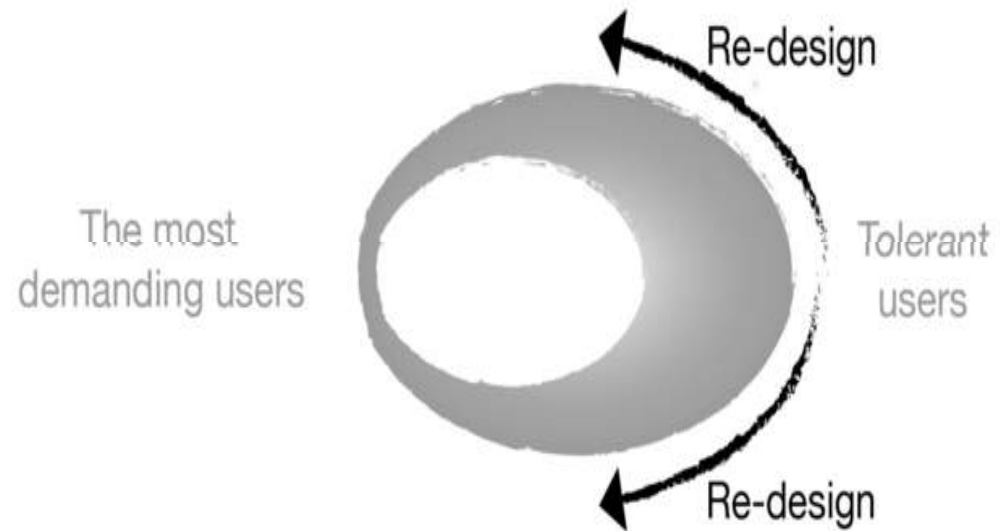
Universal Design process

Innovation · The most demanding users · Tolerant users · Innovation

Whole Systems Change

- Inclusion to be adapted at a systems level – linked across silos

- Adapting Universal Design is the 'highest expression of a person-centred planning philosophy' – Students at the core

- Person centred classification system for all learners – ICF (WHO International Classification of Functioning) – describes who the learners are entering Education

- Creativity and Imagination – achieve breakthrough UD concepts As well as adapting and adjusting Exiting products , services and facilities

Whole Systems Change

- "Mind your Language"
- Constant improvement – 'its messy but worth it'

Universal design and Higher Education in transformation congress

https://www.udheit2018.com/

Legacy of UDHEIT 2018
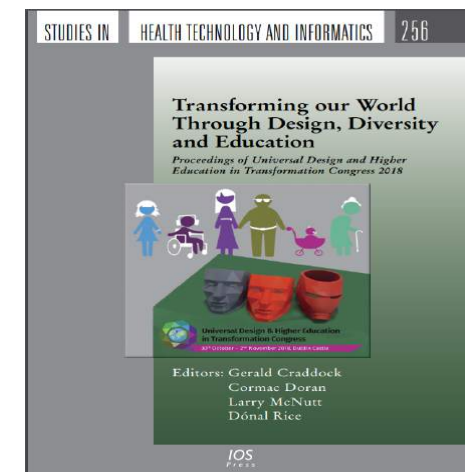
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