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UNIT 1. MEDIA ACCESSIBILITY

ELEMENT 3. UNIVERSAL DESIGN

WHAT IS UNIVERSAL DESIGN?

Video Lecture Transcript

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This is unit 1, Media accessibility; element 3, Universal design; video lecture "What is universal design?". I am Anna Matamala, from Universitat Autònoma de Barcelona.

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And in this short lecture I will be talking about universal design, its seven principles and their associated guidelines.

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Universal design can be defined as the "design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation of specialised design".

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This definition is found in the United Nations Convention on the Rights of Persons with Disabilities and is also included in the standard EN 17161:2019 "Design for all - Accessibility following a Design for All approach in products, goods and services - Extending the range of users".

The UN Convention also adds the following text, which is included as a first note in the standard: "Universal design shall not exclude assistive devices for particular groups or persons with disabilities where this is needed". That means that if a service is universally designed but does not fulfill the needs of some persons or groups, reasonable accommodation must be made in order to avoid discrimination on the basis of disability.

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The UN Convention also refers to "reasonable accommodation" in the following terms: "necessary and appropriate modifications and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms".

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Other terms that have been used to refer to universal design and which are acknowledged in the EN 17161:2019 standard include: accessible design, design for all, barrier-free design, inclusive design and transgenerational design.

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In 1997 a group led by Ronald Mace at North Carolina's State University proposed the seven principles of Universal Design, which I will be reproducing now verbatim.

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Principle 1. Equitable Use.

The design is useful and marketable to people with diverse abilities.

This is transferred into four guidelines:

a) Provide the same means of use for all users: identical whenever possible; equivalent when not.

b) Avoid segregating or stigmatizing any users.

c) Provisions for privacy, security, and safety should be equally available to all users.

d) Make the design appealing to all users.

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Principle 2. Flexibility in use.

The design accommodates a wide range of individual preferences and abilities. There are four guidelines associated with this principle:

- Provide choice in methods of use.
- Accommodate right- or left-handed access and use.
- Facilitate the user's accuracy and precision.
- Provide adaptability to the user's pace.

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Principle 3. Simple and intuitive use.

Use of the design is easy to understand regardless of the user's experience, knowledge, language skills, or current concentration level. This is translated into five guidelines:

- Eliminate unnecessary complexity.
- Be consistent with user expectations and intuition.
- Accommodate a wide range of literacy and language skills.
- Arrange information consistent with its importance.
- Provide effective prompting and feedback during and after task completion.

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Principle 4. Perceptible information.

The design communicates necessary information effectively to the user, regardless of ambient conditions of the user's sensory abilities. The five associated guidelines are:

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- Provide adequate contrast between essential information and its surroundings.
- Maximise "legibility" of essential information.
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).

- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

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Principle 5. Tolerance for error.

The design minimises hazards and the adverse consequences of accidental or unintended actions.

The guidelines associated with this principle are:

- Arrange elements to minimise hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- Provide warnings of hazards and errors.
- Provide fail safe features.
- Discourage unconscious action in tasks that require vigilance.

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Principle 6. Low physical effort.

The design can be used efficiently and comfortably and with a minimum of fatigue.

The four guidelines for this principle are:

- Allow users to maintain a neutral body position.
- Use reasonable operating forces.
- Minimise repetitive actions.
- Minimise sustained physical effort.

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Principle 7. Size and space for approach and use.

Appropriate size and space are provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Four guidelines were proposed for this principle:

- Provide a clear line of sight to important elements for any seated or standing user.
- Make reach to all components comfortable for any seated or standing user.
- Accommodate variations in hand and grip size.
- Provide adequate space for the use of assistive devices or personal assistance.

The concept of universal design was highly influenced by design approaches that consider user needs and put the user at the centre of the design process.

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This video lecture has been prepared by Anna Matamala, from Universitat Autònoma de Barcelona. You can reach me at anna.matamala@uab.cat.

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