EN

BUILT 03

Dementia-Friendly Home

Home adaptations for people living with dementia

Start course >

Co-funded by the Erasmus+ Programme of the European Union

Intended audience

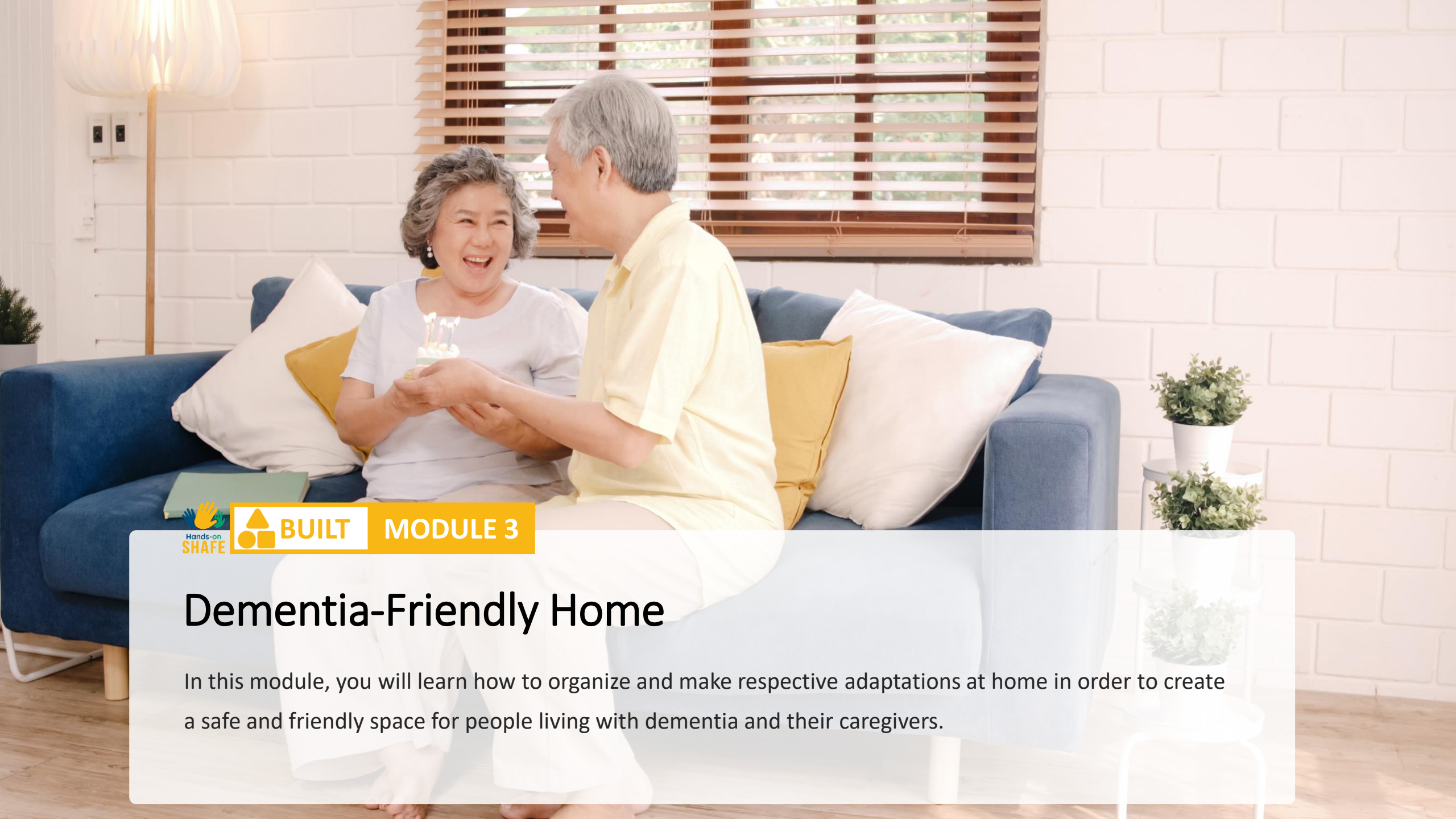
This module is intended for everyone who wants to learn about modifications and key design principles of dementia-friendly homes.

It is, however, mostly addressed to:

- Caregivers, who can advise designers about the special needs of people living with dementia,
- Designers, who have little to no experience designing spaces for people with dementia.
- Facilitators will be able to use this material to inform themselves and to provide advice about the requirements of a dementia-friendly home.

Basic knowledge about dementia and design would be beneficial.

Good prerequisites for this module would be all modules in BUILT and HEALTHY.



BUILT MODULE 3

Dementia-Friendly Home

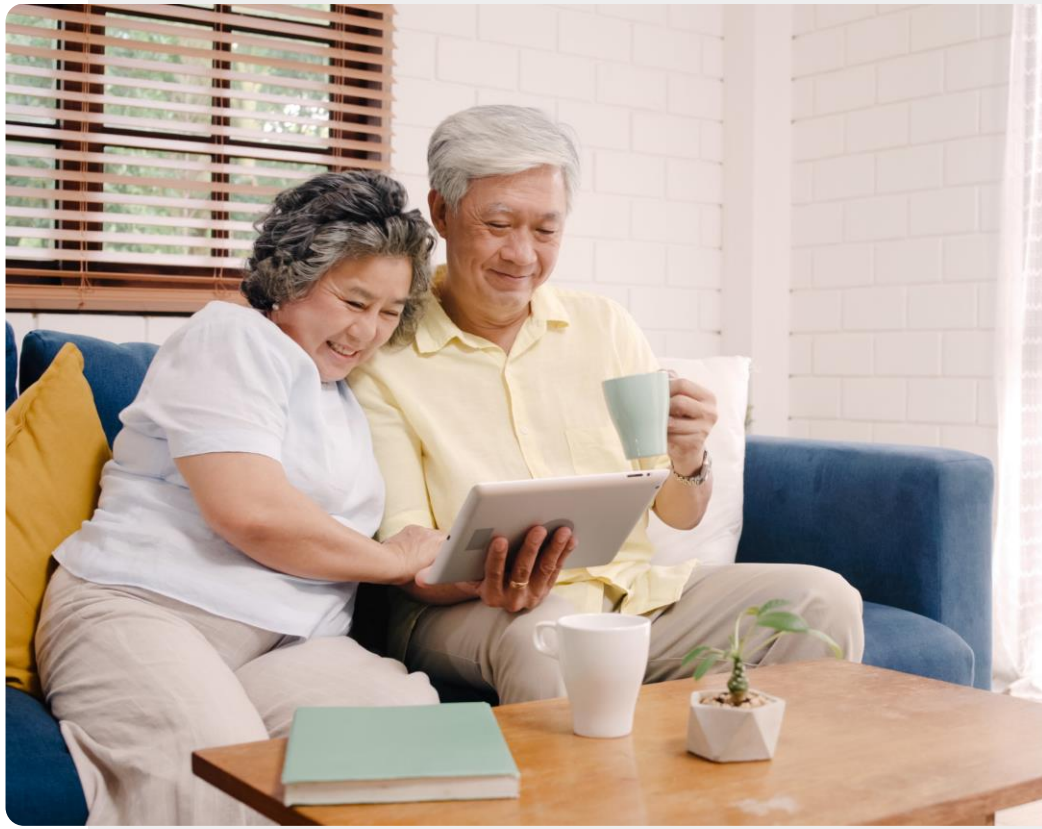
In this module, you will learn how to organize and make respective adaptations at home in order to create a safe and friendly space for people living with dementia and their caregivers.

Dementia-Friendly Home

A dementia-friendly home is a home which addresses needs and compensates for cognitive and physical losses of people living with dementia.

It is a home that supports memory, enables functioning and provides a safe and friendly space for people with dementia, while also providing wellbeing and privacy to caregivers.

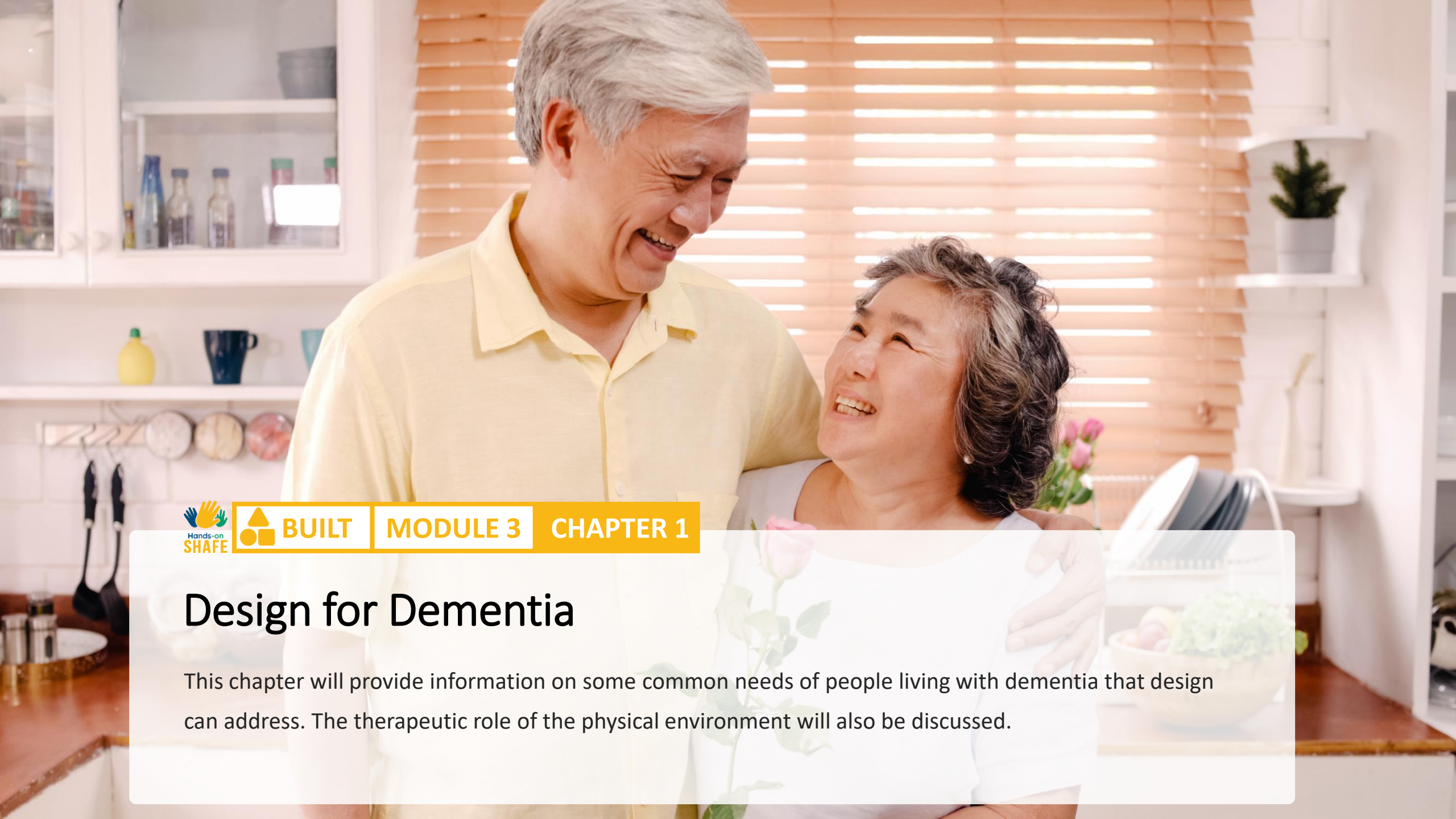
It promotes a healthier and happier life and permits home occupants to live independently for as long as possible.



What will you learn in this module

1. What dementia–friendly home means and what should be taken into consideration to create one?
2. Which impairments associated with ageing and dementia can be supported by dementia-friendly design?
3. Why is the physical environment and thus interior design important?
4. What are the key design principles associated with managing dementia in the home?
5. What key design features should be taken into consideration while designing for dementia?
6. What design measures can be taken at respective home spaces?

Chapters in this module



BUILT | MODULE 3 | CHAPTER 1

Design for Dementia

This chapter will provide information on some common needs of people living with dementia that design can address. The therapeutic role of the physical environment will also be discussed.

Design for Dementia

The growing number of people with dementia worldwide requires interventions at different levels.

Good design can make life easier and help with activities of daily living, not only for people living with dementia but also for their caregivers, which are mainly their family members.

Design for dementia offers solutions that can support independent living of people with mild to moderate cognitive impairments, thus they can age in place in their own homes and have happier and less stressful lives.

What will you learn in this chapter

1. Why design for dementia?
2. What are age and dementia-related impairments?
3. Why is a well-designed physical environment regarded as nonpharmacological treatment?
4. What types of built physical environment could be addressed and modified to support people with dementia live independently?

Design for Dementia

People experience the environment through their senses and apart from all their personal preferences, all impairments influence how people perceive the environment and how they behave in it.

Often, problematic behaviour is attributed to the disease itself, however, it can be a poorly designed environment that has an impact on behaviour and can cause confusion, anxiety, stress or accidents that can lead to undesired institutionalisation.

As people, we want to live longer in our own homes by ourselves or with our loved ones since it is recognised that we thrive best at home, but also as a society we want to avoid additional costs and problems of institutionalisation.

Design for dementia supports this.

Meet Cornelia, 67

Cornelia is retired and lives alone in a flat in an urban area. She lost her husband 2 years ago, her sons live abroad, and her granddaughter recently moved to another town to go to college.

She has been feeling sad and tired, and she has noticed some unusual memory losses leading to being stressed with everyday challenges.

She wants to be able to support herself independently as long as possible and to feel safe at home while dealing with her condition – dementia.

Do you think Cornelia or her loved ones can do something about it in her environment? Let’s see if we can help her.

Age-Related Impairments

Dementia is a broad term embracing various, progressive brain diseases of people of various ages. However, the majority of people suffering from dementia are older people. Young-onset dementia accounts for an estimated 2% to 8% of all dementia cases.

Design for dementia needs to take into consideration impairments related both to ageing and dementia.

Age-related impairments that design can address are:

- Motor (musculoskeletal)
- Sensory (sight, hearing, touch, kinesthesis, smell and taste)
- Circadian rhythm (body clock)

Age-Related Impairments

Motor (musculoskeletal)

Motor functions deteriorate with ageing and many people experience problems with their muscles, joints and bones.

It can lead to falls, impaired reach and grip, difficulties in finding balance or general mobility problems.

Skeletal health and lack of Vitamin D are related to reduced daylight exposure on the skin.

If you want to know more about Mobility – **check BUILT module 7.**

BUILT MODULE 7

Sensory (sight, hearing, touch, kinesthesis, etc.)

Ageing eye problems, such as pupil size and time of reaction, thickening, yellowing, reduced elasticity and increased opacity of lenses, impair people's ability to see colour and distinguish depth, make glare harder to tolerate and slow the adjustment of eyes to different light levels.

Conductive and sensorineural hearing loss (SNHL) lead to reduced ability to hear high-frequency sounds, oversensitivity to low-frequency sounds and inability to filter out unwanted sounds like background noise, which makes the understanding of speech difficult.

Circadian rhythm (body clock)

Body clock regulation problems often occur in older people cases and are even more common for people with dementia.

They lead to sleep disruptions, frequent naps during the day, being awake at night, and then often night wandering in case of people with dementia.

In late evenings blue light from computers, phones or television makes things worse.

Exposure to high levels of light in the morning can often ease the problem.

Did you know?

The prevalence of blindness and visual impairment increases exponentially with age.
(Lafuma, A.J., Brézin, A.P., Fagnani, F.L. et al. , 2006)

Over 70% of people aged over 70 have a hearing impairment.
(Action on Hearing Loss, 2011)

Dementia-Related Impairments

Dementia is a progressive disorder and, depending on the extent of brain damage, people's impairments vary to different degrees.

It is also affected by general health, personality, level of education, living conditions, family circumstances and other factors; and usually, these get worse with time.

Problems that people experience vary and are grouped into four categories: activities of daily living, cognition, behaviour and communication.

These problems commonly result in high levels of stress and frustration, often leading to agitation and behaviour issues. Part of the impairments can be addressed by environmental solutions.

Dementia-Related Impairments

Memory

Impaired memory, especially for recent events in the case of Alzheimer's disease, can lead to disorientation in a new place since a person cannot recall why and how they got there.

They cannot remember where things are and how they function.

Feelings of insecurity and confusion can emerge.

A person can forget that they have other impairments.

Learning

Learning difficulties can result in problems with learning about new things or environments.

A person may not be able to learn how to operate new appliances or figure out where a given room is e.g. a toilet, especially in a new home. Thus, people can spend all their time looking for places or trying to use things repetitively, which can be a cause of anxiety.

Reasoning

Impaired reasoning can cause inability to work out where the rooms are or how things work, especially unfamiliar items. It makes such items impossible to use. It can be clearly seen in the usage of modern taps, soap dispensers or toilet flushes, which can sometimes be problematic even for people without impairments.

Design should build on a person's past and inborn behaviours.

Dementia-Related Impairments

High level of stress

People who struggle to understand the environment are exposed to high levels of stress.

Moreover, they also have a lower threshold for stress, so they quickly become agitated by overstimulation be it noise, poor light, excessive activity, movement or inadequate temperature.

Sometimes it can be difficult to say why people behave in a given way, especially when the reasons for disturbances they are experiencing are not obvious.

Visuo-perceptual problems

People with Alzheimer's disease are prone to visuo-perceptual problems. They can misinterpret what they see.

Wavy patterns may appear to move.

Depth can be difficult to estimate and therefore the distance.

Loss of contrast sensitivity may lead to object-background distinction problems.

A black doormat on the floor can be mistaken for a hole.

Perceived inadequate lighting can cause difficulties in activities and increase the risk of falls.

Difficulty adjusting to impairments of normal ageing

All impairments associated with dementia influence people's understanding, adjusting and dealing with the sensory and mobility impairments of normal ageing.

Therefore, people with dementia need more cues to make sense of their immediate environment and what is happening around them.

Therapeutic Goal of Physical Environment

Physical environment and thus, interior design is not a cure for dementia, however, it is regarded as a nonpharmacological intervention, a treatment with a therapeutic goal to **enhance the desired Quality of Life** building on positive emotions and inborn responses to stimuli – light, sound, temperature, smile, nature…

Losing their coping abilities, people often perceive their environment as stressful and demanding. This together with their lower threshold for dealing with stress leads to confusion, anxiety, improper behaviour or aggression.

A good physical environment design that fulfils its therapeutic goals, promotes health and wellbeing and reduces unwanted behaviours or incidents.

Therapeutic Goals of Physical Environment Design

- Ensure safety and security
- Maintain comfort and dignity, protect the need for privacy
- Support functional abilities
- Maximise awareness and orientation
- Provide opportunities for stimulation and change
- Maximize autonomy and control
- Maintain and reinforce links to the healthy and familiar
- Provide opportunities for socialization

Built Physical Environment

People living with dementia cannot be relied on to adjust to the environment. It is the environment that must be designed to compensate for their, often progressive, impairments, losses and ageing senses.

Built Physical Environment

There are three major components of physical environment that could be modified to support losses and enhance safety. Some solutions should be implemented during the very early stage of design, such as structural changes; however, many can be put into work later and these will be the main focus here.

Architecture (Structure)

(fixed)

Walls, openings, room shape, long corridors, etc.

Interior design + Decoration

(semi-fixed, non-fixed)

Flooring, furniture, lighting, colours, wall decorations

Sensory Qualities

Glare, noise, temperature

Quiz

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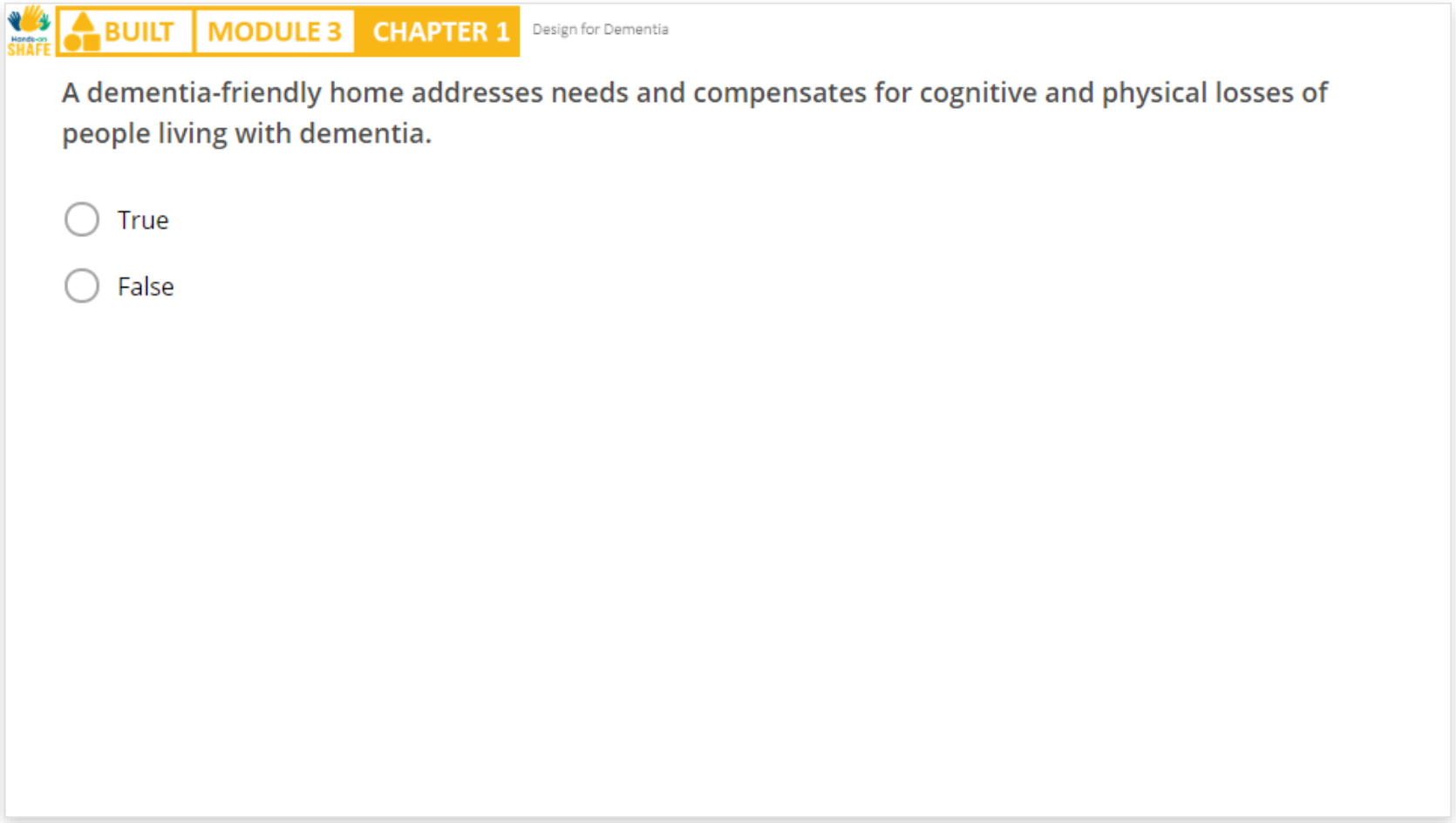


Chapter summary

1. You have learnt that physical environment design can address age and dementia related impairments and be the nonpharmacological treatment helping people to live longer in their homes, while maintaining desired quality of life.

2. This knowledge will help you understand considerations and reasons behind designing or making adaptations for dementia.

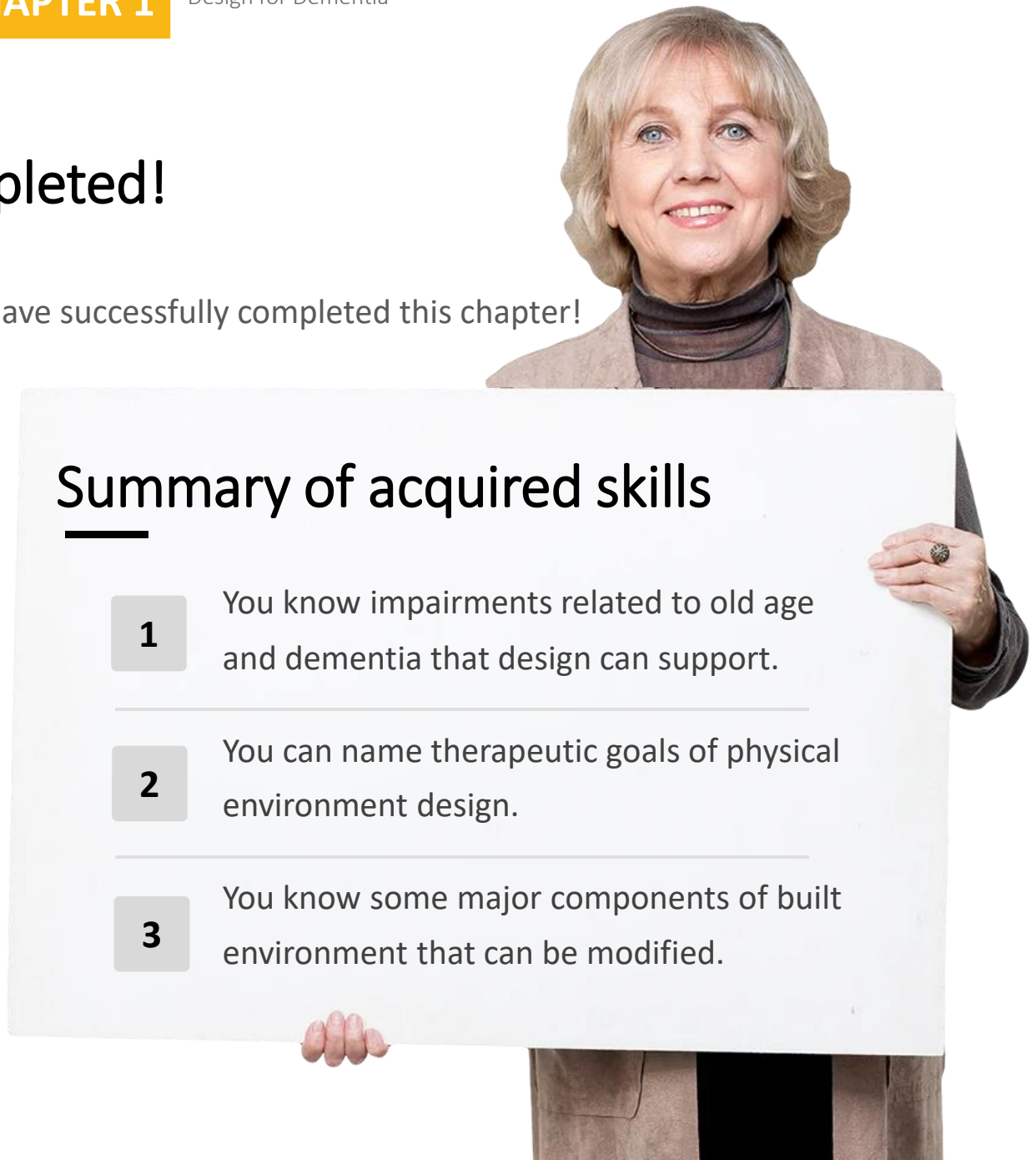
3. You may advise others about why design is important for people with dementia.

4. This course should help you understand that peoples' behaviour often results from and can be modified by design-related choices.

5. The next chapter "Key Principles of Design for Dementia" is recommended as a continuation of this module, as well as all HEALTH and all BUILT modules.

Chapter completed!

Congratulations! You have successfully completed this chapter!



Summary of acquired skills

1. You know impairments related to old age and dementia that design can support.
2. You can name therapeutic goals of physical environment design.
3. You know some major components of built environment that can be modified.

What is next?

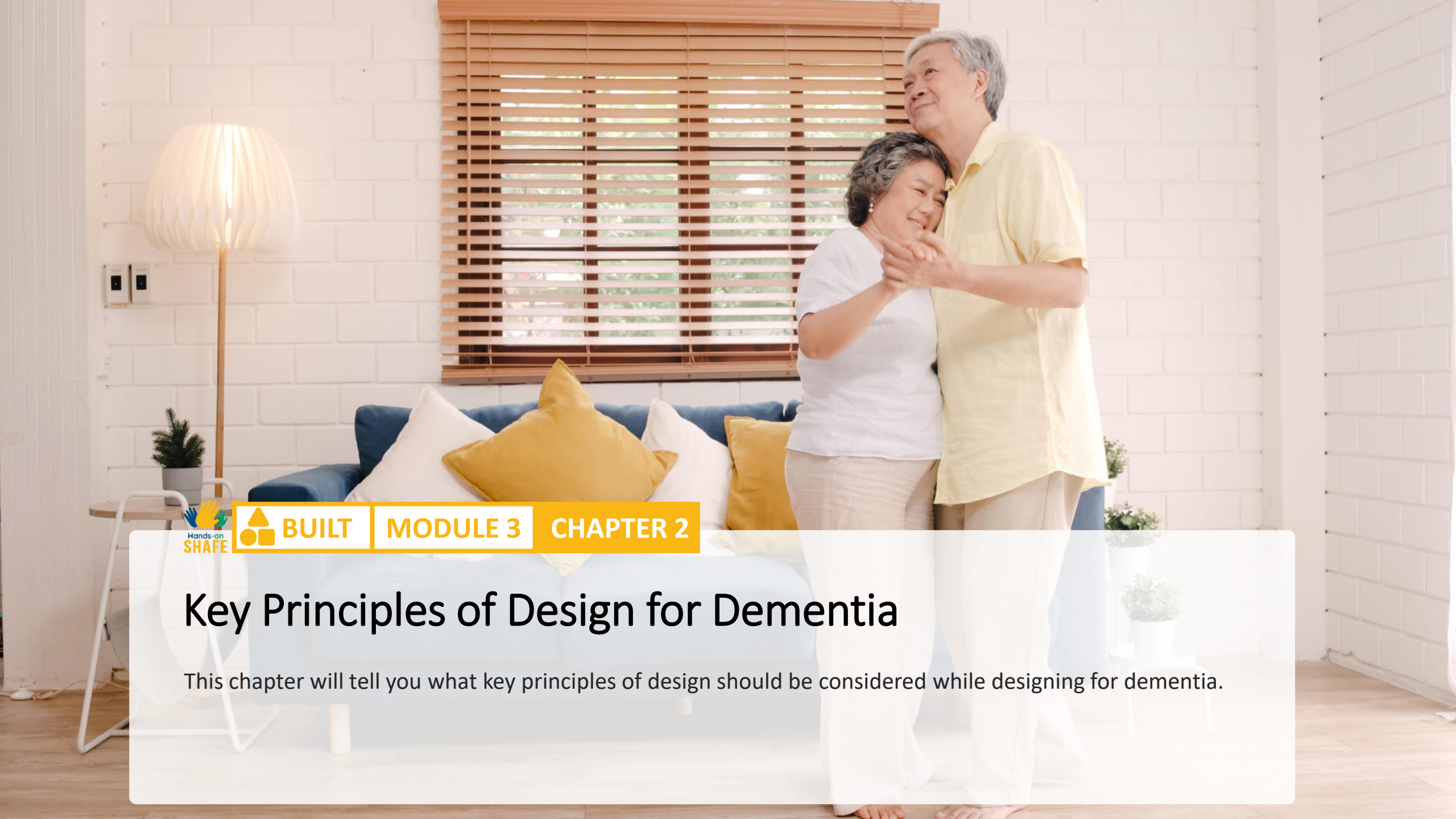
Now you can either repeat this chapter or follow our study recommendation by clicking on one of the buttons below:

Restart

Next

HEALTHY

BUILT



BUILT MODULE 3 CHAPTER 2

Key Principles of Design for Dementia

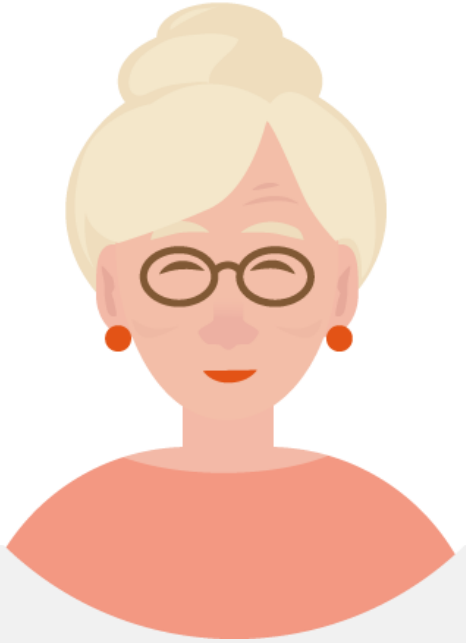
This chapter will tell you what key principles of design should be considered while designing for dementia.

Key Principles of Design for Dementia

Interior design requires vast and specific knowledge from different fields, however, a lay person's understanding the impairments and losses of people with dementia can help with making appropriate modifications and adaptations in home settings which will help and not hinder and create barriers for them.

Advice to Cornelia

You have already met Cornelia, here is a useful suggestion for her:



"Don’t accept gifts or buy things for your home that are not absolutely necessary”

What will you learn in this chapter

1 In this chapter, you will learn what the key principles of design for dementia are.

Key Principles of Design for Dementia

Following key principles of design for dementia, a physical environment can be created that eases the daily routine for people with motor and cognitive impairments and compensates for ageing senses.

For people with dementia, experience and behaviour in certain environments are influenced not only by architectural elements and features (furnishings, finishes), but also by four salient attributes of that space: image, negotiability*, familiarity, and stimulation, and these should be taken into account too.

***Negotiability** is the possibility to ponder the meaning of the space.

Key Principles of Design for Dementia

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Orientation to Space, Time and Activity, Meaningful Spaces

People with dementia should be able to recognize the social meaning of a room while entering it through environmental cues, so they know where they are, what the purpose of the room is, and what can be done there. Also, visually linking spaces, cues like text or pictograms, can orient them to space even before entering the room.

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Can you say?

What is the clear purpose of this space?

And for Cornelia?

Orientation to Space, Time and Activity, Meaningful Spaces

As recognizing space can be difficult, especially in an unfamiliar environment which can lead to confusion and insecurity, it is important to give environmental cues that make the space non-negotiable and its functionality clear.

- The furniture, fixtures and fittings should give immediate cues about the space and should be unique to specific areas like dining vs. living room (tables-sofas).
- The finishes also suggest the function of a space; home textiles like carpets, pillows or curtains indicate the homely character of a bedroom or living room, whereas tiles can imply a hygienic setting like a bathroom or toilet.
- The lighting design can also give information about the setting. A chandelier can be expected in living rooms, bright light in high activity zones, industrial lamp in a technical space.
- Props (objects, accessories, artefacts) will also orient to space and activity, calendars and clocks to time. Towels and shampoos suggest bathroom, books and magazines – reading corner, food display and smell of food – dining room. Clocks will inform about the time of the day.
- The signage design must be clear and placed at 1.2 metres high for better visibility, especially when it comes to a toilet and entrances or exits. Hanging ”no entry” road signs or camouflaged exits can reduce exit-seeking behaviour.
- Multiple cueing is suggested to reinforce messages.

Can you say?

What is the clear purpose of this space?

And for Cornelia?

Can you say?

What is the clear purpose of this space?

And for Cornelia?

Key Principles of Design for Dementia

1

2

3

Sensory Stimulation without Stress, Simple Space - Decluttering

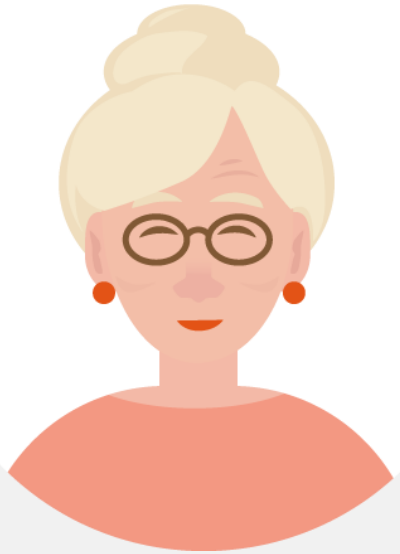
Reduce physical environment and social stimulation to create a simple space that is more understandable. Declutter it to not send mixed messages about the environment. Too many unclear choices can lead to confusion, overstimulation and consequent stress. Remember about the changing needs of people with dementia.

Sensory Stimulation without Stress, Simple Space - Decluttering

A normal level of stimulation is perceived as overstimulation by people with dementia. Ageing senses together with cognitive decline require gentle and positive stimulation not to overwhelm the person.

- The soundscape should be of sufficient volume and age-appropriate and when possible hard surfaces should be avoided and soft textiles absorbing sound applied.
- Combination of natural and artificial lighting would work the best. Deep shadows in the crucial areas for walking, working or relaxing should be avoided.
- Glare should be regulated through the use of curtains or blinds and non-reflecting floor or furniture materials.
- Easily accessible rooms, like open plan kitchens or toilets visible from different places, and different easy-to-operate devices can prompt daily activities.
- Objects should have different textures to provide tactile stimulation.
- Declutter the space from unnecessary items that do not indicate the real purpose of the room. Prepare enough storage room, and simplify or remove patterns.

Declutter the space!



Cornelia wants to declutter her room from unnecessary items. Can you help her?

Meet and get to know Cornelia. You can find information about Cornelia here.

Organize and clean the space successively, step by step, and avoid doing it all at once.

Make Cornelia feel in control of the process.

Divide the items into four categories and follow their descriptions

- Keep: organize items visually for the items to be clearly visible and labelled, and kept in the same place to be easy to find; move items to the proper space/room where they belong
- Store: in clear storage containers
- Give away: it can be easier for some people to donate some things than to throw them away
- Discard

Key Principles of Design for Dementia

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Design for Functional Support

Carefully chosen design elements enable people to function as independently as possible since they make them more confident. Appropriate levels of challenge, that match physical and cognitive ability, help to deal with everyday tasks better, such as level action handles being easier to operate than doorknobs.

Design for Functional Support

Many design solutions can be implemented to support people in their activities.

- Long corridors or pathways with “dead-ends”, also in the garden, would benefit from sitting areas that can redirect people when they are lost or confused. Just avoid them in the planning stage.
- Bed to toilet visual access is very important since it reinforces independent toileting and minimises the risk of incontinence.
- Proper (brighter) lighting can help in orientation without the risk of falls.
- A modified wardrobe, partially opened, in which "next day” clothes are hung in a visible way simplifies the cognitive task of dressing. Open shelves ease finding things; however, the overstimulation problem can arise and should be considered.
- Colour contrast in appropriate areas is important to independently move through the home without risk of falling.
- Easy-to-use devices, like radios and digital clocks giving day and time, can orient to current date and news.

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Key Principles of Design for Dementia

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Familiarity, Things from the Past

People with dementia rely on familiar places, objects or people because often past memories can be more easily recalled than recent ones. Design can link to the past lifestyle and activities of a person by placing familiar and meaningful objects or fixtures.

Familiarity, Things from the Past

Familiar things from the past ease not only a person's functioning but also strengthen ties to the healthy and familiar. They support maintaining long-term memory and can be translated into design by furniture, fixtures, objects or activities.

- Familiar spaces for familiar activities are important and the temptation of a kitchen or bathroom renovation in a modern style that can hinder a person should be avoided.
- Spaces for familiar activities should be maintained or organized and should be easily visible and accessible to help engage in meaningful activities such as writing, gardening, folding laundry, etc.
- Placing familiar things can serve as landmarks that facilitate orientation in the environment – indoor or outdoor. They can be important, especially at entrances to rooms or apartments, helping to navigate to the proper space.
- Photos of family members can trigger positive reminiscences and can reinforce memory, assuming memories are good.

Key Principles of Design for Dementia

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Personalized Space, Personal Taste

Feeling the sense of home means different things to different people. It is salient to organize or adapt the space within the personal taste and life history of a person with dementia to make them feel safe and secure.

Personalized Space, Personal Taste

People with dementia can live independently on their own to some point. However, a moment comes when they are taken care of by caregivers, which often involves moving to the home of the caregiver often being a family member.

- A sense of home is a sense of self, and it should be possible to reflect it within the home realm, where a personalized room for a person with dementia can build on positive and familiar emotions making them feel safe and secure.
- Spaces should provide possibilities to connect different tastes so that all people using them can feel safe, relaxed and at home.
- Spaces for people with dementia should be arranged based on a person's past, tastes, and habits. Even if abstract art is not recommended for people with dementia, do hang abstract art if a person with dementia is an expert in it and has a positive attitude towards it.
- It is important to provide private and safe spaces for caregivers where they can rest in case they move into homes of people with dementia.

Key Principles of Design for Dementia

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Safe, Secure and Positive Indoor and Outdoor Space

Physical and cognitive impairments make it difficult to use and move through spaces. It is imperative to eliminate the (physical and cognitive) environmental barriers to create safe and secure spaces. Immediate environments should also be non-negotiable to allow for easy choices.

Safe, Secure and Positive Indoor and Outdoor Space

Safety is a critical requirement of design. With reduced capabilities and competencies, people with dementia often need some additional or special features to help them use and move through the environment easier.

- **Next to the standard solutions helping to cope with environmental barriers,** like handrails or grab bars, interventions like **consistent and clear information** and **easy-to-operate** controls or handles can be used.
- **Contrast between critical elements,** e.g., walls and floor, walls and furniture, knobs on switch panels, can **compensate** for visual impairments.
- **Multiple or redundant cueing** like visual (food photography) and olfactory stimulation (aroma of bread) can help people identify a dining-room or kitchen. Multiple cueing reinforces the environmental messages and increases possibility of them being seen and understood.
- **Consistent messages,** like colour coding or height of signs, can introduce elements of predictability to the space.

Quiz

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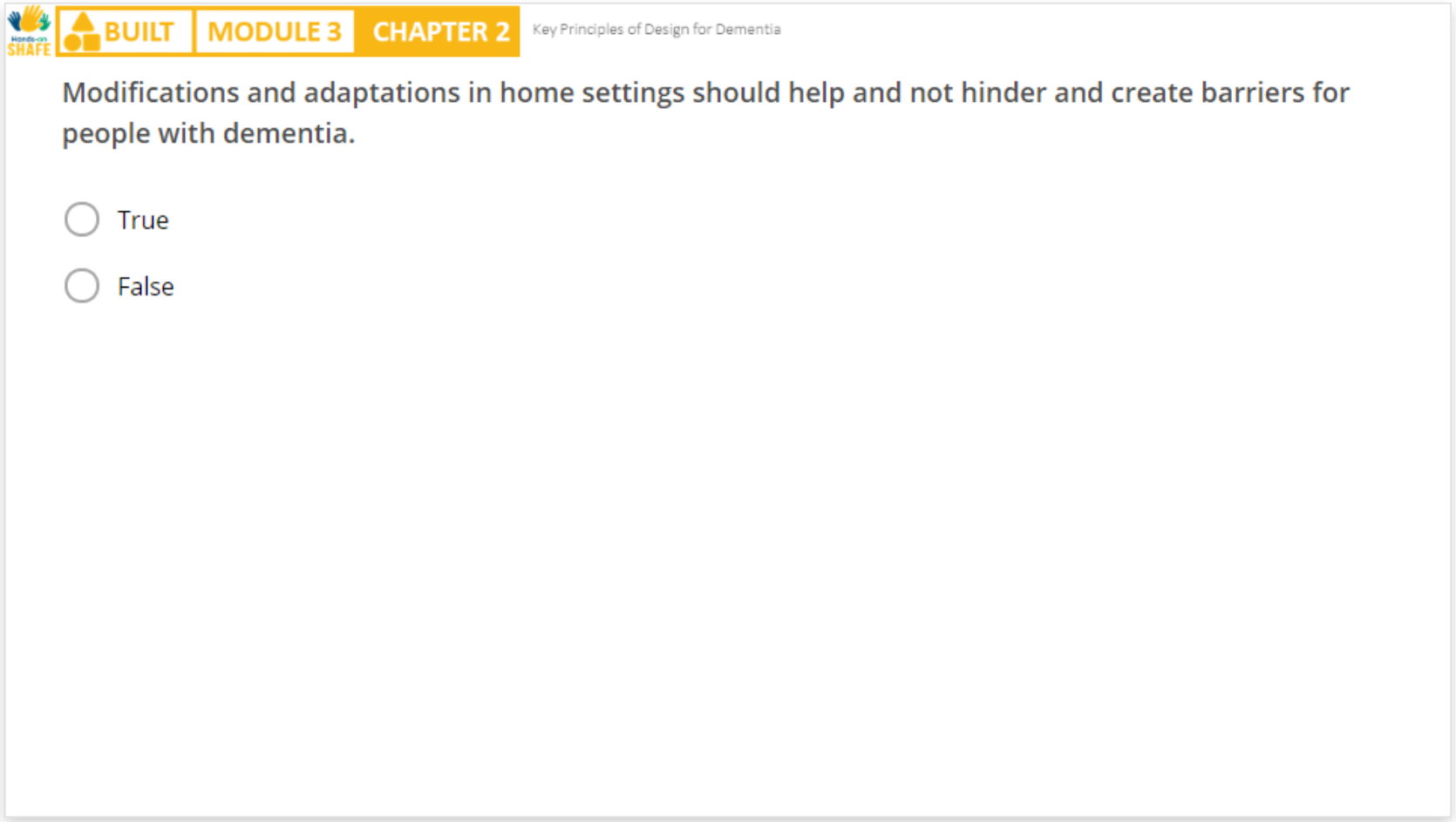
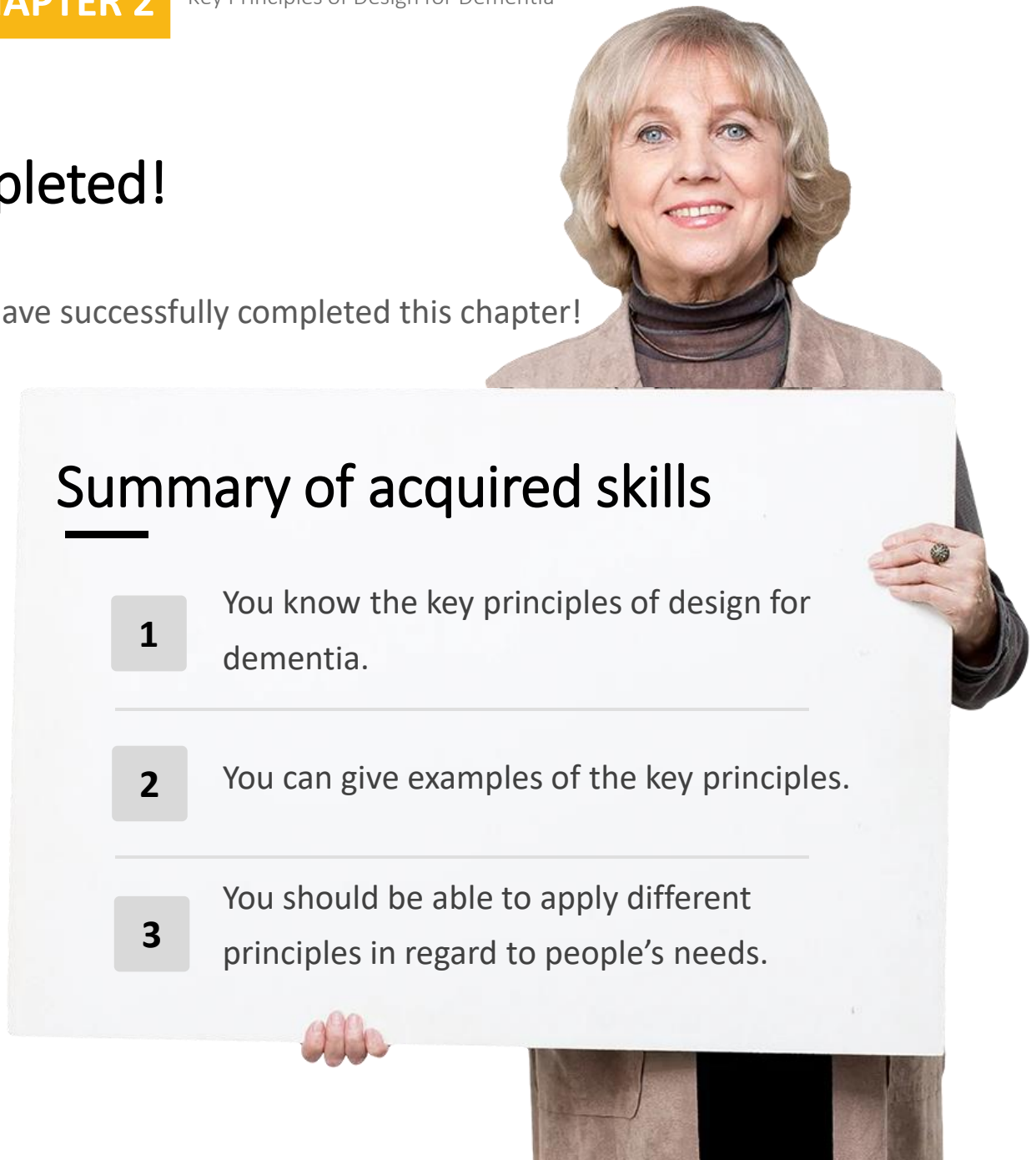


Chapter summary

1. You have learnt about key principles of design for dementia that need to be followed in order to create a dementia-friendly home.
2. This knowledge will allow you to implement the important rules while designing or making adaptations for dementia.
3. You may advise others what principles of design they should consider and how they can use them.
4. This chapter should help you understand that adaptations at home can be made by considering some basic principles.
5. The next chapter “Key Features of Design for Dementia” is recommended as a continuation of this module.

Chapter completed!

Congratulations! You have successfully completed this chapter!



Summary of acquired skills

1. You know the key principles of design for dementia.
2. You can give examples of the key principles.
3. You should be able to apply different principles in regard to people's needs.

What is next?

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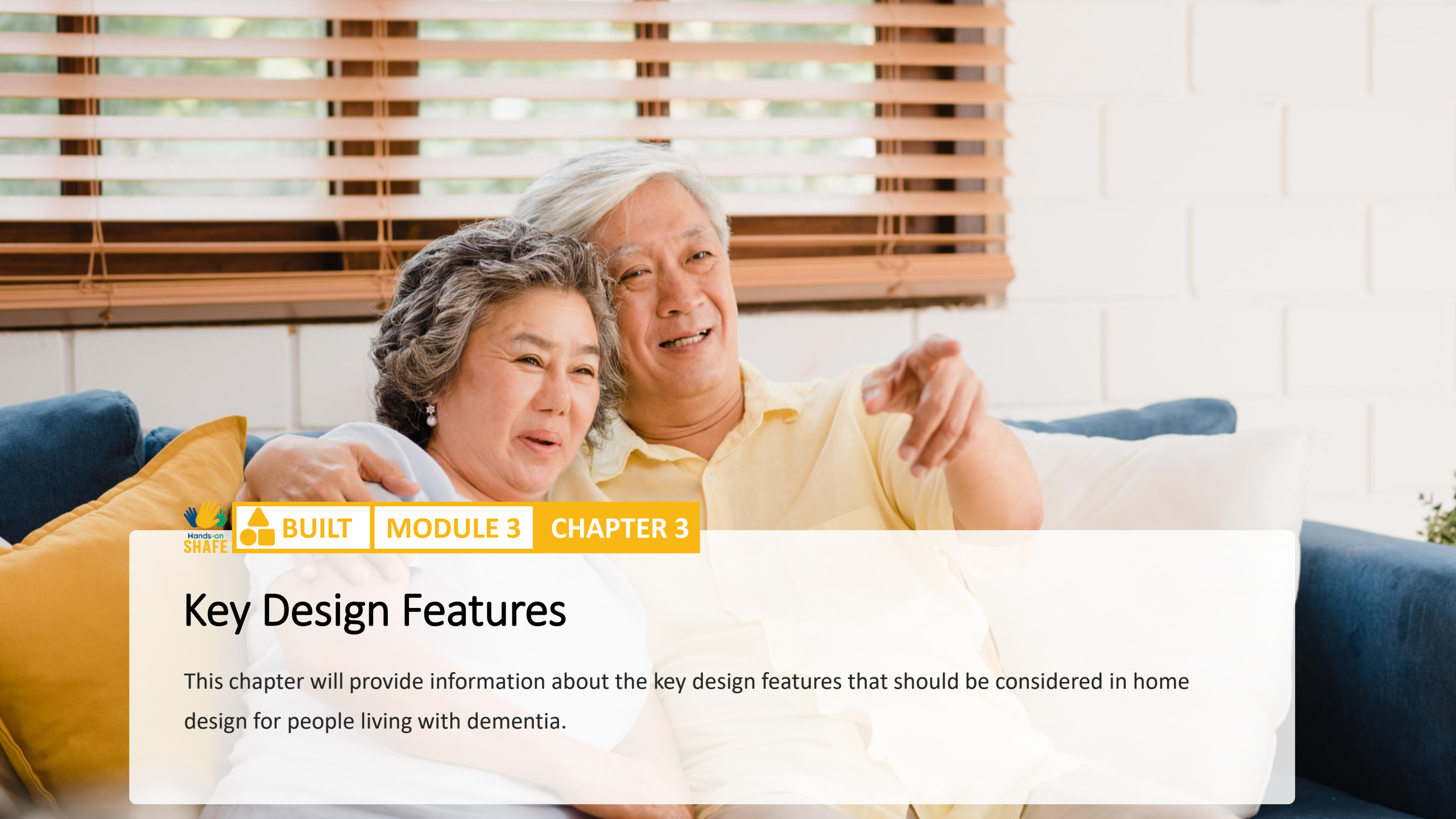
Restart

Next



BUILT | MODULE 3 | CHAPTER 3

Key Design Features

This chapter will provide information about the key design features that should be considered in home design for people living with dementia.

Key Design Features

Key features of design for dementia concentrate on the physical qualities of environments. The design and placement of such features should follow the principles discussed in the previous chapter. They allow people with dementia to function better and feel safer in their own homes.

What will you learn in this chapter

1 In this chapter, you will learn what the key design features for dementia environments are and how to apply them.

Key Design Features

Many features can be addressed at home to help people navigate easier through spaces.

Look at the picture!

Can you identify some?

Layout, Linking Spaces, Acoustics

The layout of an apartment is usually given by a developer and can be hard to change, however, there are some ways to adapt it to the requirements of people with dementia.

Open plan living is advisable, as it visually links spaces and often decreases the decision-making process due to visual cues present in the environment, allowing people to act intuitively.

Removing walls to achieve an open plan can be costly, however, sometimes removing or opening doors can create sufficient visual access to various spaces, helping with wayfinding and orientation.

A toilet, if possible, should be visible from different parts of the home, which help to minimize incontinence.

An open plan increases desired daylight, however, it can also create **acoustic problems**, as sound will appear louder and harsher.

This issue can be overcome by introducing soft home textiles, like curtains, carpets, fabric-based wall hangings, e.g., quilts, fabric art, and acoustic panels.

Acoustic panels can be mounted on walls and ceilings, and they can be customised with pictures and serve as decoration. They allow for clearer sound, which aids with communication between individuals.

Large plants and textured wallpapers also reduce the overall noise level.


Did you know?
Carpeting will reduce noise levels by up to 70%!

Building Elements: Doors, Windows

Door identification is vital for wayfinding, so they should easily be visible and recognizable, especially in critical rooms such as the bathroom as many people with dementia struggle with incontinence.

Partially glazed doors or vision panels that were traditionally used in bathrooms can be helpful in reminding people where these are.

Additionally, to help people find a bathroom or a toilet, signs (text with pictogram) can be mounted on the respective door, not the adjacent walls.

Doors should contrast with the adjacent wall unless people are not meant to access them, in which case they can be painted the same tone as the wall or can even be hidden. Accessible doors should be easy to open.

Sliding and concertina-style folding doors should be avoided since they are very difficult to operate for people with dementia.

Windows of a large size, which allow for generous daylight penetration, are recommended. Natural daylight creates brighter spaces allowing for better conditions for activities, hazard limitation and regulation of circadian rhythm.

As glare can be disabling, windows must be equipped with blinds. They should provide natural ventilation without causing draughts and manual operation is preferred over artificial ventilation.

Window sills should be low enough to enable people to see through a window from a seated position.

Building Elements: Walls, Flooring

Walls should contrast with the floor in order for people, especially with visual impairments, to be able to distinguish where the floor ends, and the wall begins. While painting the walls it should be remembered that the contrast with the floor should be in tone, not in hue or saturation.

Bold patterns on walls, shiny and metallic effects should be avoided since they can be misinterpreted, confusing and adding to visual clutter.

Additionally, patterned wallpapers with life-size flowers can attract people to pick at them causing damage.

Matte finishes on walls, be it paint, wallpaper, tile or cladding, are preferred because they can reduce glare.

Flooring plays a significant role in comfort and safety. It can reduce risk of slips and falls with proper material selection – e.g., non-slip vinyl flooring or non-slip tiling in wet areas.

Softer flooring can not only reduce severity of falls, but also noise level. For the same reason hard floor should be avoided where possible.

The floor should not change in tone while moving from one area to another. It should appear as one solid surface with constant LRV (light reflectance value), although the hue (what we perceive as colour) can change.

Floors should contrast with furniture and walls.

Grey-blue or shiny floors should be avoided, as they can appear like water to some people with dementia.

Building Elements: Doors, Windows, Walls, Flooring

Doors

Doors with a lever handle and glass panels for better operation and view should contrast with the wall, unless we want to make them less visible.

Windows

They should allow as much daylight as possible to penetrate, however, it should be possible to cover them and during the day, when necessary, day curtains should hang to avoid glare.

Walls

Walls contrast nicely with floor, window and furniture.

Flooring

It should be unified in tonal values with carpets or rugs. Carpets, and especially rugs should be fixed with anti-slip matts to the floor, thus, not to evoke risk falls.

Furniture, Fixtures and Fittings

Furniture should be robust to use and easy to see, which can be achieved by contrasting it against walls and flooring.

Chairs must be stable, comfortable, familiar, should possess armrests, and be suited to the person's height.

Table design should match the appropriate use, however, low coffee tables can be a cause of falls and should be at armrest height.

Enough storage should be available to avoid clutter.

Furniture should have clear and easy to use handles.

Fixtures and fittings should be simple, stable, familiar and easy to use.

Blinds should be installed to control glare and overheating, and curtains should not obscure windows.

Small controls and switches, not contrasting the background or switch plates should be avoided.

Taps should be traditional in appearance, crosshead or lever, and clearly marked in colours 'hot' and 'cold'.

Grab rails should stand out tonally from the wall just like door handles from the door.

Lamp shades should hide the bulb and not be installed in the line of sight.

Mirrors can be disturbing and should be able to be covered or removed since people with dementia can have problems in recognizing themselves, which can distress them.

Different hooks mounted around homes are useful, since they can make things visible with easy access.

An analogue clock with a clear face should be provided.

Provide soap bars contrasting the sanitaryware, as soap dispensers can sometimes not be recognized.

Furniture, Fixtures and Fittings

Furniture

Sturdy and comfortable armchair of a proper height would be a good spot to observe what is going on outside and inside.

Fixtures

Old style tap with crosshead. It should be clearly marked with red and blue colours for hot and cold water.
Tap and sink contrast to the wall.

Fittings

Grab bar contrasting to the wall.
Discreet line light leading to the toilet at night.

Did you know?

Being able to see a clear analogue clock is known to specifically help people with delirium.

(Monette, J. et al., 2012)

Lighting

Lighting is vital for seeing and understanding the environment while staying healthy.

Older people require twice as much light as younger people, so everything should be done to provide them with a sufficient quantity of light and let in as much natural light as possible.

Windows should not be obstructed by trees, objects or curtains and during the day, curtains should be drawn back as much as possible. Curtain rails should be extended beyond windows so that they are totally exposed.

Areas of more extensive and complex activities, like reading or cooking, should be especially well lit.

Good lighting in dining areas maximizes the chances to consume meals and drinks since people can see and recognize them.

Provide many lamps, taking care that flexes do not cause a trip hazard.

Reduced bright light (daylight) exposure through the eyes is related to sleep disorders and depression.

Provide a consistent, even light levels, combination of ambient, area lighting and daylighting to avoid creating the shadows that can be problematic for people with dementia. Do not have a single source of lighting like overhead ones.

Reduce direct and indirect glare by using e.g. curtains on windows and non-reflective flooring or materials.

Provide gradual changes in light, especially between outdoor and indoor spaces, since eye accommodation is weaker, what can temporarily but strongly impair vision.

Lighting

Daylight

Windows should allow as much daylight as possible. Curtains should be possible to draw back completely, or day curtains to be drawn to avoid glare.

Matte finishes

Choose matte finishes of materials. Add additional lamps to activity areas like reading or crocheting corners

Additional light

Provide good, additional lighting for working surfaces.

Glare

Glare can be confusing and dangerous, as it can be mistaken for a wet floor and increase the risk of falls.

Did you know?

A 65-year-old person requires 2.5 times more contrast than a 20-year-old person does.

Colour and Contrast

Colours are defined by their hue (what we normally perceive as colours on the colour spectrum from blue to red), saturation (how vivid the colour is, how much grey tone is in it, how bright or muted it is) and tone (how dark or light the colour is, being 100 for black and 0 for white on the theoretical scale, referred to as Light Reflectance Value LRV).

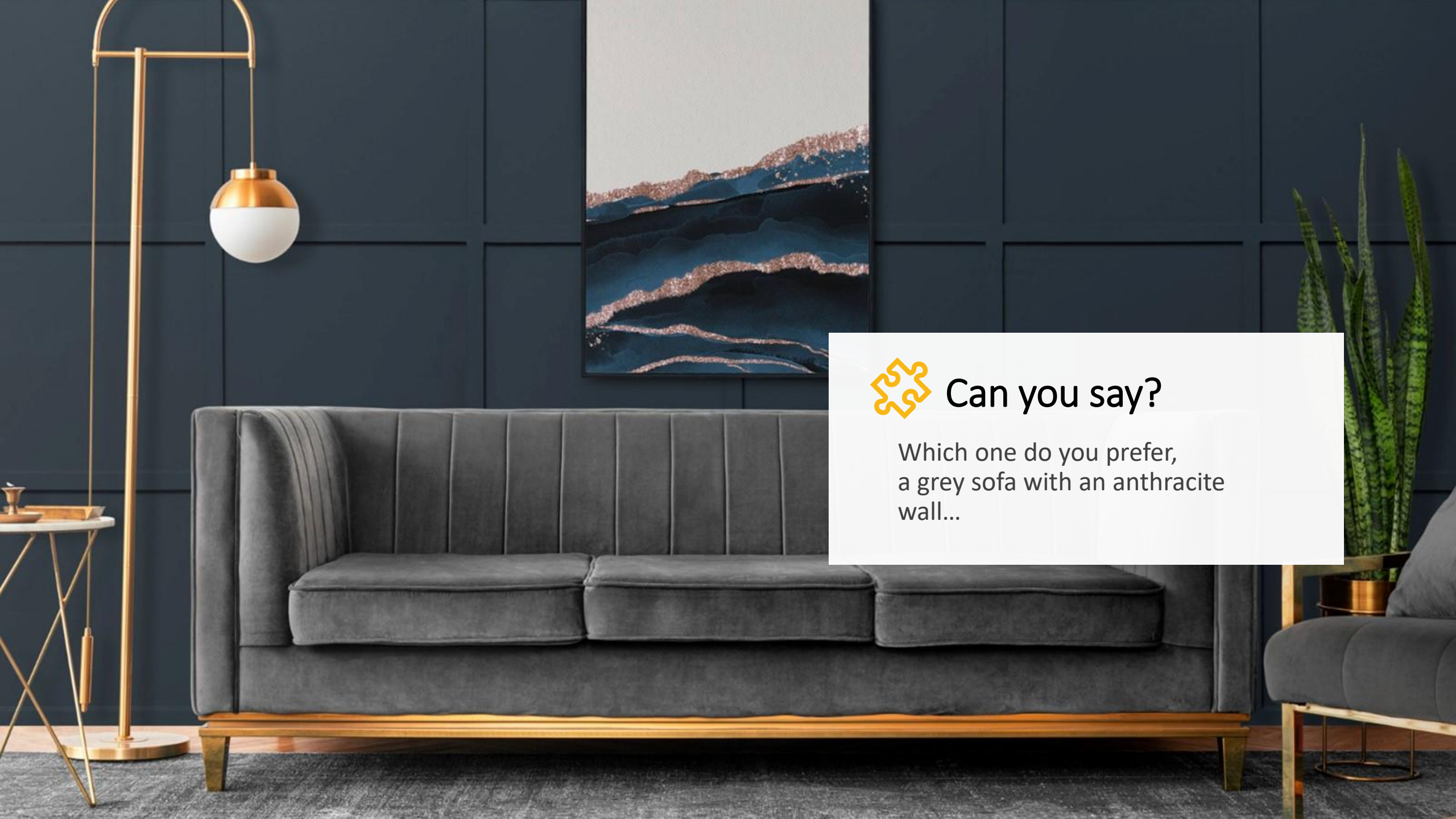
Tonal contrast, measured in LRV, is critical for providing visual accessibility to distinguish an object from its background, thus, **critical elements should contrast significantly in tone,** not in hue.

Objects can be differentiated from one another if the LRV of their materials differs over 20 points. In cases of dementia or sight impairments, A LRV of 50 or more points is suggested for critical surfaces.

Many producers of paints or floors show the LRV value on their products.

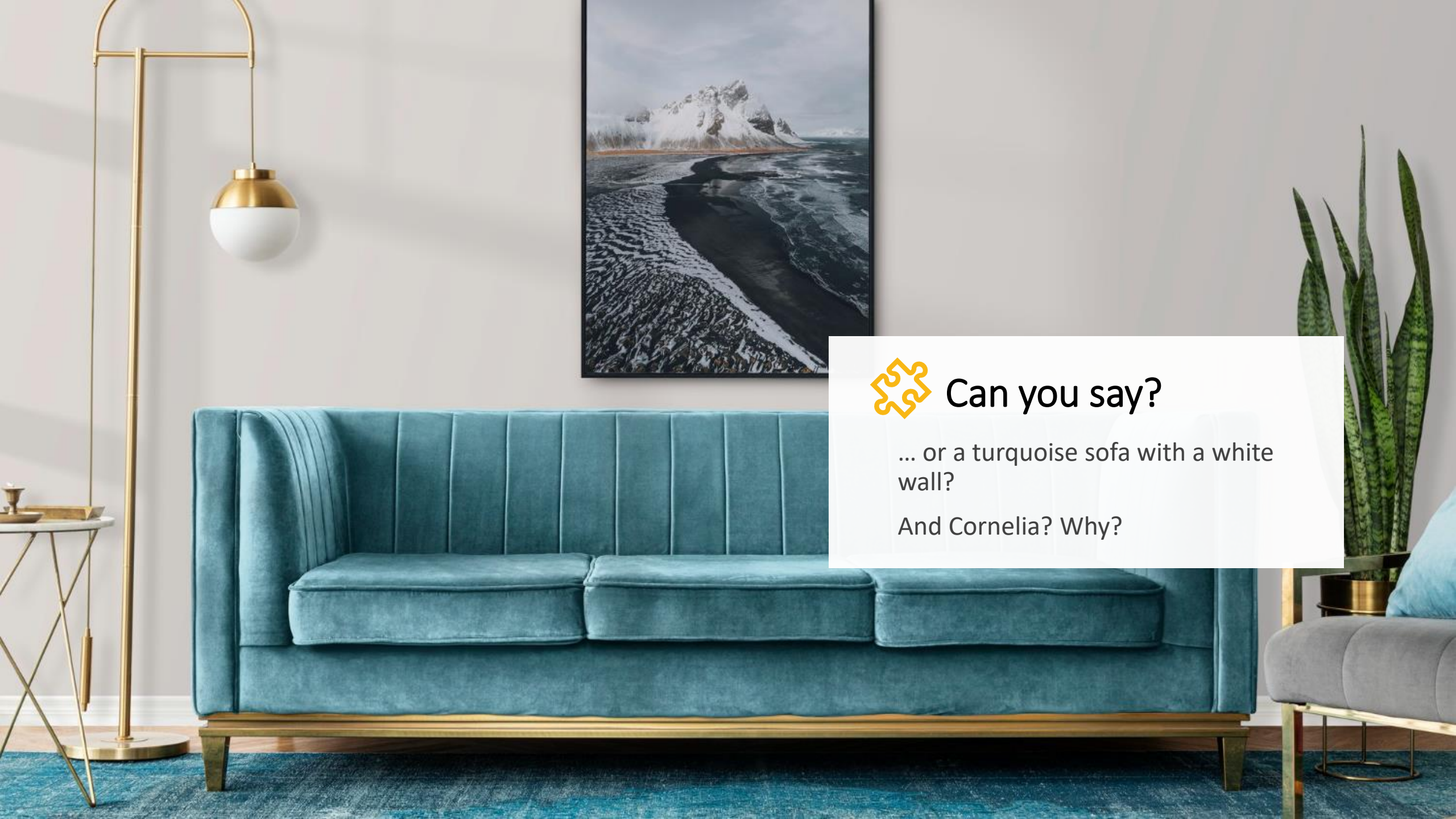
Tonal contrast should be applied whenever distinction of objects or surfaces is required for better functionality and safety, like between furniture – floor, toilet – floor, toilet seat – floor, handrails, grab bars - wall, floor – wall, signs – wall, door – wall, light switches – wall, stair edges, appliances switches, sink – countertop, text – background.

Vivid colours and warmer hues can compensate for ageing eyes since colour vision is lost starting from the blue end of the spectrum, thus, neutral colours like beige, monochromatic colour schemes can be perceived as dull, so increasing the saturation of colours can help, but the danger of overstimulation should also be considered.



Can you say?

Which one do you prefer,
a grey sofa with an anthracite wall…

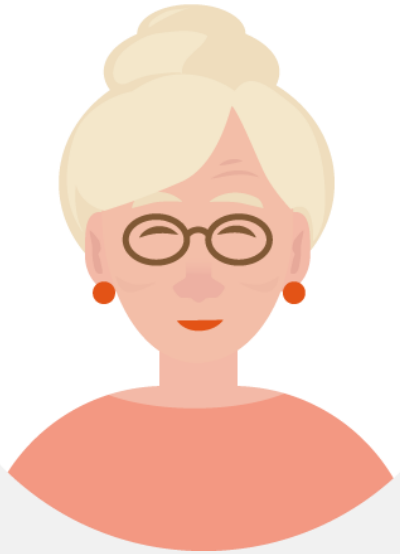


Can you say?

… or a turquoise sofa with a white wall?

And Cornelia? Why?

Cornelia prefers bold contrasts



To help Cornelia decide if the contrasts she has chosen in her apartment are correct, you can check if there is a proper difference of over 50 points in the LRV of the applied materials.

You can measure the LRV of the materials with a standard LRV meter (colourimeter), but you can also try to use a contrast measurement application like, for example, Get Luminance on your Smart Phone. However, remember that this is not a professional meter and results are only approximate.

Check the module **SMART 03 How To Communicate By Text With A Smartphone** if you are not familiar with Smartphone Application Installations.

SMART 03

Colour and Contrast

Colour and Contrast

A grey sofa contrasts well with white walls. However, a grey sofa seems to be of the same tonal value as the carpet what can create difficulties in distinguishing the edges of the furniture.

Colour and Contrast

Good contrast of a sofa against the wall. The colour of the sofa is similar to the colour of the floor; however, the sofa's legs make it stand out.

Where is the contrast?

"Horror bathroom" for people with impaired vision

Contrast

Good contrast of furniture against the wall.

Wayfinding and Signage

Wayfinding and Signage are especially important for people with dementia since they often experience disorientation resulting from their impairments even in their own homes.

To help people orient themselves better in finding their way, environmental features based on simple and logical layouts, visual cues like contrast, distinctive objects or vivid colours can be applied.

Different colours, however, should not be relied on for differentiation of various zones since for people with dementia, moreover, with visual impairments, it can be too complex to grasp and remember what a space is intended for.

Architectural features, such as columns, staircases or patios, can be highlighted for better orientation.

Additionally, landmarks outdoors, like benches or sculptures in the garden, and smaller features indoors, like distinctive potted plants, umbrella stands, or an armchair, can be helpful too.

While introducing the signage, simplicity is the clue. Signs should be short and easy to understand and used when necessary to not overwhelm people with them.

Sign location should be consistent, not too high, 1.2m above floor level, and placed directly on the door whenever possible.

Messages should be concise and clear, like “Keep out”, and should start with a capital letter followed by lower case, since it is easier to read. Also, sans serif fonts with open ‘ɑ’ are clear to read. Apart from text, symbols of at least 10cm should be used.

Signage and Wayfinding

Simple and logical layout

With simplicity, you cannot go wrong. Open plan layouts with visual links, sometimes created by openings or glazing, can be helpful.

Visual cues

Different visual objects can be used for orientation, be it a potted plant, an umbrella stand or an easel.

Landmarks

Architectural features like characteristic buildings and columns but also smaller landmarks like benches or post-boxes can show the way.

Symbol and text

Symbols of man and woman serve people with mild dementia better. Actual toilet symbols are more helpful for those with moderate dementia.

Help Cornelia design a sign for her toilet

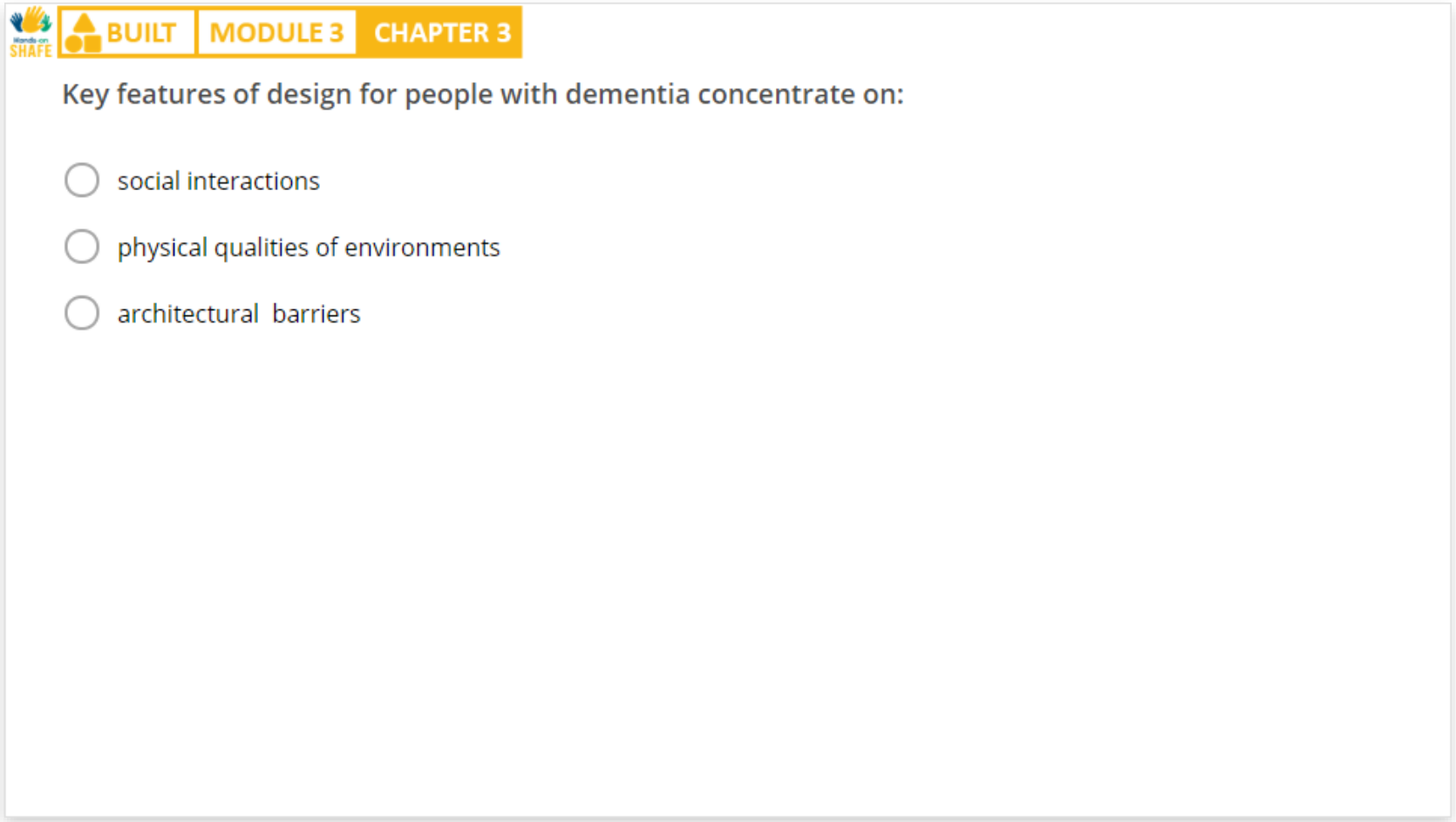
Cornelia noticed that while going to the toilet she often opens the adjacent door to the laundry room. She needs clear signage for the toilet door.

What should Cornelia take into consideration?

The signage should accommodate text and sign. Text font should be sans serif with an open “a” starting with a capital letter, followed by lower case. The sign should be of at least 10cm in height and should depict the real toilet rather than a person. Text and sign should be placed on a contrasting background. The whole signage should also be placed on a door with contrasting colour and at 1.2m height.

Quiz

Click the **Quiz** button to edit this object

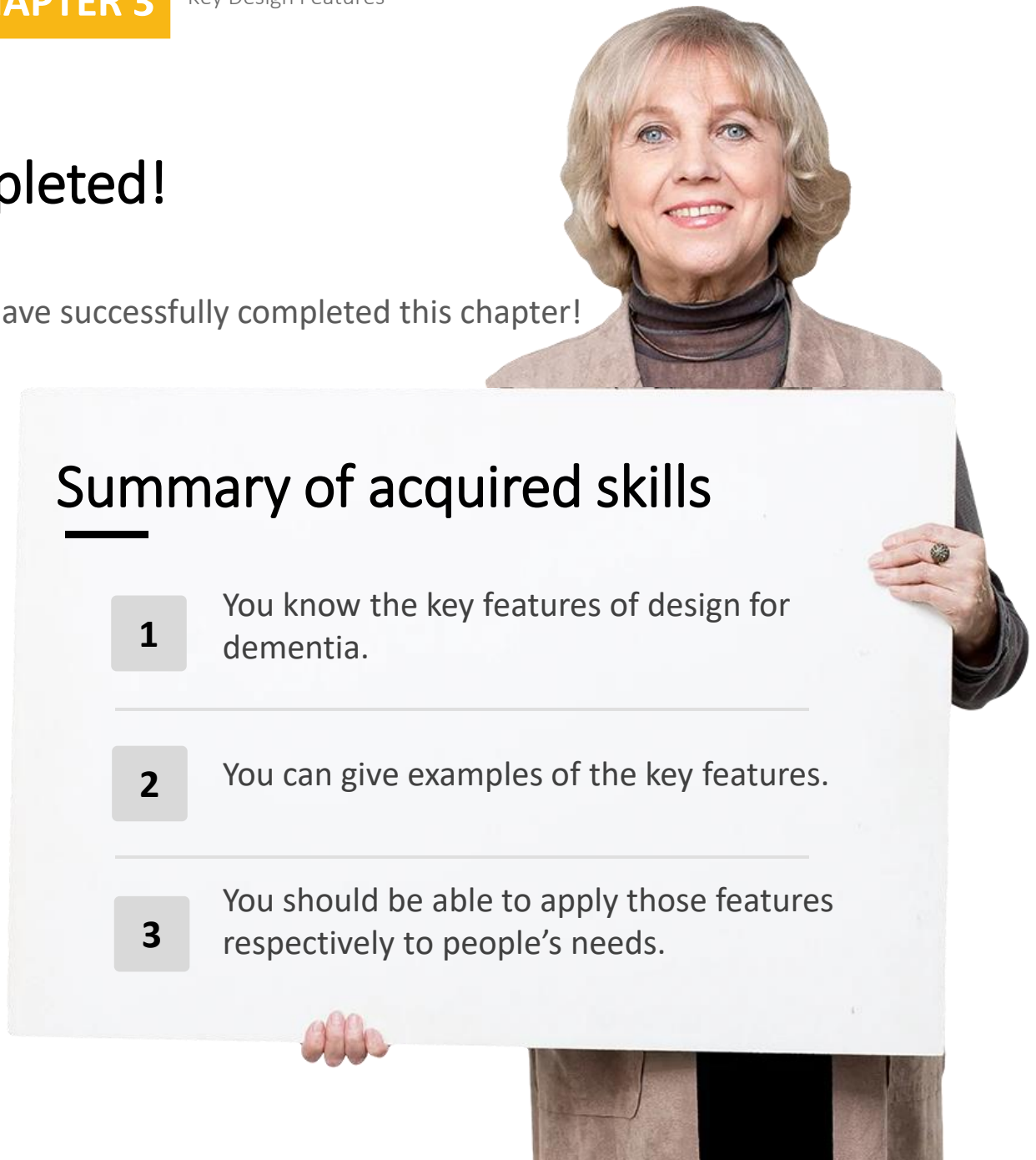


Chapter summary

1. You have learnt key features of design for dementia that are crucial in order to create a dementia-friendly home.
2. This knowledge will allow you to implement the respective solutions while designing or making adaptations for dementia.
3. You may advise others on what key features of design they should consider and how they can make good use of them.
4. This chapter should help you understand adaptations that can be made to some key features in the home.
5. The next chapter “Room/Space Guide” is recommended as a continuation of this module.

Chapter completed!

Congratulations! You have successfully completed this chapter!



Summary of acquired skills

1. You know the key features of design for dementia.
2. You can give examples of the key features.
3. You should be able to apply those features respectively to people's needs.

What is next?

Now you can either repeat this chapter or follow our study recommendation by clicking on one of the buttons below:

Restart

Next

SMART

BUILT | MODULE 3 | CHAPTER 4

Room/Space Guide

This chapter will show the most important changes that one can implement in each room/space in the home to help people living with dementia to feel more confident in their environment.

Room/Space Guide

The room/space guide will sum up the information learnt in previous chapters and describe solutions that can be applied in respective home areas.

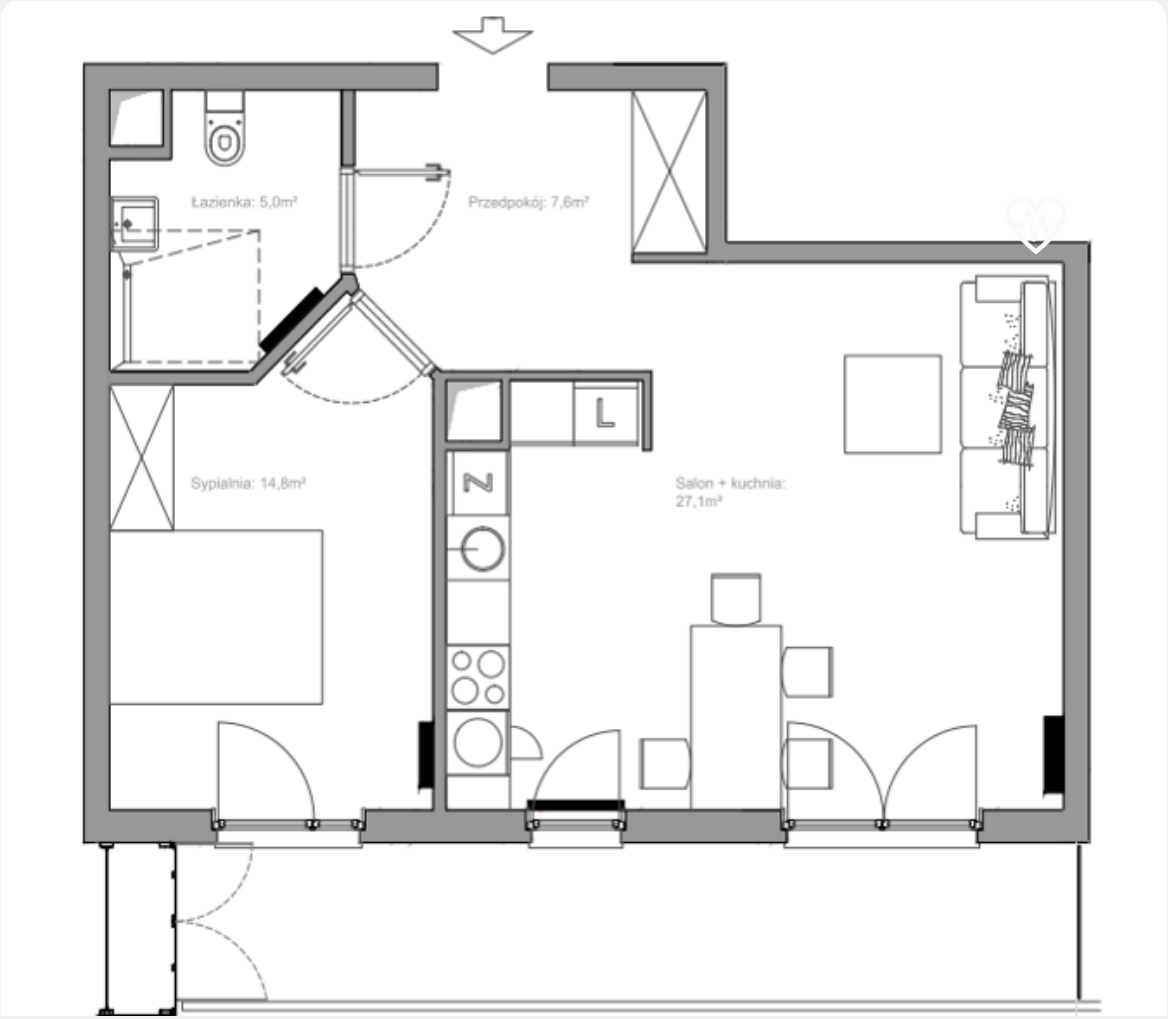
What will you learn in this chapter

1 In this chapter, you will learn which design principles and solutions can be applied in respective home areas.

Room/Space Guide

While designing or remodelling the home, we often face many physical or financial limitations and then we are forced to compromise on some solutions. It should not keep us from making adaptations to our homes to help those close to us have the best quality of life possible.

Start changes as early as possible, however, avoid changing too much at once since people with dementia can have problems adjusting to change.



Open Plan Living
Wzorcowe mieszkanie seniora, Warszawa, Poland
by Agnieszka Cieśla and Jan Cieśla

Entrance and Exit

The entrance to a home of a person with dementia should almost be like any entrance within home areas.

The door should be clearly visible with contrasting frames, doorknobs or handles standing out and being easy to use. If possible, entrances should have unique characteristics to be easily recognisable, like with distinctive objects, e.g. a potted plant or railings.

When entering the home, it would be ideal if all other doors inside were visible and the home had an open plan, where visual cues show the way.

Entrance and Exit

Exits from homes can be problematic because of the exit-seeking behaviour of people with dementia.

Contrary solutions can be applied to hide or make the doors not stand out so much from inside; however, safety issues should be considered in case of an emergency.

Solutions for people with strong exit-seeking behaviour, in order to prevent them from leaving the house without a caregiver, should be worked out on an individual basis, but sometimes well-known signs, like “Keep out”, “Do not enter” or “High voltage”, put on doors can work, since people were taught to avoid such places.


Open Plan Living

Living Room / Lounge

The lounge is a place for relaxing, entertainment and socialising with family or friends. We expect it to be comfortable, safe and according to our taste. These qualities should be clear to the person with dementia who enters the space.

Applied carpeting, wooden or vinyl floors instead of tiles will not only be softer to walk on but will absorb noise and reduce glare.

Walls, contrasting with flooring, other fixtures and sturdy, and comfortable furniture allow for better visibility.

Large windows allow for more daylight penetration and artificial lights make the illumination unified and reduce shadows.

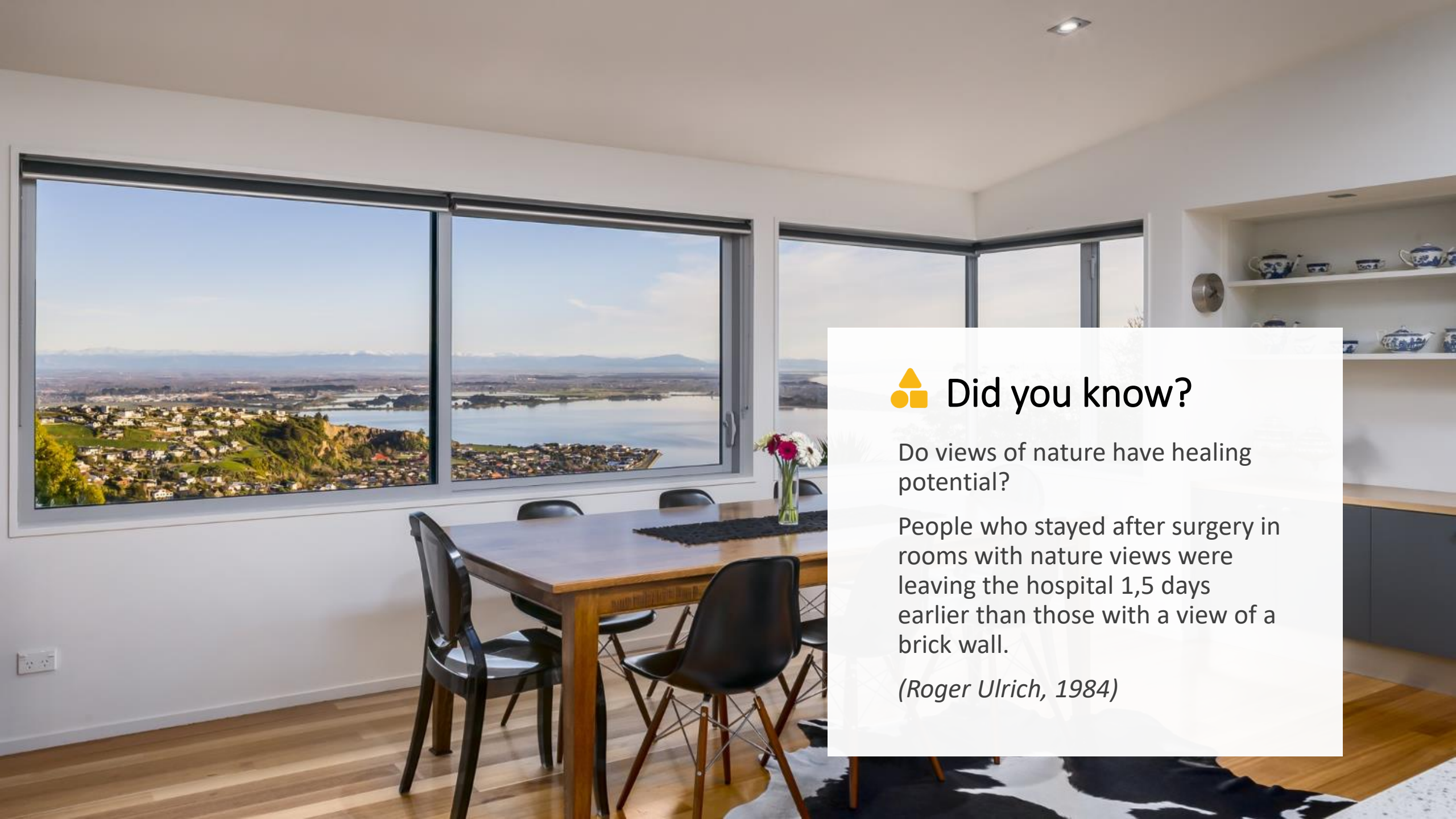
Living Room / Lounge

Big and glossy patterns in materials are to be avoided.

Sofa and chair placement should allow for socialising and observation of the inside and outside of homes since this is often a life-enhancing activity for people with dementia.

Placing family photos, pictures or reminiscent items within visual reach will stimulate memory and add to a homely feeling. Plants, even artificial ones, and views of nature also play an important role in wellbeing.

Remember to place contrasting light switches at 80-100cm above the floor level if possible.



Did you know?

Do views of nature have healing potential?

People who stayed after surgery in rooms with nature views were leaving the hospital 1,5 days earlier than those with a view of a brick wall.

(Roger Ulrich, 1984)

Dining Room

The dining room is about food and family or friends gathering and can evoke pleasant memories, especially when such were created during their lifetime.

To orient a person to this space, apart from furniture, place items like plates, glasses, jars of cookies or fruit plates in view. Placing pictures or some artwork of food can also add a visual cue to the space. Remember not to clutter the space, however.

Dining tables should be sturdy enough to support the weight of a person pressing upon them when standing up or sitting down.

Chairs should have good back support, be light enough to be moved and be sturdy to not slide around easily, but support a person.

Kitchen

The kitchen is where food is cooked and shared. For many people, especially those with a love of food and cooking skills, it is a pleasant place, although after the bathroom, the second most dangerous one, where injuries and falls can happen. Safety should be prioritized.

Lighting should be maximized and worktops well-lit with strip lighting. Spotlights can be installed in some places like sinks, but carefully, so as not to create too many shadows.

Noise, when possible, should be minimised by absorbent surfaces.

Flooring should be anti-slip of factor R10-R11 and next to spill-prone areas, an anti-slip mat can be placed.

Kitchen

Good visibility of appliances and items should be provided. This can be achieved not only by contrast but also by putting items within sight. Some frequently used items can be kept on worktops, and some can be put into the glass-front cupboards or open shelves.

Speckled surfaces should be avoided since they may be mistaken for crumbs or other small things.

Equipment and appliances should look traditional to be familiar, although an unfamiliar induction plate could minimise the risk of burns.

Cleaning supplies should be kept locked away.

Bathroom/Toilet

Bathrooms after kitchens are difficult to interpret for people with dementia since appliances' appearance has changed a lot. It is also a place where safety should be prioritised.

Bathrooms should be designed to allow for some independent toileting since people often struggle with fear of loss of dignity. Doors can be locked from the inside to provide some privacy, but should also be easy to open from the outside, like locks that can be opened with a coin.

The use of contrast is essential in bathrooms. The toilet seat should contrast with both the floor and the pan, and the cistern should contrast with the wall. Door handles, and grab bars should contrast respectively with the door and wall, too.

Bathroom/Toilet

Light should be installed to minimize shadows, with at least two overhead lights. Natural light would be an asset.

Hand-held shower heads should be installed since showers from which water pour downs on a person can be frightening.

The entry to the shower, when possible, should be barrier-free.

Non-slip mats in the shower area should be placed, contrasting the floor, however, not too distinct.

Toilet rolls should be within easy reach to avoid risk of falls.

Ensure that mirrors can be covered in case a person does not recognize themself.

Bedroom

The bedroom should provide a safe, comfortable and quiet space to rest since on average we spend 1/3rd of our life there.

The same rules apply here; contrasts, unified flooring, visual cues to the place, textiles like pillows, and blankets with no or subtle patterns.

Drawers in sideboards are suggested for easy operation and access, and if they are not supposed to be used by a person with dementia, handles cannot contrast with the furniture.

Mirrors should be able to be covered or removed.

Bedroom

Line lighting, preferably with a motion sensor, for night wandering or toilet visits, should be mounted in the bedroom.

A bed, equipped with a firm, fire-retardant mattress with a waterproof cover, should be placed to allow, when possible, for a toilet view. Depending on the person's condition, the bed should have a sturdy and safe bedrail to prevent falls and to support them when they need to get up. Bedrails, however, can be a cause of strangulation and death, therefore they should be chosen and mounted carefully and only when strictly necessary, as there are safe alternatives to bedrails.

Partially open wardrobes can be helpful; however, they can add to clutter. Drawers that are to be used by a person with dementia should have clear handles and photos of their contents can be placed on them. Line lighting in the wardrobe and the drawers can be helpful to see the content.

Outdoor Space:
Balcony, Terrace, Porch, Garden

People often spend time observing what is happening outside. Interesting views, especially of nature can be stimulating and beneficial.

Access to outdoor spaces should be barrier-free with a level threshold.

Porches or conservatories are also appreciated since people can go there independently of the weather.

Doors to outside areas should be clearly visible and easy to open.

Outdoor Space:
Balcony, Terrace, Porch, Garden

A chair that is visible from a door will encourage people to go outside. Safety precautions, however, should be undertaken when it comes to balconies or terraces and e.g. railings can be mounted high enough. Glass-panel balcony railings will be attractive for observing what is happening around.

Gardens should be designed based on the same principles, with non-slip outside surfaces that are consistent in tone and are levelled as much as possible. Paths should go in a circle, with no dead-ends, to allow a person to enjoy a walk without stress and handrails should be provided on steps and slopes.

Key Priority Areas – if you need to choose, pick these ones!

Lighting

Improve lighting

Contrast

Ensure good contrast in the apartment but especially in the toilet and bathroom

Toilet

Ensure the toilet is easy to find

Flooring/paving

Ensure flooring/paving is consistent in tone

Chapter summary

1. You have reviewed the key principles and features of design for dementia in a room-by-room guide.
2. This should allow you to reinforce your knowledge and independently take design decisions regarding dementia-friendly homes.
3. You may advise others on what key features of design they should consider and how they can make good use of them.
4. This chapter should help you understand that adaptations at home can be made in each space to make it dementia-friendly.
5. The next BUILT Module 4 is recommended as a continuation of this module.

Chapter completed!

Congratulations! You have successfully completed this chapter!

Summary of acquired skills

1. You know important adaptations that can be made at home.
2. You know how each home space should be addressed by design for dementia.
3. You feel confident to talk to others about dementia-friendly spaces at home.

What is next?

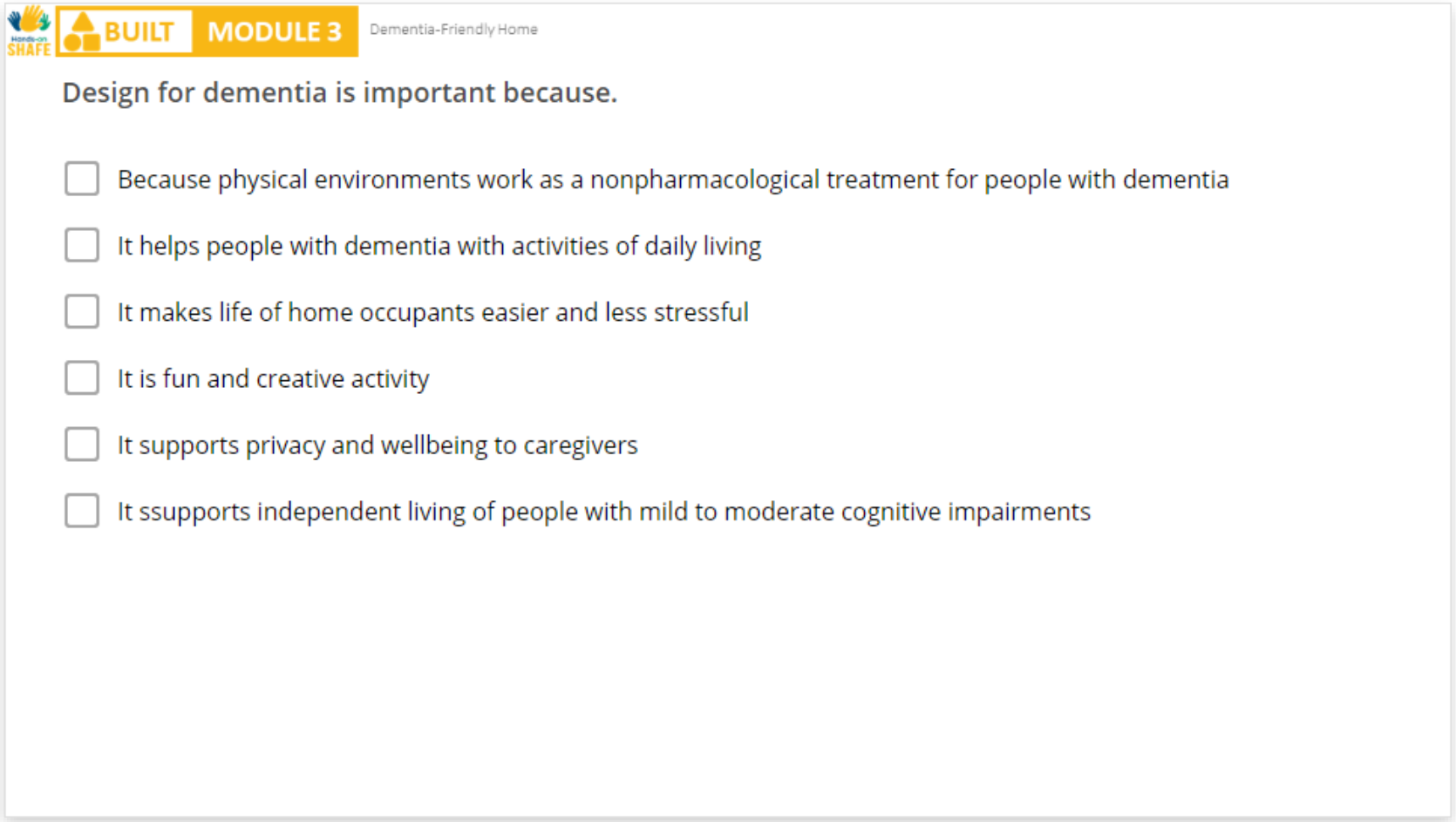
Now you can either repeat this chapter or follow our study recommendation by clicking on one of the buttons below:

Restart

Next

Quiz

Click the **Quiz** button to edit this object

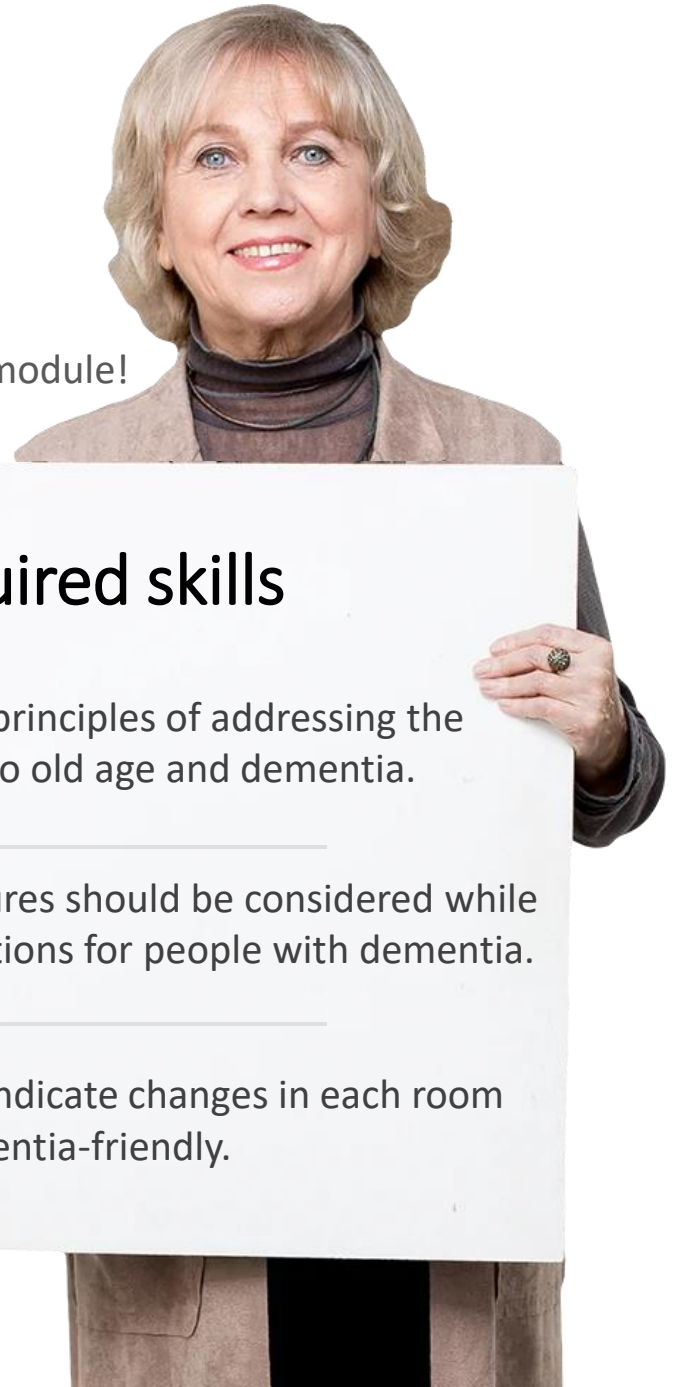


Module summary

1. You have learnt about physical environments, key design principles and key design features that should be addressed when designing different home areas for people with dementia.
2. This knowledge will help you understand why physical environment design plays an important role in the health and behaviour of people with dementia and what design principles and features should be considered to design for health.
3. You can help others understand that dementia-friendly homes can be created by design according to a set of principles and will help people maintain their desired quality of life.
4. You have acquired skills in addressing the needs of people with dementia while coping with physical environments.
5. This course will influence your perception of the built environment and its significance in designing a therapeutic, home space for people with dementia.

Module completed!

Congratulations! You have successfully completed this module!



Summary of acquired skills

1. You know the design principles of addressing the impairments related to old age and dementia.
2. You know which features should be considered while making home adaptations for people with dementia.
3. You are confident to indicate changes in each room to make a home dementia-friendly.

Suggested literature:

- Brawley, E. C. (2006) *Design Innovations for Aging and Alzheimer's*. Hoboken, New Jersey: John Wiley & Sons, Inc.
- Cohen, W., Weisman, G. D. (1991) *Holding on to Home: designing environments for people with dementia*. Baltimore & London: The John Hopkins University Press.
- Warner, M. L. (2000) *The Complete Guide to Alzheimer's – Proofing Your Home*. West Lafayette, Indiana: Purdue University Press
- Greasley-Adams, C., Bowes, A., Dawson, A., and McCabe, L. (2014*) Good practice in the design of homes and living spaces for people with dementia and sight loss*, University of Stirling, Dementia Services Development Center, UK https://www.housinglin.org.uk/_assets/Resources/Housing/OtherOrganisation/Demantia_sightloss_design_guidance.pdf
- Fuggle, L., (2013) *Designing Interiors for People with Dementia*, University of Stirling, Dementia Services Development Centre, UK

What is next?

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