

FEATURES OF THE ENVIRONMENT TO CONSIDER AND WHY

Nine Aspects that Affect Cognitive Abilities

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Introduction

In this handout are paraphrased excerpts from the *Cognitive Abilities and Intervention Strategies (CAIS): The Environment Questions to Ask: Additional Instructions for Response* by S. Weaverdyck. More details and specifics are available in other **CAIS Handouts** and in the *CAIS Questions to Ask and Intervention Strategies* regarding the **Environment**. There are additional CAIS Questions and Intervention Strategies regarding Cognitive Abilities, Communication, and the Task and Daily Routines. All of these can be individualized to a particular person and situation. They are all at <https://www.improvingmipractices.org>

These excerpts identify **nine** of the many **features of the environment** that are particularly relevant to a person's cognitive abilities and can play an important role in supporting those cognitive abilities. They also include **a brief rationale** for examining each of the nine features and for interventions that modify those features to increase support for a person's **cognitive abilities**. When these features do not support a person's cognitive abilities this person may have difficulty doing tasks, and can become confused, fatigued, irritated, angry, withdrawn, or anxious. Distressing situations can occur.

There are also many important **safety features** of the environment not mentioned in this handout, that must be evaluated.

This handout is a companion piece to each of the two *CAIS Environment Questions to Ask* response formats: the *Four Point Response Format* and the *Yes/No Response Format*. These **response formats include the questions** referred to in this handout. The questions are not in this handout.

The Environment part of the *CAIS Questions to Ask* is used to assess how well the physical environment uses the strengths and meets the needs of a person's cognitive abilities. It consists of questions you ask yourself as you observe the environment. Though the questions are based on brain functioning and specific cognitive abilities, you do not need to know anything about the brain or cognition to ask the questions or to examine the features listed here. The questions in the response formats are organized under these nine features. The brief rationale for each of the features is provided in this handout under the heading of each feature.

The features should be examined with a **particular person** in mind, since each person has different needs, strengths, and desires, and therefore, different requirements of the environment. They should also be **examined frequently** enough to accommodate changes in this person's needs, strengths, and desires. The specific questions in the *CAIS* can help you examine the features and can **suggest effective intervention strategies** (support strategies) that **modify the environment**, to help this person understand, communicate, feel comfortable, and to successfully accomplish a task.

This handout applies to **any person**. When the word "older" is use, it applies particularly to adults middle aged and older. The environmental features and concepts apply to **any room in any setting**.

Role of the Environment

A physical environment is supportive when it helps a person **feel comfortable** and **be safe**, **stimulates** this person to have **energy** and a **desire** to do something, tells them **what tasks to do** and **where things are**, and provides recognizable options for **things to do**. Examine these features to assess how well the environment supports a particular person at this time and how the environment is making it easier or harder for this person to understand, communicate, and to perform tasks.

The environment has a major impact on **behavior**, on the amount of **distress** and **fatigue** a person

experiences, and on how easily and successfully someone can assist this person. Even when a person is sitting, apparently doing nothing, the environment can increase fatigue and confusion. Examining these nine features can help explore why a person is having **difficulty communicating** or **performing a task**, is feeling **distressed**, or engaging in behavior that others find distressing. They also suggest **intervention strategies**. Identifying specific features that need to be modified can help determine which interventions might be most effective in helping a person in a given moment, as well as helping them feel **happier** and function more **independently** in general.

I. CONTRAST: Look for contrasts in:

- Color intensities (dark against light)
- Amount of lighting (dim versus bright)
- Busyness (patterns versus plain solids, or commotion versus quiet)

Why? Contrast is usually helpful to any person with visual or perceptual needs. With normal age related sensory changes and differences in the brain's ability to recognize or perceive distinctions in the environment, items can blur together. A glossy white toilet against a light or white floor is difficult to distinguish, as is a white grab bar against a white tub or shower wall. Also, for the same reasons, items may be difficult to locate in space. Because brain changes might cause this person to respond easily to all stimuli, even irrelevant stimuli, it is best to highlight only the stimuli important for this person.

II. PATTERNS: Look to ensure there are no visual patterns that could:

- Be distracting
- Be misinterpreted
- Cause nausea or dizziness
- Camouflage an object

Why? Geometric or intricate repetitive patterns can make the floor and other surfaces look like they are moving or undulating which can alter the sense of balance or confuse a person with vision and brain changes. This person may be tempted to pick up figures or specks on the floor or on someone's shirt, thereby increasing the chance of falling or of being accused of inappropriate behavior. The floor should feel safe and other surfaces recognizable with no distracting stimuli. This applies to patterns on any surface, in clothing on themselves or on other people, in artwork, or on any objects included in this person's visual field.

III. CLUTTER: Look to ensure there are not:

- Too many objects in the environment
- Objects and information that are recognized or useful only to other people, and not to this person
- Objects that are too distracting, confusing, or overwhelming
- Objects, people, sounds, or unusual lighting that are overwhelming, confusing, or tiring, for this person at this time. These should be limited and selected to be helpful, useful, interesting, inspiring, and to offer choices to this person.

Why? A person's ability to tolerate clutter (excess items or stimuli) varies with preferences and with the type and amount of information this person's brain is able to process. This person may not be able to easily see a variety of objects, or hear a variety of sounds, or use or make decisions about each one. It is important to recognize this person's ability at this time, and to remove clutter as needed. Presenting items one at a time or only when needed may help. There can be a fine balance between clutter and stimulation. Background music, even when soft, can distract this person during a task if they have trouble concentrating, or it can prevent this person from hearing another important sound, such as your voice. Sometimes a mirror reflects too much light or movement that is blinding or confusing. Sometimes a person can't recognize themselves in the mirror and may think someone else is in the room. Bathrooms frequently have too many hygiene items. Identifying which

objects are dangerous will depend upon this particular person's abilities at this particular time. Objects are more dangerous when they are in abnormal or unexpected places (such as a knife in a craft cupboard) than when they are in normal places and used for normal purposes (such as a knife in a kitchen drawer used to peel potatoes).

IV. CUEING: Look for information this person:

- Can understand
- Can see easily without searching
- Can see without moving too much
- Recognizes through various senses of hearing, seeing, touching, smelling, and tasting
- Can use and trust
- Is stimulated by

Why? A cue is a signal or piece of information that can inform or prompt a person. Cues (such as objects, signs, notes, color, room décor) give information to this person about, for example, what to do, where something is, what an object is, or how to get help. The number and types of cues that are appropriate will depend on the needs and desires of this person at this time, so the appropriate number and types will change over time. This person may depend on the environment increasingly as their cognitive needs increase, so cues in the environment become increasingly important. The brain may have more difficulty figuring out what to do in the absence of cues or when the cues are unfamiliar. This person may depend upon the environment to literally tell them what to do, where to go, and sometimes even how to feel. If a dinner plate, a toothbrush, a bathtub, or a shower doesn't look normal or recognizable to this person for example, it can be confusing, and this person may not know what to do in this room. It can also be frightening, even when you try to explain what an object is and try to help this person understand it. The water in the tub may look much deeper than it is. Word signs may help if this person can read and if this person understands what they read. If this person has memory loss, cues must be repeated frequently to reassure and inform this person.

V. NORMAL: Look for objects and spaces that:

- Are familiar and recognizable to this person
- Match this person's history, preferences, expectations, culture
- Are in the normal, expected place for this person

Why? This person's brain may have difficulty figuring out something it doesn't understand, or adapting to change and unfamiliar objects, people, or circumstances. If something doesn't look recognizable or normal to this person, they may be unable to use the object or respond appropriately. They may also become frightened or anxious. Even minor changes or adaptations in an object or setting can cause this person to be distressed or unable to function. Even if this person seems to be used to an object, space, or place where an object is kept that is not normal, but has become routine, the abnormality could tax and fatigue this person unnecessarily.

VI. HOMEY: Look for spaces and decor that:

- Feel cozy
- Help this person feel comfortable and relaxed
- Look and feel like home
- Look and feel safe

Why? Since this person's brain may have difficulty remembering your reassuring words or understanding your words, this person may rely more heavily on nonverbal environmental indications of safety and supportive comfort for reassurance. Confusing, unexpected, or unfamiliar objects in the room may drain this person's energy as they try to make sense of the object. Spaces or objects that remind this person of past or current physical, emotional, or sexual discomfort, pain, or trauma may cause this person distress. The ability of this person's brain or body to regulate this person's body temperature may be erratic or altered in some way because of brain changes or differences, increasing this person's dependence on the temperature of the environment to

stay warm or comfortable. With normal aging a person usually feels colder than they used to, so for a room (particularly the bathroom during a bath or shower) to be warm enough for this person, someone assisting them will likely feel quite hot.

VII. LIGHTING: Look to ensure there are no areas where:

- This person has to work hard to see well
- This person's eyes are required to adjust because this person moves from light to dark or vice versa
- This person can easily misinterpret shapes and movement

Why? For any person with vision or brain changes, or with visual or perceptual needs, various aspects of lighting may be extremely important. Changes in a person's ability to recognize and/or locate objects may also occur with changes in vision or brain functioning. Vision also usually changes with normal aging. An older person may need three times more light to read than a teenager. An older person's eyes also may need more time and have more difficulty adjusting when they move from dark to bright areas and vice versa. They often need to wait awhile before they can begin to see again. Therefore, for most people increased lighting is especially important. Lighting should be bright, diffuse, even, and non-glaring, with no shadows or dim areas. Shadows and glare on the floor can easily be misinterpreted as wet spots, indentations, or changes in floor heights, because of changes in depth perception with brain changes and with normal aging. Side lighting removes the shadows on the face in the mirror. Removing the uneven lighting from open doors down hallways increases safety and reduces confusion.

VIII. TEXTURE: Look for varied textures that:

- Reduce noise
- Reduce glare
- Identify objects
- Are stimulating to touch

Why? Smooth shiny surfaces and floors cause light and noise to bounce and echo. The room becomes glaring and bright with light colored shiny surfaces. A person with brain changes may be hypersensitive to light, sound, or touch. Also, older people are usually sensitive to glare. In a large noisy dining room or in the bathroom when water runs, the noise with echoes can be overwhelming to a person with brain changes or a hearing aid or who has difficulty hearing. Background noise often prevents them from hearing. When a person has sensory loss and also significant cognitive needs, it is difficult for this person to compensate for their sensory loss by figuring out what someone is saying. Hence a person can become frightened or annoyed and unable to function well, even with verbal reassurance or direction. Sometimes there is an increased dependency on touch as vision and hearing or the ability to recognize and perceive becomes more difficult. Texture can reduce glare and echoes by absorbing light and sound, and provide information and interest. If this person is hypersensitive to touch, then adapting the material of clothing may be helpful.

IX. PRIVACY: Look for ways this person can:

- Be alone, but able to see and get company or help when desired
- Keep personal items away from others, but readily accessible when this person needs or wants them

Why? Even when a person has significant cognitive needs, they may retain a sense of modesty in a bedroom or bathroom, or during a meal if they sense their reduced ability to eat without being messy. Privacy also reduces distracting stimuli, such as background noise and excessive movement. Depending on the individual, having a place to go where there are doors that close and perhaps lock, windows that can be covered, and items safely stored can be very important. Reducing the number of people in a room to only those who are necessary during a task respects privacy as well as reduces confusion.