



***C.A.R.E. Ceramic Artworks to Raise Esteem and Employability***

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**(R2) A complimentary handbook with specific guidelines on how to engage and fully connect with the V.I. learners**

**September 2023**



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**Ceramic Artworks to Raise Esteem and Employability-C.A.R.E.**



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*About C.A.R.E. Ceramic Artworks to Raise Esteem and Employability*

Action type

*KA220-YOU - Cooperation partnerships in youth*

Priority

*YOUTH: Strengthening the employability of young people*

*Vision is the most complex and most objective of all senses. It administers us the most detailed feedback of the external world and registers simultaneously the position, the distance, the size, the colour and the shape of things. Yet, our vision does not work in total isolation since it is developed physically and psychologically in close correlation to other sensitive activities, in particular with tact and kinaesthesia, that is “a sense mediated by receptors located in muscles, tendons, and joints and stimulated by bodily movements and tensions (or the sensory experience derived from this sense)”. As children gain confidence in performing fine and gross motor skills and build a sufficiently diverse movement repertoire, they acquire a high level of movement proficiency that is positively associated with the quality of their psychomotor and cognitive health.*

*According to EBU (European Blind Union), there are estimated to be over 30 million blind and partially sighted persons in geographical Europe, which means an average of 1 in 30 Europeans experience sight loss. The average unemployment rate of blind and partially sighted persons of working age is over 75 percent, and lower quality of life due to disabling vision loss costs 130 billion Euros each year in the EU. Lost productivity in society due to higher unemployment among people with a disabling vision loss costs 45 billion Euros each year in the EU.*

*In children affected by visual impairment, the lack of one of the sensory ducts causes a delay in their main developmental phases. Usually, the blind children achieve quiet lately the consciousness of their own individuality due to the necessary, yet often excessive, support and mediation of their parents with the surrounding environment. Furthermore, the absence of visual information inevitably brings mobility problems as regards posture and balance. As a consequence, when socializing with people, disabled people tend to perceive themselves as not-enough and less interesting, which leads to the crumble of social identity.*

*To cover this gap, this project arises as a key opportunity for young people with visual impairment to unlock their potential as individuals, as artists, and as employees, through ceramic workshops and the enhancement of their psychomotor skills, as one of the foundations for development. After all, postural control brings new parts of the environment into view and into reach; locomotion makes the larger world accessible; manual skills promote new forms of interactions with objects, and motor skills involving every part of the body enhance opportunities for social interaction. Thus, motor skills can instigate a cascade of developments: perception and cognition, language and communication, emotional expression and regulation, physical growth and health, functional and flexible behaviour.*

## Introduction and purpose of the Handbook

The European project "CARE: Ceramic Artworks to Raise Esteem and Employability" aims to increase the chances of both social inclusion and labour integration of visually impaired young people (V.I), through their participation in ceramic workshops throughout and beyond the project. The processing of ceramics has in fact countless potentials and benefits that can contribute to the strengthening of both the intrapersonal and the interpersonal skills of visually impaired young people, thus contributing to their general well-being as individuals and as members of a group too.

Specifically, the following "**Handbook with specific guidelines on how to engage and fully connect with the V.I. learners**" is a useful and hands-on guide for teachers, educators and trainers who want to engage visually impaired young people, providing general advice on how to relate and how to provide very personalized teaching based on the specific needs expressed by the V.I young learners (learner-centered approach).

In the Handbook, a specific focus is on how to conduct ceramic workshops for visually impaired youth taking into consideration their specific needs and trying to encounter and overcome potential risks and criticalities. Specifically, the Handbook highlights a series of issues related to the management of emotions, the management of the materials, the management of risks, to give practical tips and useful recommendations for teachers who implement ceramic workshops with the V.I young learners.

## Typologies of Visual impairment

What is what: typologies

The foremost requirement for the process of vision is a fundamental element: light, a form of electromagnetic energy. This light enters our eyes and interacts with the photosensitive receptors positioned on the retina. This interaction initiates a sequence of events in which neural impulses are generated. These impulses traverse intricate pathways and networks within the brain dedicated to vision, collectively referred to as the visual cortex. The incoming light is further directed onto the retina's rear surface through the lens, which is known as the crystalline lens. The retina's receptors detect this luminous energy and, via a process termed transduction, convert it into action potentials. These potentials subsequently travel along the optic nerve.

In the realm of visual health, Dr. Ananya Mandal, MD, defines visual impairment as a "functional limitation affecting the eye or eyes, or the entire visual system." This impairment leads to a range of effects, including:

- Diminished visual acuity, causing a person to perceive objects less sharply than someone with a normal vision.
- Reduced visual field, wherein an individual cannot observe as broad an expanse as an average person without shifting their gaze or turning their head.
- Photophobia, an inability to tolerate or gaze at light.
- Diplopia, commonly referred to as double vision.
- Visual distortion, involving the deformation of images.
- Challenges in visual perception or the act of interpreting visual information.
- Combinations of the features.

As per the pronouncements of the World Health Organization (WHO), an individual is categorized as severely sight impaired, or blind, when the visual acuity in their best eye used for perceiving details remains below 1/20, even with the most effective correction. On the other hand, an individual is classified as sight impaired, or partially sighted, if their visual acuity falls between 3/10 and 1/20. However, this classification system

originates from two decades ago. More recently, the International Statistical Classification of Diseases and Related Health Problems 10th Revision (ICD-10) - WHO Version for 2016 has introduced a new classification scheme. This updated scheme outlines five distinct categories within Chapter VII: Diseases of the eye and adnexa (H00-H59), specifically focusing on Visual disturbances and blindness (H53-H54).

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## **H53** Visual disturbances

### **H53.0 - Amblyopia ex anopsia**

Amblyopia:

- anisometropic
- deprivation
- strabismic

### **H53.1 - Subjective visual disturbances**

Asthenopia

Day blindness

Hemeralopia

Metamorphopsia

Photophobia

Scintillating scotoma

Sudden visual loss

Visual halos

*Excl.:* visual hallucinations

### **H53.2 - Diplopia**

Double vision

### **H53.3 - Other disorders of binocular vision**

Abnormal retinal correspondence

Fusion with defective stereopsis

Simultaneous visual perception without fusion

Suppression of binocular vision

### **H53.4 - Visual field defects**

Enlarged blind spot

Generalized contraction of visual field

Hemianop(s)ia (heteronymous)(homonymous)

Quadrant anop(s)ia

Scotoma:

- Arcuate
- Bjerrum
- Central
- ring

### **H53.5 - Colour vision deficiencies**

Achromatopsia

Acquired colour vision deficiency

Colour blindness

Deuteranomaly

Deuteranopia  
Protanomaly  
Protanopia  
Tritanomaly  
Tritanopia

*Excl.:* Day blindness

**H53.6 - Night blindness**

*Excl.:* Due to vitamin A deficiency

**H53.8 - Other visual disturbances**

**H53.9 - Visual disturbance, unspecified**

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**H54 Visual impairment including blindness (binocular or monocular)**

*Note:* For definition of visual impairment categories see table below.

*Excl.:* Amaurosis fugax

**H54.0 - Blindness, binocular**

Visual impairment categories 3,4,5 in both eyes

**H54.1 - Severe visual impairment, binocular**

Visual impairment category 2.

**H54.2 - Moderate visual impairment, binocular**

Visual impairment category 1

**H54.3 - Mild or no visual impairment, binocular**

Visual impairment category 0.

**H54.4 - Blindness, monocular**

Visual impairment categories 3, 4, 5 in one eye and categories 0, 1, 2 or 9 in the other eye.

**H54.5 - Severe visual impairment, monocular**

Visual impairment category 2 in one eye and categories 0, 1 or 9 in other eye.

**H54.6 - Moderate visual impairment, monocular**

Visual impairment category 1 in one eye and categories 0 or 9 in other eye.

**H54.9 - Unspecified visual impairment (binocular)**

Visual impairment category 9.

As depicted on the WHO website, the provided table presents a categorization of the severity of visual impairment that has been endorsed by the International Council of Ophthalmology's Resolution and the guidelines put forth by the WHO Consultation on "Development of Standards for Characterization of Vision Loss and Visual Functioning".

Category	Presenting distance visual acuity	
	Worse than:	Equal to or better than:
0 Mild or no visual impairment		6/18 3/10 (0.3) 20/70
1 Moderate visual impairment	6/18 3/10 (0.3) 20/70	6/60 1/10 (0.1) 20/200
2 Severe visual impairment	6/60 1/10 (0.1) 20/200	3/60 1/20 (0.05) 20/400
3 Blindness	3/60 1/20 (0.05) 20/400	1/60* 1/50 (0.02) 5/300 (20/1200)
4 Blindness	1/60* 1/50 (0.02) 5/300 (20/1200)	Light perception
5 Blindness	No light perception	
9	Undetermined or unspecified	
	* or counts fingers (CF) at 1 metre.	

Figure 1: categorization of the severity of the visual impairment (Source: (ICD-10 Version:2016, n.d.))

*“Note: The term visual impairment in category H54 comprises category 0 for mild or no visual impairment, category 1 for moderate visual impairment, category 2 for severe visual impairment, categories 3, 4 and 5 for blindness and category 9 for unqualified visual impairment. The term “low vision” included in the previous revision has been replaced by categories 1 and 2 to avoid confusion with those requiring low vision care.” (ICD-10 Version:2016, n.d.)*

Visual impairment represents the big umbrella to cover all previous categories (blindness and partial sight) in H54. However, the intricacies of each case are distinct. Only a minority among those registered as blind or partially sighted lack any form of vision, while varying eye conditions react diversely to factors like shifts in lighting. Some individuals might have the ability to read but require assistance for safe mobility. Whatever the condition, the best approach to ascertaining a person's visual ability is to ask them when they are alone and discuss with them how they would prefer to be supported" (VISION, n.d.)

#### Virtual examples

Before we proceed with providing instructions and guidelines for engaging with visually impaired (V.I) students both within the education system and in ceramics workshops, it seems appropriate to offer sighted users of this training program an insight (through examples) into the potential visual experiences of individuals with various types of visual impairments.

The following slides, crafted by the SIGMA team, illustrate how individuals with specific eye conditions might perceive a given situation differently compared to those with full sight. It's important to acknowledge that we can't precisely comprehend the visual experiences of others, and these slides serve as an approximation. As noted above, the way people understand an object is influenced not solely by their visual input, but also by how their brain processes and interprets visual information.

Here below, a general introduction to the different types of vision:

1.	Full vision	No problems – clear image, free movement, can see detail and distance	<ul style="list-style-type: none"> <li>• No eye condition present</li> <li>• Short or long sight corrected by glasses</li> </ul>
2.	Tunnel Vision	Good central vision, no peripheral (side) vision – need to scan to find the target and to move around	<ul style="list-style-type: none"> <li>• Retinitis pigmentosa</li> <li>• Glaucoma</li> </ul>
3.	Peripheral vision	Good peripheral vision (around sides) but no central vision – need to position target within clear area of vision	<ul style="list-style-type: none"> <li>• Problems with the macular (e.g. macular degeneration)</li> <li>• Stargardts</li> </ul>
4.	Patchy vision	Interrupted field of vision, resulting in missing pieces – need to position target within clear area of vision	<ul style="list-style-type: none"> <li>• Diabetic retinopathy</li> <li>• Optic atrophy</li> </ul>
5.	Blurred vision	Blurred image due to rapid eye movements (side to side / up and down / rotating) – may need time to focus	<ul style="list-style-type: none"> <li>• Nystagmus</li> </ul>
6.	Reduced visual acuity due to poor contrast / light	Difficulty in distinguishing detail and targets at a distance – may need more time and more light	<ul style="list-style-type: none"> <li>• Cataract</li> </ul>
7.	Reduced visual acuity due to too much light	Difficulty in distinguishing detail – may need blinds drawn, dark tinted glasses, sit with back to light source	<ul style="list-style-type: none"> <li>• Photophobia</li> <li>• Albinism</li> </ul>

Figure 2: Subsequent eye diseases by slide group (condition) (source: (VISION, n.d.)

Based on these different types of visions and visual impairments, what are the main barriers they encounter when being part of a group and interacting with others?

What are the main barriers they usually encounter when moving into new spaces and during their experiential learning (thus using the 5 senses) within ceramic workshops?

### **Barriers when experiencing team building within ceramic workshops.**

For V.I youngsters, the difficulties in this situation can encompass:

- Identify your team and their positions, but also understand other feelings because of the impossibility to recognize facial expressions and body movements/gestures etc. So, there is a big problem linked to social interactions.
- Move in the room, while avoiding obstacles and physical barriers, but also security linked to the use of dangerous materials.
- Staying informed about changes in team members, such as someone leaving or joining.
- Knowing when to take your turn in the discussion or activities.
- Requiring additional time to access visual materials, such as cards on presentation slides. Need to ensure the accessibility of all materials, in accessible formats (electronic text or braille) avoiding standard printed materials.
- Requiring assistive technology, for instance the use of screen readers and braille displays. In general, tactile and multi-sensory experience are strongly recommended. These processes enable the blind and visually impaired to construct and elaborate personalized patterns and structures for memorizing information in an easier way.



**Tunnel vision - loss of peripheral vision**



**Peripheral vision - no central vision**



**Patchy vision – missing areas**



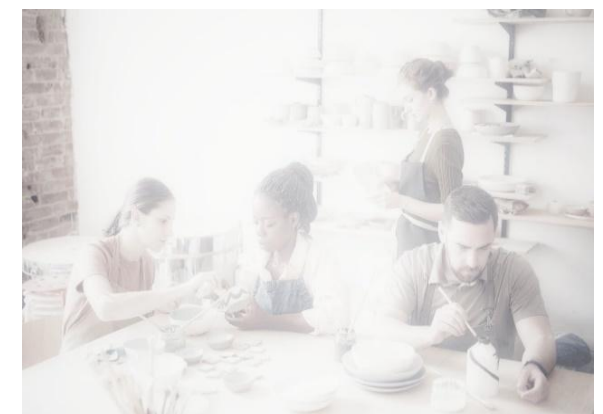
**Blurred vision - Nystagmus**



**Reduced visual acuity – poor contrast**



**Reduced vision - too much light**



**Barriers linked on how to manage space and recognise objects within a ceramic workshop**

For the V.I youngsters, the difficulties here may include:

- Object detection and recognition. To overcome this problem, blind people often just use their memory and labeling systems to help them locate and recognize objects in space.
- Recognize objects that are similar in shape or recognize linear patterns of objects.
- Perception of correct shapes of objects.

Pay attention:

- a) For a visually impaired person, knowledge of a space and the objects in it presupposes a mental representation that is built through a long and laborious process of collecting and reworking data (thus using memory and mental faculties) and it will be acquired mainly through tactile exploration.
- b) For a visually impaired person, the location of the objects is very important. Ensure that the objects in the classrooms are always located in the same place, so that the V.I students don't have to continually change the acquired references (in terms of where the object is located), reorganize the information they obtained before and change their spatial map of reference.



**Tunnel vision – loss of peripheral vision**



**Peripheral vision – no central vision**



**Patchy vision – missing areas**



**Blurred vision - Nystagmus**



**Reduced visual acuity – poor contrast**



**Reduced vision – too much light**



Sum-up matrix for teachers on how to behave correctly in order to meet the needs of their V.I youngsters.

**Introduce the learning environments and the people in it!**

- Introduce yourself as a teacher.
- Explain your role in providing individual support and emotional assistance if needed (ask the visually impaired person if he/she needs your help).
- Explain the learning environment to your V.I students (where the objects are located, how the team is composed by possible physical barriers and how to avoid dangers when moving into a new space).

**Ensure that everyone is correctly informed about possible risks and security measures to be faced!**

- Let them touch you if they need your guidance.
- Be ½ step in front of them, so that they can follow you easily.
- When walking with visually impaired individuals, talk to them comfortably and inform them about the buildings and the marks.
- To describe your path, use words, like front-back, left, or right.
- When you are stepping away, you should announce it.

**Ensure emotional support and promote positive relationships within the group!**

- Ask them directly without hesitation about their preferences and their hobbies or whatever you want to ask them considering their disabilities.
- Explore their feelings in order to be able to understand possible conflicts or bad feelings that can occur during the workshops.
- Talk to them in a natural tone of voice, avoiding stress and anxiety. Try to adopt positive behavioral and motivational speech.

## General guidelines on how to engage V.I learners

To approach the visually impaired participants in education we need to look at all the angles of learning. This includes activities, verbal communication, emotional communication, and areal communication to avoid their social isolation and ensure greater social interaction.

From the above categories, information and guidelines regarding visual impaired individuals' education have been collected, gathered, and presented in this handbook.

Proper education and inclusion of students require appropriate preparation by teachers in every lesson or encounter with children with different needs. Proper education and inclusion of students require appropriate preparation by teachers in every lesson or encounter with children with different needs. Secondly, continuous development, planning, learning, finding, and distributing support materials and strategies in the classroom helps all students not only personally, but also locally, regionally, and nationally.

Blindness has been shown to be a **major stress factor**, as it causes an uncontrollable feeling of "hopelessness". This feeling seems to make its appearance when the individuals realize that the events in their everyday life are independent from their actions, and they often develop a sense of dependency on others and loss of their own autonomy and self-esteem. This may explain the "Emotional Instability" observed in many blind individuals.

Here below some useful tips and instructions for teachers on how to foster learning in their V.I students.

### **1) Enhance social interactions and interpersonal skills, ensure accessibility and avoid social isolation**

- Providing a wide variety of tactile learning experiences
- Alternative activities/exercises such as AudioBooks and Podcasts, nature exploration, and volunteering amongst others, can be applied in the educational process.
- If you need to place a programme of activities in the room, have it on large bright cardboard, with enlarged letters, 3D shapes or in Braille format.
- Use assistive technology, e.g. braille displays and screen readers (also available in Word documents)
- Give more time to workshop exercises and activities and be patient.
- There should be willingness and kindness from the assistant trainers to support blind people.
- If the activity includes texts, flip charts, or every "writing action" remember to make big letters and phrases in the matrix-flip chart in order to be understood by all participants. Also, if you use large cardstock remember that color contrasts are most helpful for the vision of a visual impaired individual.
- In case that pictures, photos, and papers must be printed enlarge them to assist the participants.
- Show tolerance and understanding when students are in a stressful situation doing an activity or getting to know the place and other people.
- Do not keep asking students if they need help as it can disrupt their independence. Instead show them that they are in a safe space, physically and mentally, to ask for help on their own.
- If you do not know how to do something, don't hesitate to ask them how to do it - they are the experts!

### **2) Enhance nonviolent and positive communication**

- Teacher-trainers-assistants should always call the participants by their names and avoid words such as "you", "child", but also identify their identity, for example, "Hi John, I'm Zoe your teacher, how are you today?"
- The voice and speech of the assistants/teachers should always be calm and understandable.
- Encourage direct dialogue between the participants. Use normal tone and volume when addressing them.
- Do not use abstract phrases. Be as specific as possible, e.g. John, please give me the pen.
- When asking for something to be handed to you by visual impaired or visual impaired student/participant stand either to his right or left. Never stand behind him so that he understands from which direction the "sound wave" is coming.
- The assistant instructor should always ask the participant if she/he needs a description of the space that they enter.
- Using simple and understandable words and phrases and avoiding "bad" concepts and words.
- The teachers/instructors should always announce themselves when entering a room/space, so that the participants are aware of their presence.

- Use descriptive words, such as left, right, front, back.
- Describe completely visual details about the game activities.
- Verbally ask the visual impaired participant/student if he/she wants to enter or leave a conversation.
- In addition to identifying yourself with a visual impaired participant or student, also identify those that are present next to you or around you, e.g., Hi John, I'm Zoe, Maria and Julio are also here.
- You don't have to speak loudly to a visually impaired person.
- If the visual impaired individuals don't know a word you use, spell the new word or scientific terminology out loud to help the participants learn it.
- Speak directly to them - not to their helper. As said above, use their name first of every communication-conversation.

### **3) Boost emotional intelligence and explore intrapersonal skills.**

Emotional education is one of the most important parts of the workshop. It must be made clear to the participants that they did not come to the workshop to compete or to be judged but to develop their emotional, communicative, cognitive, and motor skills. The main objective is also to develop the imagination and entertain the participants.

Visually impaired participants need to learn or know:

- The uniqueness of each person
- To identify their feelings
- To identify their feelings and express them in a direct and socially acceptable way.
- How to develop their psychological and emotional aspects such as self-esteem and well-being.
- Understand and recognize teasing and ways of dealing with it.
- That they are valuable members of society.
- How to comfortably ask for the help of others, without shame, when they need it.
- How to refuse the help of others when they do not really need it, when there is pressure from the individual offering help.
- To develop a sense of self-advocacy
- To know that they are strong and can achieve anything.

#### *Don't be afraid to speak your mind!*

If you really like what the participant is drawing, painting, or creating, try to help them verbally by complimenting them on their work or handling. If you see that he is struggling, ask him if he needs help.

If he asks your opinion and you don't like the piece of work you can politely give an alternative if there is time (we all love honesty and jokes, if there is politeness and good humor!)

### **4) Ensure an inclusive and accessible learning environment for all.**

- Describe the workshop environment, tools, and the necessary equipment that participants will use to become tactilely familiar with the space.
- The pathways of the workshop should be clear, and the doors should be fully closed or fully open.
- Materials, supplies and equipment should always be in the same place.
- The blind participant should always be asked if he/she wants you to describe the space he/she is entering or to discover it on his/her own by guessing, playing the game of True or False, if time is available.

- When approaching a door with the assisted person, he/she should mention it and which side (right or left) it opens from.
- Inform the participants when they are going up or down stairs. Stairs should only be approached in a straight way. If necessary, go in front of the stairs and help the blind participant to reach the wall or handrail (if he/she has one) and slowly find the first step.
- To help a blind or partially blind person sit down: Approach a chair from the front so that he or she can touch the chair and tell him or her the type of chair, e.g., armchair, bench, rocking chair, and so on.
- Have the participant sit or stand away from the light source.
- Be aware that the visually impaired student has difficulty adjusting to sudden changes, from bright to dark environments, and vice versa.

It is of utmost importance to seek feedback from every visual impaired participant/student. This feedback will help us to better understand the activities we plan to perform, the whole project process and the appropriate training perspectives for each activity and equipment. In addition, it will provide valuable insights for both the individuals involved in the project and the trainers.

### **5) Encourage kinesthetic learning.**

Visually impaired participants can enhance their kinesthetic skills, especially touch, and so in order to understand and learn about the environment around them. Kinesthetic learning through the use of body and movements can also embrace a lot of benefits in terms of posture and ergonomic for V.I youngsters.

Here below some useful tips for teachers on how to boost kinesthetic skills in their V.I youngsters:

- He/she will explain about the correct posture during the workshops to avoid any injury e.g. all workshop participants must have a straight spine even if they are sitting. If a participant feels unwell or pain in their body, they should feel comfortable saying so in time so that they can be helped by the assistants and moved to another room or take a break.
- It will help the blind person to navigate the room and touch the walls the doors, the chairs if they wish slowly and steadily.
- During the tour, the assistant will describe the objects and the space around them in detail and steadily, so that the participant can take turns choosing the space he or she wants to understand.
- If the blind participant wishes, he/she can hold the shoulder or hand of the assistant.
- The assistant instructor will speak the name of each object touched by the visually impaired participant and provide the necessary exploration time on each tool.

### **6) Manage emotions, foster teamwork and mutual understanding within the group.**

Where there is the human factor, everything is fluid and there are a lot of feelings to be explored. In addition to "good days", we humans also face "bad" situations at times in our lives.

During the workshops or the whole training course in this project, situations of anger, anxiety, frustration, or shame may arise. It is also possible that there may be some disagreement between the people we are called upon to train.

To deal with or avoid such or similar situations, there must always be clear communication with all participants.

How can teachers manage conflicts and ensure participation and inclusiveness of all youngsters?

Useful instructions:

- a) **Provide individual support and personalize your teaching approach, taking into account the uniqueness of each V.I learner.**

In case a V.I learner is experiencing stress during a lesson, as a teacher, you should be able to provide individual support. You can start exploring the **inner feeling** of your V.I students, through a set of standard questions as follows:

- What happened?
- Do you want to draw on a piece of paper how you feel?
- Do you want to take slow deep breaths?
- Would you like to take the other person (if there is confusion between 2 or more people) to talk about it together?
- Do you want to walk around the block to discuss it? (If the facility is in a safe area)

- b) **Consider the uniqueness and strength** that we all have within ourselves, as individuals.

Try to understand and interact with your students and ensure positive and supportive speech.

- c) **Ensure positive behavioral support.** You can simply make a list of 3 or 4 phrases to help your students manage their emotions and avoid stress when interacting within a group, e.g. "I am ready to calm down and take control", "I can do it", "I am the best", "Honest conversation can solve everything".

In the case of major conflicts, it will be necessary to explore feelings deeper, and therefore the teacher should ask very specific and intimate questions such as:

- What exactly do you feel?
- Why do you feel this way, e.g., jealousy, shame, anger?
- How can you overcome this situation?

NB. Emotional assistance and support by the teacher should be well balanced and calibrated, in order to let the V.I learner be autonomous if he/she wants to. Sometimes, **too much input and new stimuli can lead to very negative consequences**. In fact, V.I learners could adopt mechanisms of defense, closure and opposition, which are difficult to deconstruct and deal with.

Furthermore, the well-known Dutch architect H. Hertzberger, who specializes in school construction, effectively explains that the learning space must contain a balance between conditions for connecting and conditions for concentrating ("finding a balance between conditions for concentrating and conditions for connectedness"): leaving alive the sense of belonging to a large community and offering niches and nooks that allow for individual or group activities.

Tailored learning approach based on haptic/tactile perception for V.I learners

To ensure the maximum success of an inclusive educational experience for all students, it is essential to create an effective learning environment that is comprehensive in terms of both pedagogical resources

(materials, personalized contents etc.) and teaching approach that will take into account the specific needs of every V.I learner.

Specifically, when dealing with V.I learners, it must be considered that their personal development and learning approach may follow different time frames than other students, and therefore it is essential to foster and consolidate haptic/tactile perception. In addition, it is necessary to ensure that the surrounding space is specifically adapted to their needs.

Making sure to set up an inclusive environment, where tools and resources are adequately accessible and usable, will be critical to promoting fruitful and stimulating learning for all students with visual impairment. The well-structured learning environment, capable of adapting to individual needs, will help to create a welcoming and inclusive educational environment in which every pupil will have the opportunity to develop his or her abilities to the fullest potential.

“Touching is learning”: a multisensory approach to foster inclusiveness of V.I learners

In the construction of the perceptual act of the blind person, touch plays a predominant synthesis function, but it is also joined by hearing and other senses during the exploration of the surrounding environments. As Cottini states (Cottini, 2008), "while touch allows the evaluation of the shapes of objects, hearing provides the blind person with criteria for direction and orientation." Consequently, it is essential to provide the blind child with motor education interventions that focus on structuring and integrating the body schema. This process allows the child to develop an "awareness of his or her own body enriched by the perception of space and attitudes.

The goal of such interventions is to provide the visually impaired child with the skills needed to understand the world around him, interact with it, and move independently and safely. This type of motor education is essential to foster the overall development of the child and to help him or her overcome the challenges associated with lack of vision, enabling him or her to fully participate in daily learning activities.

Children who are blind or visually impaired require specific aids to enable them to read and write independently. Among the most widely used tools are Braille code, raised materials, spoken books, and text-to-speech systems. In addition, they can benefit from a variety of technological devices tailored to the severity of their visual impairment.

When one of the sensory channels is impaired or missing altogether, our cognitive system demonstrates extraordinary plasticity, enabling the refined development of the other senses. In cases where vision is deficient or completely absent, the child will rely primarily on touch, followed by hearing, to orient themselves and learn about the world around them.

Making perceptually accessible and inclusive spaces for a child with visual impairment means creating environmental conditions that facilitate the development of personal autonomy, learning and social interactions.

In a classroom for example, there are immediately perceptible elements that suggest a certain way of thinking about educational action: the organization of space, the arrangement of desks and the desk, the use of walls, and the presence, or absence, of certain tools are some of the structural features that contribute to influencing the modes of action and relationship between the subjects living in that context.

## Tailored guidelines on how to ensure safe, accessible and inclusive learning environments for V.I learners during ceramic workshops

Ensuring a learning environment that is inclusive, safe and promoting well-being is one of the priorities identified by the partners of the CARE project. Specifically, through the creation of ceramic workshops, partners will involve young visually impaired people in new immersive and interactive learning experiences.

However, it is necessary to pay attention to the fact that carrying out ceramic workshops with visually impaired young people also involves potential risks, linked to safety, which must be anticipated and avoided as much as possible.

In the following paragraphs we will analyze the various **types of risks** in order to help teachers prevent them as best as possible during ceramic workshops.

We will also explore how to make sure that a ceramic workshop is as inclusive as possible, focusing on how spaces are managed to **ensure accessibility** to young visually impaired people joining ceramic workshops.

### Safety in ceramics workshop

Ceramics is a fascinating art that offers multiple opportunities for creativity and artistic expression. However, when working with clay, kilns, and tools, **safety must be the main priority**, especially in a workshop involving visually impaired people. This first part of the text will focus on the importance of safety measures in inclusive pottery workshops, where each step is adapted to ensure a safe and accessible environment for all V.I students.

⇒ How to guarantee safe and accessible environments for all V.I students?

The crucial first step in ensuring safety in a ceramics workshop for visually impaired and visually impaired students is to create a safe and accessible environment. This means removing physical obstacles from the workspace, ensuring that pathways are well-defined and free of hazardous objects, and making sure that all equipment and tools are organized in a systematic way.

Work surfaces should be tactually distinguishable, and the use of color contrast can help visually impaired students locate tools and objects more easily. In addition, it is essential that students receive adequate training in how to orient themselves in space in order to move around safely during the lab.

⇒ What kind of tools and equipment are the best ones for V.I students involved in ceramic workshops?

In the ceramics workshop for visually impaired and visually impaired students, it is critical to provide adapted tools and equipment to ensure that everyone can participate in the activities safely and effectively. For example, shaping tools and pottery wheels can be marked with raised labels or tactile codes to help students easily identify them.

In addition, some students may require tools with larger or smaller handles for better grip or feel. Adapting tools can ensure that everyone can participate meaningfully without compromising safety or quality of work.

⇒ How to ensure that everyone is correctly informed about all potential risks?

In addition to providing a safe environment and adapted equipment, specific training for visually impaired and visually impaired students is critical to safety. Students should be instructed on how to properly use the tools, ovens, and other equipment in the lab. In addition, they should be aware of safety procedures, such as the proper use of personal protective equipment (such as gloves or masks) and the safe handling of chemicals

used in the ceramics process. The lab teacher or supervisor should be well prepared to meet the specific needs of students with visual impairments by providing clear and detailed explanations, including through nonverbal language and the use of tactile descriptions.

⇒ How to prevent and mitigate the effects linked to hazard situations during ceramic workshops with V.I learners?

Every ceramic laboratory should undergo a risk assessment to identify and mitigate potential hazardous situations. This process is especially important in an inclusive environment, where the needs of participants can vary significantly.

Risk control should include identification of potential trip or fall situations, proper storage and use of materials and chemicals, and adequate ventilation of the kiln area to prevent exposure to noxious fumes.

#### Accessibility of the spaces in ceramic workshops

When setting up ceramic workshops, it is necessary to adopt some preventive measures and tricks that can facilitate the stay of visually impaired students within the workshops. In this regard, the environmental conditions of spaces and their accessibility and setting should be strongly ensured (beyond the safety and risk prevention conditions already described in paragraph 5.1).

How to create accessible ceramic workshops? How to structure the spaces, how to guarantee the right design and arrangement of the spaces?

Find here below some useful instructions:

- Place labels with high-contrast fonts on classroom furniture and surfaces can help students identify them more easily. Labels should be placed strategically, such as on the front of desks or the back of chairs.
- Create a tactile map of the classroom with reliefs representing furniture, desks, doors, and other features of the environment. This tactile map will enable students to gain a clearer understanding of the classroom layout and make it easier for them to navigate.
- Use color contrasts between walls, furniture, and floors can make objects more distinct and clearly identifiable to visually impaired students.

Provide tactile guides, such as tape strips or lanyards. These guides should be strategically placed to help students navigate the classroom. For example, they can mark safe routes and specific areas of the classroom.

#### Lighting design of a ceramic workshops for V.I learners

When considering a suitable environment for a visually impaired student, lighting plays a key role. Several characteristics of natural and artificial light sources should be evaluated, as well as the position and angle of the work surface and the arrangement of materials within the classroom.

The main objective is to ensure adequate light, without being excessive, where necessary, avoiding glare and properly distributing light in the different areas involved. For work involving close-up viewing, proper lighting is essential. Ideally, you should have a more focused light source above the work surface, along with more diffuse light to create an evenly lit environment.

Good lighting near the work to be done is just as important as lighting between rooms or from one point in the same room to another. After working up close in bright, focused light, it may be difficult to adjust quickly to an area with a lower lighting level, as the eyes need time to get used to a new light level.

In addition, it is important to consider the effects of natural lighting during the day, since it can affect both the amount of light present inside a room, as we will see later, and movement outside.

Therefore, proper management of lighting, both natural and artificial, is vital to creating an environment suitable for the learning and well-being of visually impaired children, considering their specific visual needs.

What are the benefits of ensuring daylight when carrying out ceramic workshops with V.I learners?

Daylight is a valuable source of illumination that is often underutilized. To make the most of it, certain tricks should be taken, such as using light curtains that allow light to pass through and keeping windowpanes clean and transparent. The arrangement of furniture is also crucial: it is important to position it so that it does not obstruct the flow of light from windows and minimizes reflections in the work area. One solution may be to let the light come from behind the shoulders. Table or floor lamps should be placed considering the suggestions previously given regarding the arrangement of furniture. If the lamps are fixed, such as ceiling or wall lamps, it is advisable to think of an alternative location that allows some mobility, especially when the days get shorter, and the amount of natural light will be reduced.

Care should also be taken with the placement of lamps near televisions or screens, as it may cause direct reflections to the eyes and a decrease in contrast and screen visibility. The overall level of lighting in the room depends not only on the lamps used, but also on the colors of the furniture, walls, ceiling, and floor. The colors chosen to affect the amount of light reflected within the room. Light colors such as light gray, cream, soft yellow, and white are highly reflective and can reflect up to 75 percent of the light hitting surfaces of such colors. Therefore, it is preferable to use light colors for walls and ceiling in order to increase the reflection of light within the space and enhance the contrast with furniture and furnishings.

However, one should be aware that a completely white room may cause disturbing reflections for some people with visual impairments. To further facilitate the orientation of people with low vision, one might suggest the use of a frieze or frieze at the top of the wall, at ceiling level, to facilitate the perception of the shape and size of the room.

#### Accessibility of the materials in ceramic workshops

Working in a ceramics laboratory requires special preparation, especially if you work with visually impaired people. This special preparation is due to two reasons.

First, it is important to remember that the life experiences of sighted and visually impaired people are very different. People who have not experienced a disability of one of the senses, or a mobility impairment are sometimes unable to imagine the different needs of people with different abilities and limitations due to their disabilities. This is not an accusation against trainers working with visually impaired people, but the result of life experience and habits that sometimes we simply don't think about. How can an able-bodied person know how much force it takes to open a door while sitting in a wheelchair if he or she has never experienced it? How can one know the range in physical space in which to lift an object from a wheelchair-bound position? How can one know how to roll out clay when you can't see?

That's why sometimes working with people with disabilities can be a new and surprising experience for the able-bodied. After all, we don't usually have to think about how to describe the sky or colors. In contrast, the CARE project workshop is a situation where we should be aware from the beginning that there are people

who have not seen the same things as sighted people. They may not have seen the different shades of the sky, they may not see the colors of flowers. Their experiences are an opportunity for sighted people to broaden their own horizons of thinking but require special thought and preparation.

The second argument for proper preparation for ceramic work with visually impaired people is the need to provide them with safe and comfortable working conditions. You need to remember that you need to prepare such working conditions that will meet the needs of the participants of our workshops but also allow us to have full control over the entire process of creative work with clay. This means that the trainer should be focused on the messages from the participants (do not rush, you need to allow enough time to help the participants and constant, valuable communication) and must be constantly present in the course of the ceramic workshop (do not leave the room in which we implement the workshop). In practice, this means that the trainer must be fully prepared for each training cycle, because during the workshop there will be no more time to bring additional teaching aids or equipment that we may need for ceramic work.

In addition, before implementing a ceramic workshop, let's ensure that all the following points have been met.

- you have prepared all the necessary materials for ceramic work: clay, pads, tools necessary for working with clay such as rollers, objects for imprinting patterns, sandpaper, etc.
- you have prepared articles to ensure hygiene and safety of work such as paper towels or hand wipes, a place where you can wash your hands, dressing materials in case of cuts, aprons and gloves to ensure clean work,
- you have prepared the exact scenario of the class and all the necessary accessories for its implementation, for example: if you use plants for decorating ceramics, you must have them prepared before the class, it will not be possible to collect them during the workshop, if you use recordings for the implementation of the class, have them prepared in advance,
- you have properly prepared the studio space for the implementation of classes,
- you have properly scheduled time to implement the work with clay.

Accessibility of the materials: specific handling of the clay

When working with clay, we need to take into account the time required for the next steps of the workshop. We begin our work with wet clay. However, we need to remember that clay dries very quickly, and the drier it is, the more difficult it is to form. Therefore, it is necessary to properly protect the material that we want to use at the next workshop. It is best to wrap the left clay over after the workshop tightly in foil. We must leave the work that our participants will do to dry completely. How much time this will take depends on two factors: the size of our products and the humidity of the air. Small reliefs will dry faster than large sculptures. The drying process will also be shorter when we work in sunny weather. In rainy weather, the time allotted for this stage will be longer. We need to plan for about 2 weeks for the drying of our participants' creations. The dried artwork should then be polished. Each participant should do this independently, using sandpaper. It is up to the artist to decide what the texture of the sculpture should be. Sanding does not take a lot of time but also requires planning. The sanded products require firing. Firing is a difficult and dangerous process. It also requires specialized equipment (ceramic kiln). This task is best entrusted to professionals - that is, professional ceramists working in their studios. The process of burning in a ceramic studio takes from 24 to 36 hours, but it is worth planning a minimum of 3-4 days for this. It also takes time to bring and collect the fired works. Depending on our plans, the next step in working with clay will be glazing. This is a stage that

does not require much time. Glazing involves painting the works with glaze, which is in the form of water-based paint. But the glazed works of art need to be fired once again. That's why it's worth remembering to plan a series of workshops with an adequate supply of the time needed to complete them.

Organization of the clay working space is a key thing. First, it is necessary to establish such an arrangement of furniture, equipment and work areas that will ensure freedom of movement and safety for visually impaired people. There are some rules that we know are of great importance in working with the visually impaired. First and foremost, as few stairs, floor paragraphs, and obstacles on circulation routes as possible. Cramped rooms make work difficult. All necessary accessories, tools and materials should be within reach of participants. But the most important rule of space organization is - once established the principle of space organization must be constant and unchangeable. Once established, convenient ways of arranging furniture and materials should be reproduced at each subsequent meeting. The space should not be reorganized at the next class, because the visually impaired participants will have to learn the rules of movement in the workplace on the fly. This is very important.

If you want to see if your idea of organizing the space is the right one, do this exercise: blindfold yourself and try to slowly walk through the workshop room, sit at the table and perform the basic steps of working with clay i.e.: reach for the clay, roller and clay working tools. If you succeed, your participants will do better because they have their own unique life experience. It's also a good idea to consult with your participants about the principles of organizing the space. Ask for their opinions and agree together whether something is worth changing. Perhaps everyone wants to have their own set of tools necessary for working with clay, perhaps they want to sit in different places. It's a good idea to talk about everything in the first class and keep these rules until the end of the course.

And finally. Think of your participants all the time. If you reach for a tool - put it back in the place you agreed on together. If you move a chair - put it away in such a way that it doesn't create an obstacle on the passageways. Remember that your participants may not notice a chair that suddenly appears in a new place than was planned.

#### Inclusiveness and personal growth during ceramic workshops with V.I learners

When implementing workshops with the visually impaired, we must be patient, open to other participants' needs, and follow the principle - time and speed of task completion are not important, good communication and mutual understanding are more important. The ceramic workshops are programmed in such a way as to strengthen the psychological, social, manual and professional competencies of the participants, and creative activities with clay are the background for each of the prepared thematic blocks. Working with clay is also intended to serve as a means of **mutual understanding, personal development, pride in one's own achievements** in ceramic art, and a source of pleasure. Clay has different faces, at first it is wet, then it is smooth or decorated with a pattern, after drying it is hard and rough, after firing it is strong and rough, after glazing it is smooth and cool to the touch. These are all sensory impressions worth talking about in order to experience them consciously. In addition, such conversations and sharing of impressions create a better and better atmosphere for cooperation. The longer you work together, the more the atmosphere of understanding and sincerity will deepen. The physical relationships between the participants and the trainer are very important here. Make efforts to develop them, so that workshop participants have confidence in you and each other and pay attention to the principles of mutual respect. Empowering our training tasks with psychological engagement mechanisms will allow us to achieve the goals of our project.

The most important task of the teacher is to achieve the stated goal of the class. For this to happen it is necessary:

- good substantive and organizational preparation of the trainer (setting the objectives and scenario of the class, proper organization of the workspace and space),
- proper, patient and effective communication with participants, and care for clear transmission of instructions, planned tasks and work rules.

Effective communication is a universal principle in the work of a trainer, but it is always worth reminding of some of its principles. In the CARE project we would like to pay special attention to these four rules.

- It is worth conducting at the first meeting the so-called "conclusion of the contract" of the communication rules and cooperation, note them down and refer to the mutually agreed rules. It is up to the participants to determine what is important to them and what they do not want to experience. Perhaps these rules will be surprising to sighted people. It is important that the group, together with the trainer, agrees to the binding "contract" in the course of the class and takes care to implement it.
- The trainer should communicate work instructions and training objectives clearly, and make sure everyone understands the task properly every time.
- It's worth prioritizing the time spent listening to each other and caring about proper communication in favor of knowledge transfer tasks or creative work. It is advisable not to rush. It is worth caring about the comfort of each participant, rather than implementing a planned lesson plan. Sometimes you have to give up something in order for the primary task to be accomplished effectively. It is worth being flexible.

In communication, the principle of openness, empathy and recognition of different points of view should be observed. In creative work, every solution is good, there are no right answers.

## Conclusions

This Handbook helps teachers to deal with visually impaired young people in order to bring out their needs, not only needs related to their specific condition but also needs related to how to express themselves more, and to exchange with the members of a group and so, feel more integrated and less socially excluded.

For this aim, preliminary knowledge by teachers on the different types of visual impairment and on the different teaching approaches will allow them to plan inclusive and accessible educational activities and curricula for all students.

Specifically, the involvement of visually impaired young people, V.I learners, in ceramic workshops is also presented as a non-formal teaching approach but with great benefits. In fact, the involvement of visually impaired young people within the group increases, through the workshop "experiential activity" that enhances the development of the senses, in particular touch. The use of audio materials and digital assistance tools (including assistive technologies) also makes it possible to counteract those barriers of learning and social inclusion linked to the absence of sight by the V.I learners, thus ensuring their active participation and team building.

Finally, the Handbook underlines the importance to manage spaces and create safe learning environments for V.I learners, in order to ensure that learning takes place in the right measures of safety and in the most congenial conditions for an audience with very specific physical, medical, psychological and psych relational needs.

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