

# SAILING COURSE ON DINGHIES FOR VISUALLY IMPAIRED PEOPLE

WHY IT IS  
IMPORTANT TO  
INCLUDE PEOPLE  
WITH VISION  
IMPAIRMENTS IN THE  
SAILING WORLD AND  
HOW TO DO IT  
SAFELY

99



# LETS - FEEL THE WIND TO FILL THE SAILS

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THIS PROJECT WAS  
BORN OUT OF A  
DESIRE TO INCLUDE  
THE BLIND AND  
VISUALLY IMPAIRED IN  
THE SPORT OF  
SAILING IN THE MOST  
NATURAL WAY  
POSSIBLE.

# 1 INTRODUCTION: LET'S CHANGE THE APPROACH ABOUT THE VISUALLY IMPAIRED PEOPLE IN SPORTS

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The FAIRPLAY "Massimo Bertoni" Amateur Sports Association has been operating for 15 years in the field of sports education for children in general (from 3 to 18 years old). The main characteristics of our philosophy are: multidisciplinary (especially in the 6-12 age group) and all the main positive characteristics of sport: learning to be together, helping each other, strengthening one's

character, setting goals and slowly reaching them, and avoiding competitiveness at an early age. We work as much as possible on inclusion and integration of socially weaker people with physical and intellectual disabilities, such as those on the autistic spectrum, amputees, psychosocial discomfort, deaf-mute persons, mental illnesses, visual impairment, and so on.



This project was born out of a desire to include the blind and visually impaired in the sport of sailing in the most natural way possible. In the collective imagination, excessive limitations are attributed to visual impairment compared to other disabilities such as paraplegia and autism, all this due to lack of knowledge. The Fairplay Association decided in 2009 to radically change this approach. Starting from the premise that the blind person has no physical deficit other than sight loss, the idea was to organise the sailing course in the most natural and optimal way, exactly as it is done with the sighted. The journey of many sailors begins on dinghies which, being lighter, have a more unstable movement that communicates much better to the other senses.

At the beginning, it was an experiment; we tried with two blind boys aged 12 and 13 to see if a dinghy, which can capsize, could create problems. But with good caution and accompanied by ANIOMAP instructors, we realized that with the right method any fear can be easily overcome.

The visually impaired can do everything: we took them climbing, to adventure parks, skating, water skiing, and even on a motocross. Their ability to use the other senses is astounding — I learn something new from them every single day.

Today, through this Erasmus + Sport project, we want to expand this type of approach to other sailing clubs to give blind and visually impaired people the possibility to become active in them. We would like to see blind sailors have the opportunity to get to top-level sailing. But most importantly, we would like to present the interesting world of visual impairment, from which we can all learn the infinite abilities, developed in the absence of sight, of the other senses.

I firmly believe that working with blind people would benefit many high-level instructors enabling them to think in new terms when training their athletes.

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This manual is dedicated to Oscar Bonsembiante, a man with a bright soul who died tragically at the age of 35 in a mountain accident. Without his course on skiing for disabled people, I would never have taken this approach.

**DRUSO NORDIO**  
**ASD FAIRPLAY**



## 2 VISION IMPAIRMENT

THERE ARE 285 MILLION PEOPLE WITH VISION  
IMPAIRMENT IN THE WORLD. OF THESE, 39 MILLION  
ARE BLIND.

”

Blindness is defined as the complete lack of vision; according to the IBSA (International Blind Sports Association) this condition is indicated with the abbreviation B1. An athlete in this category has no light perception in both eyes or is otherwise not able to recognize the shape of objects.

Low vision is defined by the WHO as presenting acuity of less than 6/12 in the better eye. The degree of disability of these two conditions is directly proportional to the earliness of onset.

Although blindness in its seriousness is a well-recognized condition, this is not the case for those with low vision: people with this condition are somehow more difficult to identify.

A visually impaired child needs to grow up in a stimulating environment, especially from a tactile point of view. It is very important not to create around him an environment that is not very stimulating, aseptic, and dangerous; to do so makes him more dependent on the people around him, transmitting to him our anxieties about an unsuitable environment. Offering the most varied possible range of perceptive and motor experiences is the basis for starting a constructive knowledge of the world: touching, passing under, over, catching, throwing, hitting with hands and feet, everything must be experienced, at the cost of falls and bruises.



This aspect will be fundamental in sports, as it will not always be possible to have a safe environment. It will be up to the various professionals in his life to establish a relationship of trust and to create a stimulating environment so as to entice the child to try an activity.

For the blind, the spatial image is created on the basis of what he has touched, explored, verified, or heard; therefore, it is useful to help him explore the environment with questions such as:

WHERE IS THE SUN NOW, WHERE DO YOU FEEL WARMNESS? FROM WHICH DIRECTION DOES THE WIND BLOW? WHAT KIND OF TERRAIN DO YOU FEEL UNDERFOOT? DO YOU HEAR THE SOUND OF THE WAVES CRASHING AGAINST THE DOCKS OR CLIFFS? WHAT ROUTE DID WE TAKE TO REACH THE BOATS?

”

Requests must be well focused on the most important and significant stimuli and not on too many things. The child should learn early in life to adopt strategies to protect himself

from obstacles and to orient himself in space; early intervention by a specialist, the guidance instructor, is therefore of vital importance.





### 3 SPORT AND DISABILITIES

Being active is extremely important for people with any type of disability to improve their condition. Unfortunately, these people are often marginalized and left to themselves without finding someone who stimulates them to try and, more importantly, to persist in sports.

The effort and sacrifices that sports require to pursue goals helps young people identify their abilities and limits and to overcome the difficulties they encounter in everyday life, ultimately leading to improved independence and autonomy.

”

SPORTS THEREFORE HELP IN DAILY LIFE BOTH THE DISABLED THEMSELVES AND THE PEOPLE WHO LIVE WITH AND AROUND THEM. WE COULD EVEN SAY THAT IT HELPS THE WHOLE SOCIETY, WHICH OFTEN HAS DIFFICULTY UNDERSTANDING ALL THE FACETS OF DISABILITY AND WHICH UNFORTUNATELY OFTEN SEES DISABLED PEOPLE AS A SOURCE OF PROBLEMS.

Taking part in sports contributes to socialization, encourages people to participate in public life, and improves solidarity and respect for others. It promotes tolerance, acceptance, and respect for diversity toward others. Sports can make an important contribution to intercultural understanding, combat racism, xenophobia, sexism, and other forms of discrimination or social prejudices, playing that fundamental role for social cohesion, especially among disadvantaged people.

The will to start or try any activity by people with disabilities derives exclusively from their internal motivation, which can have various origins — to stay healthy, to test themselves, to have new experiences, to meet people — but it will rarely be at the will of someone else who pushes them to participate in sports.

This should make us reflect on how we approach a disabled person, since the first obstacle they will face will not be learning the sport, but rather our excessive concern that such learning will only slow them down and perhaps lead them to doubt that they can do it.

The truth is that blind people can safely go sailing, skiing, and snowboarding, they can ride a dirt bike, and do so much more. But these are activities that, in all likelihood, many disabled people will never try in their lifetime.

Who can make the difference is us, the sports workers. If we believe in them, it will be easier to encourage them to believe in themselves. If we are convinced that they can sail by themselves, they will begin to believe it too.

In order to help the visually impaired to carry out all these activities, however, it is necessary to acknowledge the possible dangers that normally do not arise with sighted people. We have to be much more careful, as vision-impaired people often do not have a well-developed sense of danger and can easily throw themselves into things without fully assessing the situation.

Another thing to be very careful about, especially if you are in unprotected environments and with the presence of other people, is to make yourself clearly visible and inform other people of the presence of people with a disability. In fact, blindness it is a pathology that is not clearly identifiable, especially if you are on a boat. It is a safe practice for visually impaired athletes to wear a t-shirt with the word BLIND prominently displayed over the life jacket. It is also advisable to indicate blind people on board on the mainsail, using one of the most common symbols (a crossed eye, a person with a cane, or simply the word "blind").





## 4 SAILING SCHOOL FOR THE BLIND AND VISUALLY IMPAIRED

OUR PROJECT TOOK PLACE IN TRIESTE, ITALY, IN THE TWO-YEAR PERIOD 2022–2023. THE COURSE WAS DIVIDED INTO THREE LEVELS: BEGINNER, INTERMEDIATE AND ADVANCED.

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These guidelines are intended for sailing instructors; therefore, it is not our intention to present a sailing school program here, because both the contents and the teaching do not differ from the ones that the instructors use normally. The procedures are the same and the schedule as well, the main difference being that the visually impaired person needs more time.

We will present below the sailing course for the blind that we have organized as part of the Feel the wind To fill the Sails (LETS) project and our observations, hoping they will help anyone interested in welcoming the visually impaired into the beautiful world of sailing.



Our project took place in Trieste, Italy, in the two-year period 2022–2023. The course was divided into three levels, beginner, intermediate and advanced. The project wanted to offer beginners the opportunity to learn the basic techniques and at the same time help blind sailors to continue their sporting careers in this area. The course was carried out on dinghies, which was a well-considered choice. These little boats give the sailor a greater amount of information from other senses, especially about the movement of the hull.

Blind sailors can learn very well to understand this information and react accordingly. Furthermore, these boats can be easily capsized to allow complete tactile exploration of the underwater part and of the mast.

The course we carried out is quite unique in its kind for the types of boats used, but also for the central role assumed by participants: The blind sailors were the ones who gradually took over total control of the vessel and were not simply passengers with marginal tasks.



## 4.1 OBJECTIVE OF THE COURSE

The goal of our project is to encourage the integration and participation of people with vision impairments in activities normally considered off limits; in this, we were helped by qualified sailing instructors and professionals who specialized in autonomy, orientation, and mobility of the visually impaired.

The aim of the project was to allow people with vision disabilities of all ages to participate in a sailing course with learning objectives equal to those established for able-bodied people, through specific teaching paths. It is important to integrate the teaching with typhlodidactic aids (tools that use the tactile senses to explore the world when sight cannot be used) so that even a person with vision impairment can access theoretical knowledge and improve his skills.

## 4.2 THE INSTRUCTORS

### ENTER THE WORLD OF VISION IMPAIRMENT

In order to teach sailing (like any other sport) to a visually impaired person, you have to open the door and enter their world, which we culturally think of as dark but which is actually very much like ours, very colourful!

Therefore, entering their world simply means being open to giving more importance not to sight but to all the other senses. Empathy is the main ability we need to be able to relate to others, disabled and not; the key is learning to listen.

Before direct contact with a visually impaired person, however, it is better to learn some basic notions. As part of the LETS project, for example, all the sailing instructors began by following a theoretical and practical course directed by Italian Association of Instructors of Orientation, Mobility and Personal Autonomy (ANIOMAP) for people with vision impairments.



In this course, some basic topics have been explored:

- Understanding the terms blindness and low vision
- Mobility aids for a visually impaired person
- Accompaniment techniques (when to use them; general rules; why to use them; basic grip and position; narrow passage; pointing at objects; stairs; toilets; protection techniques)
- Exploration techniques
- Graphical representation and tactile exploration

To be able to imagine what it is like to be blind, the best thing is to experience it for yourself. During the course, the instructors blindfolded themselves to try to do the things they will later ask a blind person to do: go up and down the stairs, put on a life jacket, fill up a water bottle, rig the boat, and of course, sail. Only in this way can we understand what is perceived with the other senses and what obstacles there may be for those who cannot see.

Our experience has taught us that a course on how to approach the visually impaired is a prerequisite for anyone who wants to work with the visually impaired, so we advise all instructors to start there.





## HOW TO HELP A BLIND PERSON

Some people are born blind and have no idea what the world around them looks like. Many people lose their sight afterwards and remember what they saw. Some people are completely blind and see nothing, but most of the visually impaired can see something, even a vague sense of light. It is important to know if a person is completely blind or how well he can see, in order to help him adequately. If we don't know, we have to ask.

We list below some basic guides to keep in mind.

## HOW TO GUIDE A BLIND SAILOR

- Ask if he wants to be guided.
- If he says yes, extend your arm, allowing the blind person to grab you just above the elbow.
- Keep your elbow bent and close to your side so your forearms are in line.
- In this way, you should find yourself side by side, with the blind person slightly behind (those who "lead" must always walk slightly in front to ensure the safety of the guided person)
- Walk at a natural pace.
- When you change direction, the blind person will perceive the change from the arm and will react accordingly.
- In case of danger, warn the blind person of any changes in terrain and dangers overhead.
- When approaching the stairs or the sidewalk, stop to indicate the obstacle.
- Stop for a couple of seconds even at the end of the stairs or sidewalk and then take a slightly longer step to indicate the end.
- In the event that the blind person uses a guide dog, he can simultaneously hold the leash with his left hand and your arm with his right hand, or choose to grab the handle of the harness and order the dog to follow you.
- Describe distances in terms that will be appreciated by the visually impaired, such as: "There is an arm's length gap between the boat and the pier." Greater distances can be expressed with the time needed to travel them.
- When reaching for a chair for the blind, place your hand on the back of the chair (or seat or arm) to point to it and he will be able to sit down unaided.



## TWO VERY IMPORTANT RULES!

1

IF A BLIND PERSON IS ALONE, ALWAYS SAY WHO YOU ARE AS YOU APPROACH —DON'T PLAY “GUESS WHO.”

2

IF YOU LEAVE, ALWAYS WARN THE VISUALLY IMPAIRED PERSON! FOR A BLIND PERSON, IT IS HUMILIATING TO TALK TO SOMEONE, REALIZING ONLY AFTER GETTING NO ANSWER THAT HE IS ALONE

”

## 4.3 COURSE ORGANIZATION

The sailing course on dinghies ideally lasts five to six days from 9:00 a.m. to 5:00 p.m.

In this path of approaching or refining their knowledge of sailing, the participants are guided by sailing instructors who have specialized in teaching and accompanying people with different disabilities and by sighted guides. A good ratio between the number of instructors and students is crucial: we had a ratio of 1:1 — ten blind people and ten sailing instructors.

Between one sailing course and another, but also within the same week, it is not possible to pre-establish an exact program to follow, due to the large number of variables at work.

During the course, we rely on various aids to facilitate learning; however, the use varies according to the degree of disability, individual preferences, level of disability, and the weather (it is not always possible to go sailing). We prefer to set goals. At the beginning, we determine which goal would we like the individual to reach during the week. This helps us later assess whether there has been a real improvement, no improvement, or even a regression. Therefore, a diversification of the didactic progression should be used, which can be possible thanks to the favorable student/instructor ratio, in order to obtain the maximum progress despite the limited time available.





## 4.4 BOATS

The boats we used during the course were the Laser Bahia and the Laser 4.7.

The Laser Bahia is an ideal boat for sailing schools — a large and deep cockpit, internal benches, and a high boom — all of which represent a reassuring environment for the first lessons.

The space is ideal for a crew of two people (for example, a blind person and an instructor).

The Laser 4.7 represents the next step for advanced sailors; the blind person will be on board alone with an instructor following him in a coach boat.





## 4.5 WATER SKILLS

Before getting to the boat, it is good to understand what the student's level of aquatics is; for example, to understand if he is comfortable in the water or not. Having a minimum of aquatic skills is essential for every sailing school student, sighted or blind, so in the first days it is important to dedicate time to this element. The immersion ability (at least of the head for a few seconds) is also a skill to work on with the students during the initial stages.

It is easy and fun to learn this skill through activities such as swimming, canoeing (single and double), standup paddleboarding, and also windsurfing. These are all fun activities that allow the student to become familiar with the marine environment.



## 4.6 INSPECT AND MAP VESSELS

The first step in the learning process is to explore the boat. This aspect is very important, as people who participate in this course often have no idea what a sailboat looks like, either because they were blind from birth or because they lost their sight when they were very young.

The best thing is to start with a model boat that the blind person can fully explore with his fingers on a table. Subsequently, the model can be placed in a tub of water to show that it is floating and explain certain terms such as tilted boat, rolling, pitching, and capsizing.



After that, we can move onto the actual boat. Initially the exploration takes place on dry land with the boat placed on the trolley and under the guidance of the instructors. The guided inspection is meticulous; the boat is mapped in all its components using touch and hearing. We start from the hull, identifying the stern, the cockpit, and the bow, so as to begin to understand what the vehicle they will learn to drive looks like. During the external inspection, the students also find the rudder, a mobile and removable part of the boat. In this way, they will be able to consider the rudder and its purpose analytically; the same also applies to the centerboard. Subsequently, the students can get inside the boat, thoroughly exploring the cockpit area, which will be their location when they go out sailing. We can show them how and where to sit and how to change sides during a tack. This step is very important because the students must become familiar with the boat and must learn to move in a small space full of obstacles. Once they get a little familiar, we can let them map the boat independently, but remaining close so that we can be of support.

It is especially important to thoroughly explore the boom, which is a potential danger. The blind person must understand where it is and at what height and his possible movement once on the sea (how much it can move and in which directions).

This is essential because otherwise the student can easily forget about it and especially for a blind person, having an "unpredictable" element of danger can be a source of great anxiety and stress.

The time this step takes is very variable, depending on the student and his previous experiences; however, in the case of first-time students, in the first few days the mapping can be repeated several times to memorize the boat completely.

Once the boat is known in all its parts, it will be possible to start instructing the students on what they will have to do on the boat: how to hold the tiller, the concept of bearing away and luffing, hauling the sheet, and all the fundamental actions to navigation.





The position in the boat is a delicate subject as it is not intuitive to be seated on the edge, perpendicular to the forward direction. The beginner sometimes finds it difficult to understand that the boat does not move in the direction in which he would naturally look. At the beginning, it is therefore good to ask him several times to show the boat's heading with his arm. This difficulty is later overcome through practice, refining the sensitivity to feel the wind and the movement of the boat. The next step is to inspect the boat in shallow water.

This passage helps understanding that a part of the hull, the rudder, and the centerboard are immersed; to do this, it will be necessary to capsize the boat at ninety degrees, so that the students can easily inspect the centerboard, the rudder, and the mast all the way to the top.

Throughout this phase, the instructors play a central role because they are the "eyes" of the students and will have to guide them during the mapping. It is therefore essential to pay close attention in describing the environment and the objects that surround the students.

You must not take anything for granted because the more precise you are in guiding them in the inspection, the more the image they will create will be closer to reality, which will help them during the subsequent phases of learning.



A BASIC ASPECT IN  
LEARNING SAILING IS TO  
KNOW HOW TO RIG THE  
BOAT; IT IS IMPORTANT TO  
INCLUDE THE STUDENT IN  
THIS PROCESS TO  
GRADUALLY INCREASE HIS  
LEVEL OF AUTONOMY.



## 4.7 BRIEFING AT THE BEGINNING AND END OF THE DAY

Continuous dialogue with the students is important in order to reach a better level of teaching; this, however, will only be possible if a proper environment has been created where the student feels appreciated and safe. We can exchange views at the end of each day, but also during breaks and waiting times. These moments are the best because both the instructor and the student are fresh from what they have seen and felt. Discussing what has been good and what has not will help us understand if the perception of the level reached is the same, which is useful for planning the next step. If the perception is the same, we can discuss together how to go forward; if the student underestimates himself, it will be an opportunity to stimulate him, but he should not be pushed to do something for what he does not feel ready; such an action could be counterproductive.

The same goes if the student gets too much confidence due to a success he has just achieved, which does not necessarily mean that he has reached the appropriate level for the next step. In this case, it will be the instructor's task to make him aware that it is necessary to proceed step by step and not make big jumps — all without mortifying him.

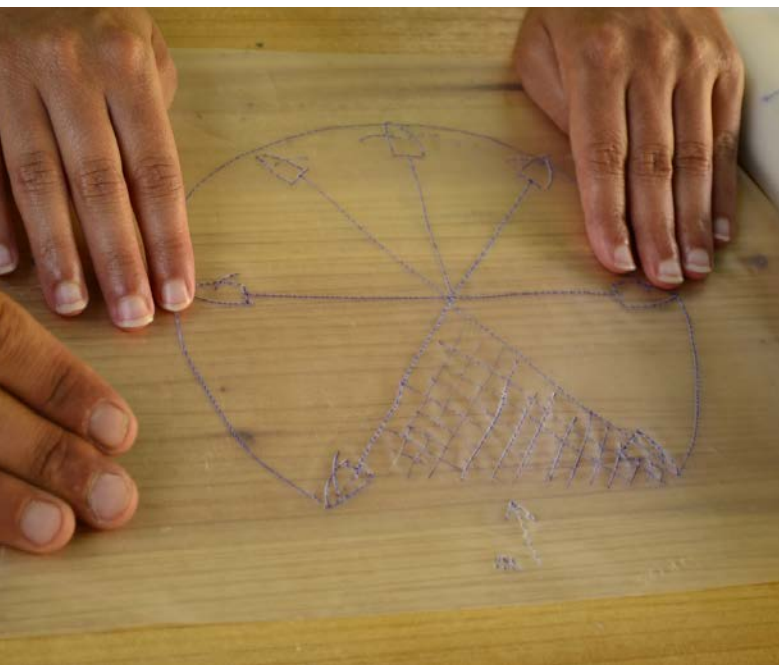
A continuous dialogue helps everyone involved: by listening carefully to the blind students describing their experience, the instructor will be able to learn a lot about the sensations they felt and the problems they encountered.

## 4.8 THEORY AND PRACTICAL AIDS

The phase dedicated to theoretical learning has variable timing, but we try to never exceed thirty minutes, so as to be able to take full advantage of the day for the practical part. Generally, the instructor–student ratio is 1:1. In this way, we can focus on the aspects that we need to work more on depending on the student; in doing so, we adapt the teaching technique to his preferences. The first few times, all the aids will be used, alternating them; then, where possible, the choice of the most congenial tool for the student will be preferred.

## RAISED LINE DRAWING BOARD

This is the first aid used. It is basically a drawing pad made up of transparent plastic sheets; by tracing a line with a light pressure, using a pen or a pencil, a relief is produced that is immediately perceptible without having to turn the sheet. This aid does not allow to obtain very precise signs, the relief is in fact slightly “wavy” and “curled.” The types of lines that we can draw is limited, and this can lead to a difficulty in differentiating different lines, complicating understanding and therefore slowing down learning.



## 2D MODELS

These are handcrafted and conceptually very simple tools. In this way, the understanding by the student is simplified and he is not distracted from the really useful information. These types of models are mainly used to explain the points of sail and how the position of the boom and sail changes during navigation.





### 3D MODELS

These are small boat models that have all the parts present on a real boat. We recommend using them first placed on a table for a thorough inspection, then in a tank of water to show which part of the boat remains underwater.



### SOUND BUOY

This aid is used in the most advanced phase of the learning process; as the name suggests, it is a buoy equipped with a loudspeaker that emits a repetitive sound. This buoy can be used to help blind sailors follow a course but has limitations in strong winds as well as other ambient noises that make locating the sound source more difficult. The sound buoy can sometimes distract from the main task, steering the boat, which happens more often with students with limited cognitive abilities.



## TACTILE COMPASS

The tactile compass works like the normal compass. The cardinal points are represented in relief on the dial and north is highlighted with an embossed arrow. However, this instrument has limitations when used on a boat: you have to stop what you are doing to check if the direction is correct and in this time you risk losing the reference point previously set and, consequently, your course.

## VOICE COMPASS

This is an evolution of the tactile compass; taking advantage of technology, you can transform your smartphone into a "vocal" compass. By downloading specific applications, you have a very useful tool. Operation is very simple: you set a course in degrees and at set intervals the app updates you on the direction you are keeping, and you can intervene to correct your course as needed.





## 4.9 PRACTICE AT SEA

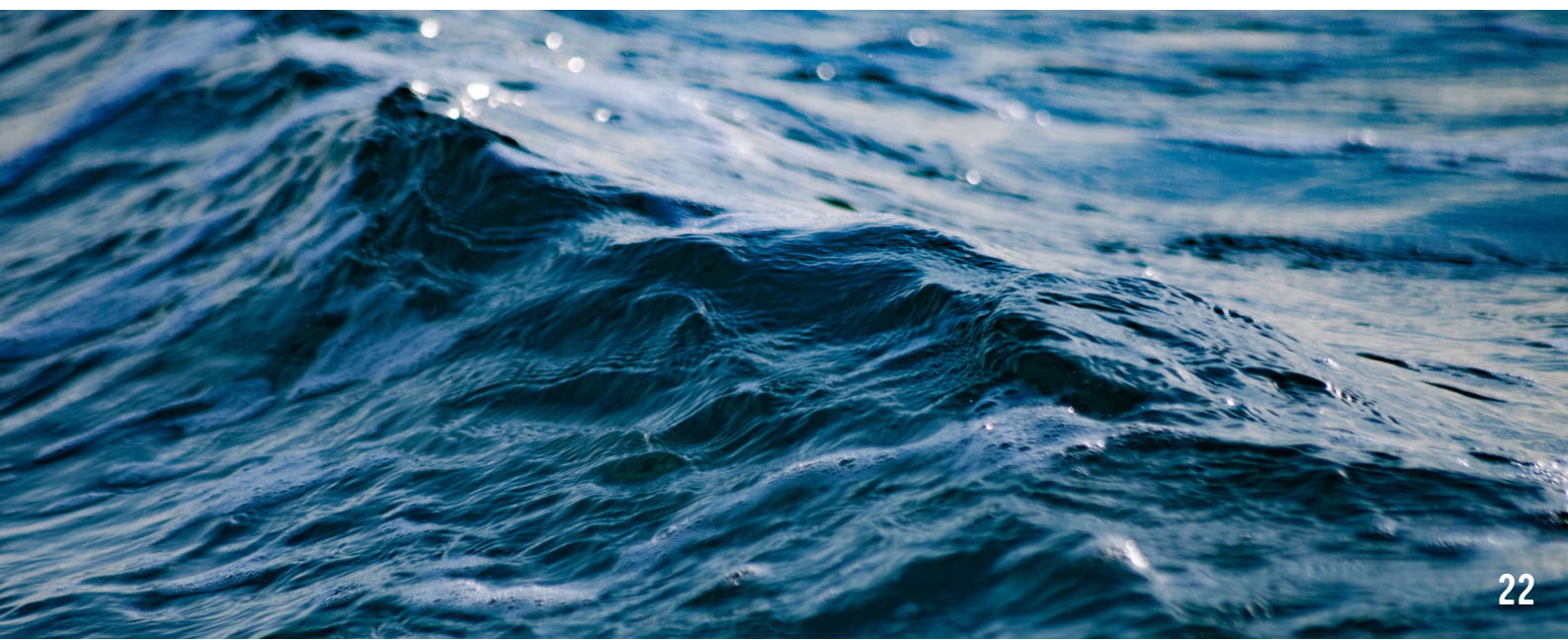
Having completed the inspections and having learned a few but important and fundamental basic techniques, the students finally take to the sea. This is the part that requires the most time, as you have to prepare the students perfectly for all phases, from rigging the boat to launching, to entering the boat and sitting correctly in the cockpit.

Our advice is to start with a doublehanded dinghy—for example, the Laser Bahia. Ideally, the crew on this boat is made up of a student and an instructor. During the first sails, the student will be immediately put at the helm, while the instructor will adjust both sails. Being a helmsman is not easy – the student needs to become familiar with the boat, understand how it reacts to the commands, quantify the strength and range of movements he needs to do in order to have full control of the boat, and so forth.

The management of the mainsheet is added later due to the difficulty of trimming the sail without moving the tiller and getting off course.

During the first sails, students should get used to feeling the sea and the wind and understanding how the boat behaves in various points of sail. One basic notion they need to learn is the into the wind position and to distinguish between apparent and true wind.

The sea with its wavy motion provides useful information about our point of sail and our speed. The student can develop the skill of feeling the point where the waves hit the hull. This information can be used to understand if our point of sail is the right one and if we are therefore going in the right direction.





#### 4.9.1 TOW BEHIND THE COACH BOAT

Our advice is to start with towing exercises behind the coach boat to learn how to use the tiller, to develop sensitivity, and to understand that to adjust the course the movements must be small—otherwise, the boat proceeds in a zigzag direction. The goal is to follow the coach boat focusing on the noise of the outboard motor and moving the tiller as little as possible. During this exercise it is important not to have other dinghies nearby, which could create confusion about the noise to follow.

#### 4.9.2 FIRST SAILS: EXERCISES FOR SAILING ON A BEAM REACH

The first sailing exercise should be done in a beam reach course. The bowman (instructor) adjusts the sails for sailing abeam, helps the helmsman to get on the right course and prompts him to focus on the direction of apparent wind, sun, waves, etc. All of these are additional information that can help the helmsman stay on course. We must underline the importance of knowing the direction of the wind and often ask where it comes from.

#### NOTE REGARDING SPATIAL ORIENTATION

It is important to understand that the visually impaired, not having all the same experiences, perceive spatial directions and the geometries in which they move in totally different ways. Generally, it is much easier for the visually impaired to understand and follow spatial paths that follow good geometric regularity (90-degree angles, straight lines, etc.), because they simplify the creation of structured mind maps. For example, in autonomous mobility on the streets, the blind person makes extensive use of various fixed and immutable reference points (light poles, shops, ramps or sidewalk interruptions).

This is important because the beginner in a boat will often find it difficult to maintain a linear direction when at the helm, and will try "desperately" to orient himself in the virtually infinite space of the sea, wondering where he is going, and what the coast is like.

At the beginning, it is important to try to give little and synthetic information on the surrounding marine environment so as not to overwhelm the student with knowledge; this part of the orientation can be addressed later.

Helping the blind person to ignore this lack of conventional points of reference can be very difficult. Let us remember that he depends on such spatial references for daily survival. For example, the novice student will try to find the condition where the rudder is centred and in addition he will think, more than the others, that this "centreing" condition will be immutable (if the rudder is always centred, I will always go straight on my course—which on a boat is not always the case).

### 4.9.3 LISTEN TO THE SAILS, HEAR THE JIB FLUTTERING

The “bubble” of the foresail is the primary information that the student must use to maintain the correct course. The able-bodied sailors help themselves by looking at the telltails, while the blind helmsmen must listen to the jib. As soon as they hear it fluttering, they know they need to bear off a bit.

It is interesting to note that the visually impaired usually perceive the “bubble” earlier than the able-bodied students, because they feel the slowing down and straightening of the boat before the bubble can be seen.

### 4.9.4 UNDERSTANDING THE APPARENT WIND

Another reference that students can use to understand if they are staying on course is the change in the direction and in the intensity of the apparent wind.

While sailing on a beam reach, we ask the student to luff up/bear away and observe how the apparent wind changes.

It is important to explain well the three forces involved: the apparent wind, the heel of the boat (perceived from the verticality of the body), and the speed of the boat (perceived by feeling/hearing the waves hitting the bow/side of the boat). To help the student think correctly, we must explain how the forces interact with each other:

- When the boat tends to luff up, the apparent wind increases and moves towards the bow, the boat straightens up, and the speed decreases
- When the boat tends to bear away, the apparent wind decreases and moves behind their back and then towards the stern of the boat, the boat straightens up, while the speed doesn't change much.

Also, when the student goes off course, we ask him to describe what changes he has noticed and therefore help him deduce if he is turning upwind or downwind.

This step takes a long time but it is important, so it is good to invest some time so that the student gets used to always noticing what is happening with the apparent wind and with the speed and heel angle of the boat.



#### 4.9.5 ADJUSTING THE SAILS

The following exercise highlights the importance of sail trimming for boat performance, speed, and heel angle. Sailing on a beam reach, the bowman releases both sails, to show how the boat slows down and reduces heel. Then he sheets the sails in again to the correct position and the opposite effect is noted. We can also demonstrate how sheeting the sails too much in slows the boat down.

#### 4.9.6 PERCEPTION OF THE INCLINATION OF THE BOAT IN RELATION TO THE INTENSITY OF THE WIND AND SEARCH OF THE LIMIT POINT OF THE BOAT BEFORE CAPSIZING

The inclination of the boat is a very important information for the blind person. For this reason, it is a good practice to have the boat always slightly inclined to leeward regardless of the intensity of the wind (if the wind is light, the instructor can incline it with his weight), at least at the beginning.

A fundamental exercise is the maximum heel — that is, the instructor brings the boat to maximum inclination to make the student feel how much the boat can be inclined before it capsizes.

Some students have difficulty perceiving the inclination of the boat, especially with little wind; it may be useful to advise the student to use his feet for a better feeling: he will place one foot close to the side where he is sitting (to windward) and the other to leeward, as far away as possible. In doing so, he will be able to perceive the difference in weight on each leg and will have less difficulty concentrating on the inclination, transferring this information to a more intuitive level.





### 4.9.7 TACKING AND THE MOVEMENT OF THE CREW INSIDE THE BOAT

Tacking is not easy. Therefore, it is important to explain it first on the simulator on dry land. Later on the water, the instructor repeats the steps to the student and asks him to try it. The first few times the instructor helps by suggesting the right moment to move onto the other tack, but with time, he will help less and less.

### 4.9.8 SAILING TO WINDWARD

Close-reaching does not represent a big problem for those who have already learned to sail on a beam reach. However, the student must still have time to observe the differences between this point of sail and the previous one learned (the inclination of the boat, the angle at which the waves hit the boat, and so forth).

### 4.9.9 BROAD REACHING, DOWNWIND SAILING, AND GYBING

Sailing dead downwind is to be avoided due to its dangers. However, the student must learn to recognize the moment in which the boat is dead downwind. The instructor will allow the student to perceive the point of broad reach to dead astern when the boat seems to stop and the jib begins to back, causing noise.

For these points of sail, the student will have to concentrate and feel even the slightest movement of the boat, in addition to feeling the waves and hearing the noise of the sails - or the silence.

To help the optimal adjustment of the sails for broad reaching, it is a good idea to have some tactile signs on the sheets.

For downwind sailing and gybing, it is necessary to teach the student to perceive the tension of the mainsheet. Only through this can the student understand in advance if the sail is at the point of gybing. The student perceives a decrease in tension on the sheet, which always represents the signal of danger. If with a slight steering correction, the sheet does not regain tension, it means that we are close to gybing – be it voluntary or involuntary.

In the event of an involuntary gybe, the instructor will only shout "Duck!", having no time for other comments. Blind people must know this emergency command and react immediately by lowering their heads. Running downwind presents the greatest difficulties, especially in light wind situations. To avoid involuntary gybes, instructors can skip this step and resume it after the helmsman has mastered all the other points of sail.

#### 4.9.10 ROLE OF THE BOWMAN

For beginners, we recommend working on the role of the helmsman, after which the blind students can also try their hand at the role of bowmen. For this task, it is important to have properly inspected the boat because it will be necessary to move quickly without getting tangled up in the lines and to know the position of the deck fittings, such as cleats. By making sure the students know the environment well in which they operate, we can help reduce the stress of having to move in a narrow space, full of obstacles and with the boom passing over their heads.

On a doublehanded dinghy, both roles (helmsman and bowman) can be taken by visually impaired sailors. At the beginning, the instructor can be on the boat with them, but gradually all the commands will pass more and more into the hands of the students and the instructor will remain in support from the coach boat.

#### 4.9.11 SAILING ON A SINGLEHANDED DINGHY

To continue the path towards autonomy, after becoming familiar with the basic manoeuvres, we can switch to sail on the Laser 4.7 (or another singlehanded dinghy). The Laser 4.7 is a lighter and smaller boat than the Bahia; it is much more

sensitive to the actions of the helmsman and of the waves and requires more attention. On the other hand, the Laser 4.7 is a mainsail-only boat, which makes it easier to handle. At first, the instructor may sit on the bow to give a sense of security to the blind student, but often this is not necessary. If the student seems able to manage the boat in total autonomy, the instructor will move to the coach boat to provide instructions and, if necessary, be ready to intervene.

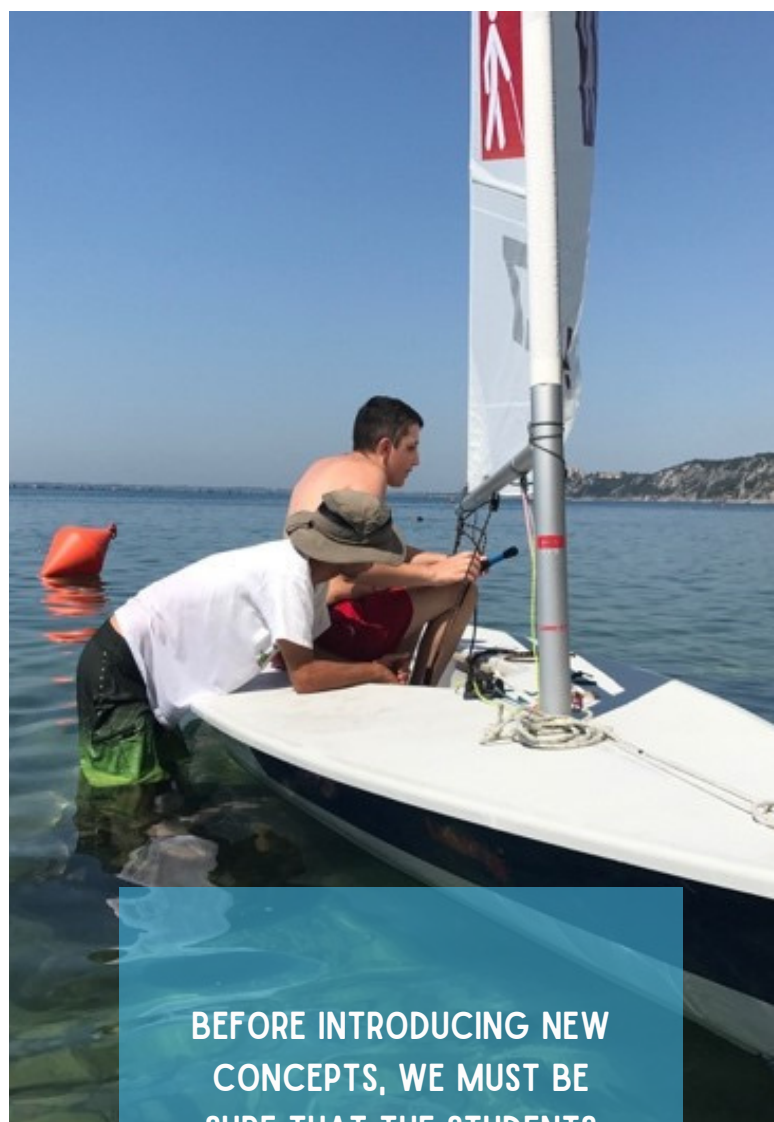


#### 4.9.11 ACHIEVING AUTONOMY

We advise our students to start singlehanding in the same way as doublehanding - on a beam reach. The goal will be keeping the right course and tacking without getting stuck in irons; being now on his own, the helmsman can find himself in difficulty with things he has actually learned well. To remind him of his abilities, we can move to shallower water, where the instructor can stand in the water near the boat to repeat the manoeuvres with the student, make small corrections, or explain advanced concepts.

Before introducing new concepts, we must be sure that the students have learned well everything that has already been done; if we think this is the case, we can introduce the use of the sound buoy. The use of this aid represents a great achievement for the students, because it gives them a reference to follow and, therefore, it helps them follow a direction. Unfortunately, there are also some negative sides to it: the sound is audible only at a certain distance and influenced by the wind and other noises. Then there is the factor of distraction. The risk is that the students turn all their attention to the buoy, forgetting to concentrate of the boat and subsequently make trivial mistakes.

The introduction of this aid must therefore be gradual and even when we start using it successfully, it is not necessary to use it on every lesson. The practical sessions need to vary to be interesting, so we should not propose always the same routine.



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## 4.10 SAILING SCHOOL ON KEELBOATS

As part of the project, we decided to participate in the largest regatta in the world, the Barcolana, with a mixed crew of seven blind sailors and five sailing instructors.

This is a regatta for keelboats only, which for us meant getting back to the basics. We introduced our students to a new type of boat, different from a dinghy both for the gear and for the behaviour during navigation. Again, we started with a thorough inspection of the boat and all its parts, especially the winches.

The boat we used had a wheel, so we also took the time to explain the difference from steering with a tiller.

The steering wheel is far less sensitive than the tiller, making it more difficult for blind people to handle.

Teaching sailing on keelboats is a separate chapter that does not fall within the topics of these guidelines. We would only like to point out that, based on our experiences, it is important that each crew member has sufficient skills in steering a dinghy before moving onto a keelboat.

The keelboat is, for a blind person, much more difficult to "feel" — students who can already sail a dinghy will be able to transfer their knowledge to a new setting, while beginners will have more difficulty.







FAIR WINDS  
TO ALL!

## 5 CONCLUSIONS



After this project, we are even more convinced that including visually impaired people in the sailing world represents an enrichment both for the blind and for the sailing community.

These guidelines are intended as an invitation to sailing instructors all over the world to accept the challenge of welcoming blind people into their sailing schools. The instructors who have participated in this project have confirmed that they have learned a lot. Indeed, many of them said, "I think I learned more from the blind students than they did from me."

Even the most experienced instructors have brought home some new ideas and seen things they never thought possible.

Do you think it is possible that a blind person who has never seen a windsurfer can get on it for the first time and do fifteen minutes of tacking up and down without falling into the water? Or that someone can paddle a kayak around rocks using echolocation like bats do? Or that a blind person at the helm of a boat in the largest regatta in the world can sail so well as to overtake over 500 boats helmed by people with perfect vision?

If you find it hard to believe, we invite you to try it yourself. Obviously, there is still a lot to do in this field, but the first steps have been taken, by us and by others around the world. We will continue to work in this direction and hope that this project and these guidelines will inspire other sailing clubs to do so as well.

## NOTES

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.





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