



# SAILAWAY

## Sailing Guide

for teachers/skippers/instructors  
working with children and youth with  
autism spectrum disorders

This Guide was developed under the Intellectual  
Output 1 of the project SailAway



Co-funded by the  
Erasmus+ Programme  
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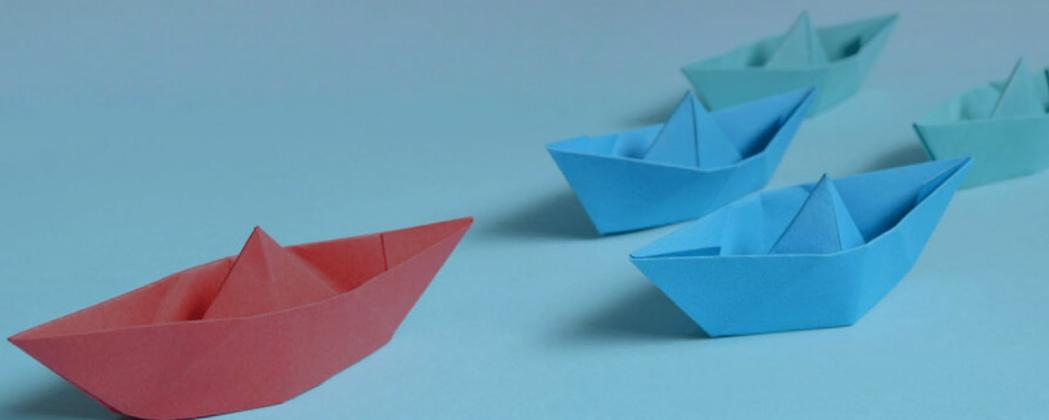
## Introduction

Nautical tourism is becoming more and more widespread nowadays. Considering today's availability and state-of-the-art technology, sailing opportunities arise to a variety of new groups, which can be content on a daily, monthly or annual basis. This particular sport offers many benefits such as enjoying the sport itself - sailing, discovering new places, sightseeing of the coast, islands, as well as the exposure to sunlight and the sea which has multiple physical and mental benefits for every individual.

The group of people with Autism Spectrum Disorders are marginalized when it comes to their participation to sailing, due to the fact that sailing instructors and/or sailing clubs did not have the information and appropriate training to attend to ASD unique needs. SailAway aspires to provide all the

needed information and guidance, in order to equip the aforementioned parties with the necessary capacities.

This guide is divided into two parts. The first part is the theoretical part where readers can learn how to communicate effectively with children and youth with ASD, how to create a safe environment and how to integrate them in sailing activities. The second part is practice oriented and it offers suggestive tools for coaches and instructors in order to use them in their lessons. With the needed one-to-one guidance and support, children and youth with ASD will be able to experience the joys of sailing as an available sporting activity. In addition, ASD personalization, communication mode, sailing signs and rules of conduct are described in the following chapters.





## Part 1

Theory for teaching sailing to children and youth with ASD

# 1. Communication with persons with autism spectrum disorders

Many ASD People have difficulties understanding oral language and expressing themselves through it (approximately 50% have difficulty developing oral language (Monfor, 1997)). Therefore, it is important that the support person (teacher/skipper/instructors) knows the communicative characteristics (not only oral language characteristics) of the person with ASD and adapt to them so that he or she can sail successfully.

Therefore, we can meet people with ASD who don't have oral language and communicate through gestures and other alternative communication systems, people who communicate with short sentences (and may need an augmentative communication system); with a more elaborate language and who can carry on a conversation (even in the latter case, ASD people will have difficulties understanding symbolic language and with pragmatics aspects of communication).

When adjusting for any physical activity, a number of factors need to be considered in order to maximize the benefits of physical activity for each individual. It is important that the support person knows and knows how to adapt to the communicative characteristics of people with ASD (whether oral or not). Simple things like us-

ing short, concise and clear sentences; using a calm tone of voice will be very important. Also, it will be the knowledge that the support person has of alternative or augmentative communication systems.

Therefore, communication with ASD people requires the teacher/skipper/instructors to amplify their communication skills, and learn new methods and strategies so that communication is two-way and adapted to the characteristics and needs of this people.

In addition, it will require that they understand and know what the communication skills of ASD people are and adapt these methods and strategies. Signed speech or PECS (Picture Exchange Communication System) are examples of AACs (augmentative and alternative communication systems).

Other supports that we can use can be social stories, social scripts, sequences of steps, etc. They can help the person with ASD to understand what is being requested, for how long or what will happen next. Also, it can help you understand social behaviors.

In conclusion, it is important that we take into account the communication difficulties that ASD people may have and adapt to their characteristics and needs so that the activity is as user-friendly as possible.



## **1.1. Characteristics of communication in working with people with ASD** (Stevenson, 2008):

- The way of communication must be defined and respected;
- Professional assistance should be sought if any communication difficulties arise;
- Visual support should be used during communication to offer more means to ASD for comprehending each concept;
- A precise, clear standard language should be used;
- It is necessary to mention the name of the person before he or she is assigned a specific task;
- Consistency in communication at all times;
- Always bear in mind that it takes some considerable amount of time for ASD to process the information given out;

## **1.2. Things to avoid when working with people with ASD** (Stevenson, 2008):

- It is necessary to find ways to understand what the person wants to express without making assumptions about it;
- It is mandatory to use short and clear instructions without much description of the task;
- Use their name to address them and grab their attention successfully;
- If the facilitator uses metaphors and idioms, they need to be clarified beforehand;
- Sometimes it is not enough to try to understand a person using facial expression and body language alone;
- It is important that a person with ASD works with a team of experts in order for them to share knowledge and reconcile with one another. Through interdisciplinary work, the results achieved by one expert can be effectively used in another area in the work of another expert;

### 1.3. First meeting for the teacher/skipper/instructors with the ASD population (introduction, approach, communication and talk)

Like any person and especially children, ASD population can get a bit overwhelmed when meeting new people for the first time. On top of the regular challenges of feeling shy or unsure, kids on the spectrum but also all ASD population, may also be dealing with sensory stimuli overload and social challenges their neurotypical peers may not. Every individual is different, so it's important to be mindful of sensory stimuli in the individual's surrounding environment at any given moment. Consider the visual input (e.g. fluorescent or bright lights), auditory input (e.g. loud noises), tactile input (e.g. certain surfaces, textures, fabrics), and smell/tastes (strong perfumes or certain food textures) that may be bothering the individual. If these sensory issues are not addressed, repetitive behaviors and a failure to respond to certain relevant stimuli may develop.

When you're ready to introduce yourself, keep these tips in mind to help the child feel as comfortable as possible:

#### Introduce yourself in a quiet place

For a ASD population, the world can be a very loud place. Sensory stimuli can be overwhelming for children with ASD. You can maxi-

mize your chance of a successful introduction by choosing a quiet and secure place.

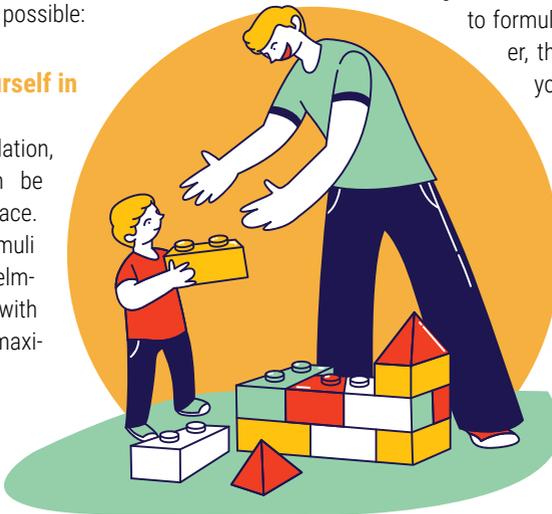
#### Have someone who knows the individual or group with ASD

For the first time, it's better if the individual is with an adult they trust, such as mom, dad or an aide/ teacher. These adults can also help the child through the social interaction with prompts and reminders, and in many cases, they will.

#### Adjust your expectations

One of the key diagnostic criteria for autism is challenges in social skills, particularly in the area of non-verbal communication. This means that the individual or group with ASD may not respond in the way you would ordinarily expect (they may avoid eye contact or even leave the room unexpectedly). Usually there is no need to speak slower, but it is necessary to be patient and give them the time they need in order

to formulate a response. However, there might be times that you won't get a response, even if the individual is capable of understanding social communication signs. That may be due to a variety of reasons; they might prefer their imaginary world



at the moment or maybe the external stimuli (noises, smells, etc) might be too overwhelming. They even might not be in the mood at the moment. Give them the time they need and try again later.

### **Be comfortable with silence**

In some individuals with ASD, verbal processing may take time. If you ask a question, wait before you give up on an answer. This can feel a little uncomfortable at first, but it's really helpful for the child.

### **Engage in the activity the individual with ASD is currently doing**

When you first meet the individual with ASD, take a moment to observe what he/she's doing. Is he/she spinning a toy or playing with a ball? Is he/she reading a book or drawing? Look carefully at what has his/her interest right now. Then find a way to join in that activity with him/her as you introduce yourself. Often, this will help capture his/her attention.

### **Create methodological instructions**

Break tasks down into smaller steps. Showing pictures of each step, modeling the task, and saying each step out loud, can help facilitate learning. Provide rewards when goals are reached.



## 2. Creating a safe and inclusive coaching environment

Based on the aforementioned information and suggestions regarding individuals with ASD, it seems to be essential the fact that instructors must to be informed beforehand about the unique characteristics and needs of each individual person or group, in order to be adequately prepared for any case scenario during working with them. By creating a safe and inclusive coaching environment, individuals with ASD can be enabled to enjoy sailing as a sport, as a recreational activity or even, as a lifelong activity.

When teacher/skipper/instructor is fully informed about the unique traits and/or limitations of each individual or group they will be better equipped to decide what the nature of the class will be and what can be utilized to carry on with the lessons with the person with ASD: In large yachts or in dinghy boats? How can a teacher/skipper/instructor be prepared to teach a person with ASD in order to sail?

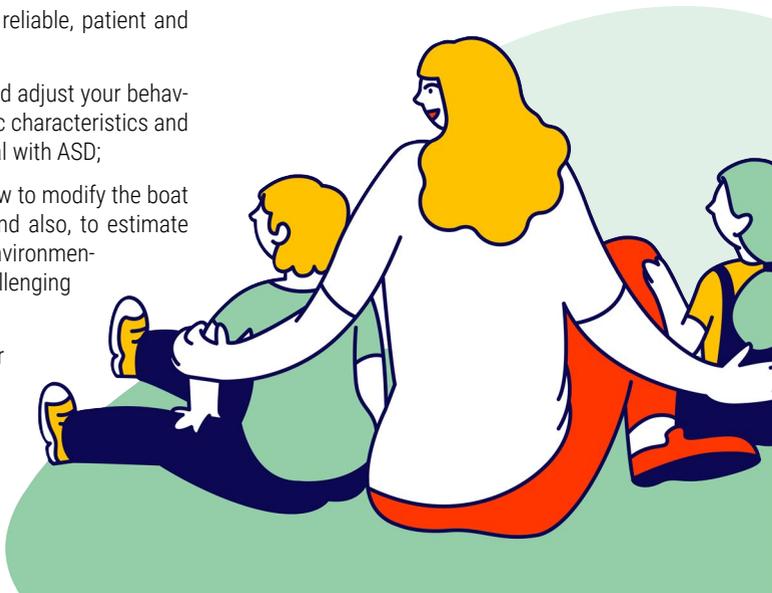


## 2.1. Recommendations to instructors on how to create a safe and inclusive coaching environment

The following is a non-exhaustive list of recommendations in order to safely include children and youth with ASD to sailing activities. As every individual with ASD is different, you need to make sure to adjust your work, schedule and expectation according to your students' needs.

- Use pictures or symbols which are important for persons with ASD and instructors and the activity;
- Be prepared for physical guidance and assistance to people with ASD;
- Try to be close to the person with ASD;
- Have a plan B, close to your plan A;
- Monitor and evaluate situations to improve next time;
- Use a notebook or an evaluation questionnaire to write down notes and important observations or information;
- By monitoring and evaluating the process, the instructor and also, the people with ASD can be informed on how to react and what to expect next time in a similar situation;
- You need to be focused, reliable, patient and creative;
- You need to be flexible and adjust your behavior according to the specific characteristics and the needs of each individual with ASD;
- You need to recognize how to modify the boat for individuals with ASD and also, to estimate the possible effect of environmental factors, such as challenging weather conditions;
- Show empathy to your athletes and pay attention to the non-verbal cues. Remember that behavior is communication;

- The fact that people with ASD have difficulties with social communication, does not mean that they cannot communicate. You are the one that needs to meet them halfway and learn the most effective ways to communicate with them;
- You will have to shift your perspective and modify your behavior as well, to engage them in your sailing classes;
- Treat them as you would your other athletes. Show them respect and do not speak down to them.
- You need to know the medical history before going on the boat to sail with individuals/groups with ASD;
- You need to have assistance if anything happens to an individual;
- Build a regular and predictable routine for them. You can use a visual schedule;
- Consider also, the possibility of engaging other typically developed children (this practice is called peer support) to communicate with children with ASD. Maybe an athlete of yours has a sibling with ASD and you did not know;



### 3. The responsibilities and the role of the teacher/skipper/instructor

The teacher/skipper/instructor is the responsible party (regardless of whether they are chartered or not) on board both for the vessel and for the crew. That means that the coaches' word or decision is final and should receive the appropriate respect and compliance. The teacher/skipper/instructor needs to know the needs of the individuals and/or group of people with ASD. They need to be focused, reliable, patient and creative. By knowing all the needed information beforehand, the instructor will be in a position to find way to adjust the training process accordingly, tailored to the needs and/or preferences of the youth with ASD. The teacher/skipper/instructor will have to find effective ways to communicate efficiently with the students with ASD. In addition the instructor needs to be informed for any practical adjustments regarding the boat and the surroundings and always be updated on current and future weather conditions, updating the crew as well.

The teacher/skipper/instructor also needs to know the medical records before going on the boat to sail with individuals with ASD. They need to be a model for their students, someone who instills confidence, does their own self-reflection and takes action when needed to improve some areas of their

expertise, behaviour and communication skills. At the end of every sailing session the instructor will be responsible to reflect and evaluate on the results and take notes of anything that can be improved for future sessions. Any decisions of the teacher/skipper/instructor may eventually be discussed after sailing is complete.

The teacher/skipper/instructor needs to be an autonomous and realistic person who thinks, checks and assures. This type of coaching and approach can be beneficial for the children. Also, that instructor can meet not only the child's need for movement, security, love, and belonging, but also the child's need for others to show respect and be able to set their ground and achieve self-actualization and unique identity.

A teacher/skipper/instructor must create a safe and inclusive coaching environment in order to achieve the desired outcomes. By creating a safe and inclusive coaching environment, individuals and also, groups with ASD can enjoy sailing as a sport, recreation or even, a way of living.



## 4. Specifications and prerequisites in sailing for persons with autism spectrum disorders

The most important things to determine before starting on a lesson with a child or youth with ASD is whether the person has any other health related issues, that the rest of the people on the boat must know about, and if they need a well-known adult to feel safe on the boat. With people with ASD who do not understand the verbal instructions, it is important to firstly identify the way they use to communicate with others (AACs, real image, signs, etc.), in order to be aware when they're trying to communicate with anyone on the boat. People with ASD have difficulty understanding verbal instructions, hence it is necessary to combine verbal instruction with action simulation, physical assistance and visual support.

It is highly recommended to place a poster (plasticized) in the sailboat and in the space where they will be staying with a pictorial representation (demonstration) of the activity. In addition, would be advisable to have another mean of communication provided with sailing vocabulary, which will be used by the person with ASD to communicate with anyone on the boat when necessary.

It is also important to keep in mind that people with ASD respond best if they are treated by the same person, because this creates predictability and routine (Martinez, 2006.).

The activity manager should be prepared for any possible distracting factors and should assist and guide the person with ASD to focus their attention back to the training and/or sailing process. If a person exhibits any undesirable behaviors, the risk assessment and the course of action in case of undesirable behaviors should be defined beforehand, in cooperation with the guardians and/or teachers and aides of the child.



#### 4.1. The prerequisites for a person with ASD to practice sailing are:

- Must be able to swim independently (at least beginner swimmer);
- Should be able to pull with a rope some light object at a distance of 5 meters, which is a prerequisite for doing a sailing activity;
- The person must be able to pull him/herself from the one side to the other of the boat.

#### 4.2. Levels of progressing

Because in ASD population every individual has different traits and limitations, it would be extremely difficult or even impossible to develop a universal questionnaire for classifying youth and children with ASD in different levels of sailing but it would be interesting to design a file with the information we need from families and professionals.

For the teacher/skipper/instructor the most information from parents, school or individual with ASD the better, as it can be a "game changer" or even lifesaving especially in unforeseen situations. By having this information, teacher/skipper/instructor will be able to inform the interested parties thoroughly about the prerequisites for a person with ASD in order to practice sailing.

The Sail Away project has created a 3-level system, with different learning outcomes and difficulty

in each level in order to ensure that the participants will enjoy and learn about sailing in a safe environment.

On each level of progression, everyone involved (parents, aides, teachers and the individual with ASD) must be fully aware of the learning outcomes, the level of difficulty and the path to go from no experience in sailing to level 3 of sailing.

As individuals with ASD respond better when they are rewarded for their accomplishments, it is recommended for the teacher/skipper/instructor to provide a certificate of participation at the end of each level.

Below, we describe each of the three proposed levels.



### 4.2.1. JOY RIDE LEVEL

It's important to consider that beside a sporting activity, sailing can be a unique leisure activity. In this way, children or young people with ASD could be on board in order to enjoy sailing (from a passive perspective), enjoy the sea, etc.

On this level our goal for ASD population is to introduce them to "sailing" and its benefits by giving them the opportunity to experience all the charms of that sport. For some individuals, the first arrival can be stressful so the teacher/skipper/instructor can facilitate their first connection to the sport. Loud noises, shades, rain, not knowing the activity schedule, missing their "favorite" toy or object etc., can be crucial for the ASD children, in order to enjoy sailing.

On their first arrival before going on the levels of progressing the teacher/skipper/instructor can offer for every individual a joy ride. Offering a joy ride on big yachts or dinghy boats and introducing every individual with ASD with sailing will be a great opportunity to get acquainted with sailing as a new activity. Hopefully this "level of introduction" will evoke feelings of satisfaction and challenge.

However, it is well known that people with ASD can have difficulties in cognitive and behavioural flexibility. This might mean that unknown people or situations would be considered as unfriendly elements and provoke anxiety and fear. Consequently, it's desirable to carry out a desensitization and progressive approach (respecting each person's timing) so that the activity doesn't become upsetting or unpleasant. If necessary consider involving their aide, parent or support teacher in the activity.

Finally, when dealing with people with disabilities and verbal communication difficulties, paying attention to behaviour and facial expressions can be crucial, so we can be aware of their

emotional state at the moment of the activity.

So, what would be the first steps to follow when introducing a sailing activity? Some tips to do it properly are outlined below:

- Be respectful in terms of timing. Approaching the activity and going onboard should be progressive.
- Anticipate the routine before going onboard or disembark.
- Wearing the life jacket. Consider sensory difficulties and progressive approach.
- In case of entertaining sailing, having an adult of reference is highly recommended.
- Have in mind the importance of a calm environment at the beginning, especially during the progressive approach.
- To establish their sitting place, support by visual means can be necessary sometimes. The visual support can be the same as it's used in other contexts (school, home...).
- Prepare a check list for the entire routine. (to undress and dress, embark, sailing, etc.)
- First sailing days and entertaining sailing should be done under good weather conditions and calm sea.
- It's important that every participant stays seated during sailing, unless there are different indications from the instructor. To avoid having some participants standing up to self-regulate, it's advisable to bring on board some items to help them do it properly (sunglasses, hearing protectors, security helmet, brush, therapeutic balls, etc. Or even a small bag with various items related to different sensory sensitivity).

### 4.2.2. LEVEL 1

For a child/ youth with ASD to participate in the sailing activities of Level 1 the following prerequisites must be fulfilled:

- Must be able to swim independently (at least beginner swimmer);
- Should be able to pull with a rope some light object at a distance of 5 meters, which is a prerequisite for doing a sailing activity;
- The person must be able to pull him/herself from the one side to the other of the boat.

On Level 1 teacher/skipper/instructor will conduct an **introduction to sailing (theoretical part), landfill exercises and first sailing**. The teacher/skipper/instructor will be responsible to find the most effective way to communicate with each and every individual with ASD using the information gathered from their parents, guardians, school or the individual itself. Using the information, the teacher/skipper/instructor can form groups and teams with people that use the same or similar means of communication and also have approximately the same skills. The teacher/skipper/instructor is responsible to determine if it will be mandatory for the person with ASD to have extra assistance from another responsible party/guardian. In case needed, assistance from another adult should be provided.

The landfill exercises, as described in Part II, will, also, be an opportunity for the teacher/skipper/instructor to access and evaluate the progress



of the student and decide if the individual with ASD has the capacity to progress to the first sailing and to the next levels. In order for the individual to progress to the first sailing, apart from completing the theoretical training, they should be able to perform the following basic movements:

- squatting in 3 series with 5 to 15 repetitions;
- push-ups in 3 series with 5 to 15 repetitions;
- lunges (to the side) in 3 series with 5 to 15 repetitions;
- pulling (rope) in 3 series with 5 to 15 repetitions.

At the end of level 1, the teacher/skipper/instructor should prepare a certificate of participation and a short report on every task that the individual with ASD has undergone and completed, so that, parents, people who are working with them and their school know their abilities and what new skills and/or new information they acquired.

### 4.2.3. LEVEL 2

On level 2 the individual with ASD must fulfill **the following prerequisites**:

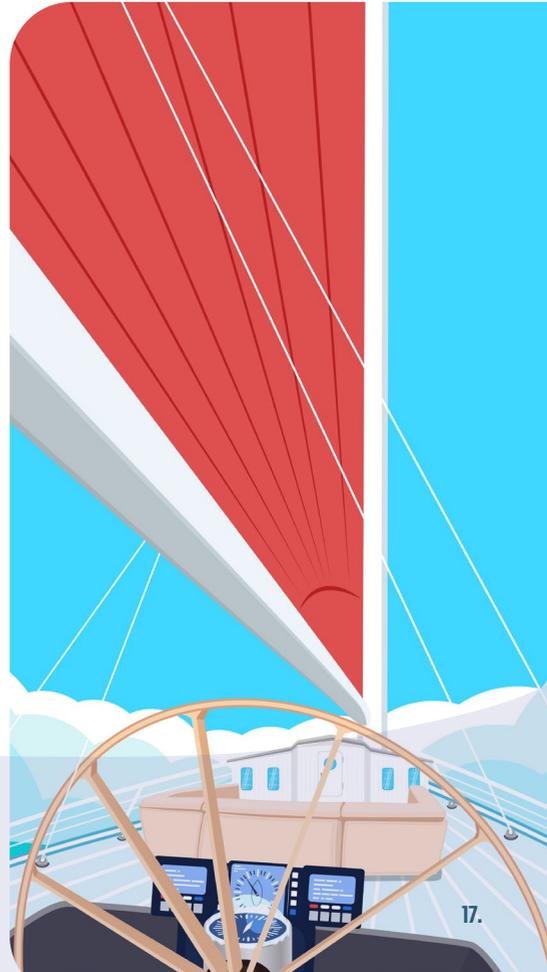
- must be able to swim independently (beginner swimmer);
- should be able to pull with a rope a light object at a distance of 5 meters;
- the person must be able to pull himself from the one side to the other of the boat;
- must have completed all activities on level 1.

When these prerequisites and demands are fulfilled successfully, the students will be **trained the basic skills for sailing at level 2**. Basic skills on sailing for ASD population are:

- Departure from port;
- Practicing maneuvers;
- Sailing a certain distance (to a nearby place or island);
- Return to the mainland and cleaning sailboat equipment.

Teacher/skipper/instructor will teach all these skills on level 2 and evaluate the student's progress. Also, on level 2, if an individual with ASD still needs assistance on the boat, they will be provided with the requested support, however they should also be instructed on how to obtain all the necessary skills to become as independent as possible.

Similar to level 1, at the end of level 2, the teacher/skipper/instructor should prepare a certificate of participation and a short report on every task that the individual with ASD has undergone and completed, so that, parents, people who are working with them and their school know their abilities and what new skills and/or new information they acquired.



#### 4.2.4. LEVEL 3

On level 3 the individual with ASD must fulfill **the following prerequisites:**

- must be able to swim independently (intermediate swimmer);
- should be able to pull with a rope a light object at a distance of 5 meters;
- the person must be able to pull himself from the one side to the other of the boat;
- must have completed all activities on levels 1 & 2;
- must be able to be on the boat without assistance by a responsible adult.

On level 3 the module is focused on **“introduction to racing and mini regattas”**. On levels 1 and 2 the students acquired all the necessary skills, to be in a position to participate in racing and mini regattas.

Level 3 as it is expected would be more challenging for both instructors and students with ASD than the previous levels. Teachers/Instructors/Skippers can again make a list of desired outcomes – skills and evaluate the process of their students accordingly.

Similar to the previous levels, at the end of level 3, the teacher/skipper/instructor should prepare a certificate of participation and a short report on every task that the individual with ASD has undergone and completed, so that, parents, people who are working with them and their school know their abilities and what new skills and/or new information they acquired.





## Part 2

Practical tools for teaching sailing  
to children and youth with ASD

## 5. Recommendations for managing critical situations at sea

When the instructor and the students with ASD are at sea they must be able to manage difficult situations that might arise:

### **If the students don't seem to pay attention to what you're saying:**

- use the child's name at the beginning of the sentence, so that they know that you are addressing them;
- make sure that you have their attention before asking a question or giving instructions;
- use their interests or favorite subjects to get their attention and engage them into tasks and/or learning process.
- ask them something about what you're saying and see if they answer.

### **Difficulty to process what you are saying to them:**

- use fewer words and speak slower;
- highlight keywords;
- allow them more time to process the message;
- use non-verbal communication;
- pay attention to the sensory conditions surrounding you.
- prepare a guide with the steps to follow.
- arrange instructions in sequential order. (first, second....)
- make them questions so you can be aware of what they've understood.

### **The students with ASD might take literally what you are saying:**

- Avoid irony, sarcasm, figurative language, rhetorical questions, idioms or exaggerations.

### **They might be struggling with open-ended questions:**

- ask short questions;
- ask only necessary questions;
- structure your questions (offer options);
- be specific (instead of "How was your turn around the buoy?", ask "Was the turn around the buoy good?").

### **Encourage them to ask for help when it's needed:**

- offer visual support
- show them what they can do if something they don't like happens.
- make eye contact often;
- make sure that you can both easily see each other.

If they show undesirable response on your instruction:

- reach for visual support again to find out the reasons behind this behavior (they might be tired, angry, sad, etc.);
- offer them the option to tell you "I don't want", "Enough", "No";

- give them a chance to rest and calm down and join activities when they are ready.

**If they seem to react badly to your bans / restrictions / when you say NO:**

- try using another word or symbol;
- they may be confused as to why they can't do what they want now. If it's something they can do later during the sailing, show it to them in a visual schedule;

- if you told them NO for safety or danger, explain it to them through a social story or a pictogram;

- if you told them NO because of their undesirable behavior, always keep calm;

- set clear boundaries and do not deviate from them. Visual rules of conduct will help you here, including things they can and they can't do while sailing.

## 6. Basic signs used in sailing and their technical description (for people with ASD using sign language)

One of the ways to communicate with ASD population can also be using sign language. The **Adriatic Skippers Association and Association of the Deaf and Hard of Hearing of the PGZ County** made a guide for sailing to help people with hearing problems. Some of their material can be useful for the teachers/skippers/instructors who work with the ASD population on how to communicate efficiently, using sign language. It is important to mention that when sailing the teacher / skipper / instructor might find it more practical to communicate with one hand sign language, since they will be constantly busy with maintaining the sailing process. The following list offers a variety of words and instructions used in sailing and how they are described in the sign language.

## 6.1. Pictograms concerning safety at sea and on the boat



Deep



Shallow



Sea



Weak



Powerful



Wind



Sun



Land



Waves



Storm



Raise



Drop



Withdraw



Let go



Slowly



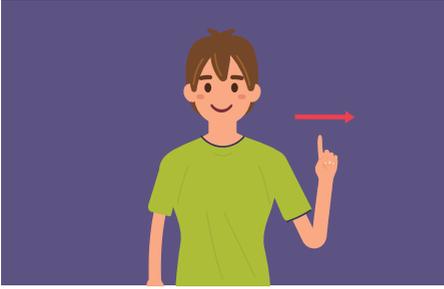
Quickly



Ugly



Nice



Left



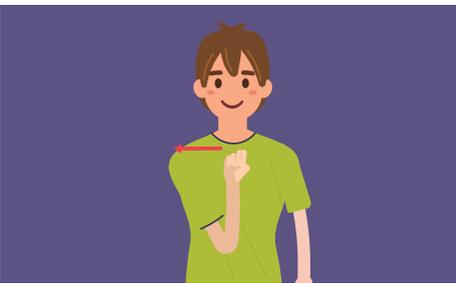
Right



Nautical knot



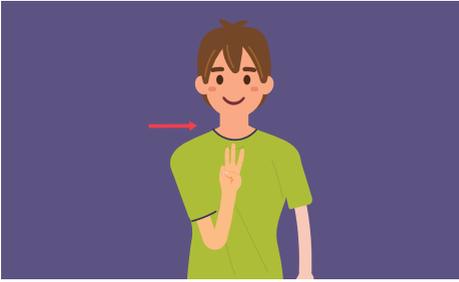
Course



Nautical knot



East



West



North



South



Center



In front



Behind



Sailing Boat



Sail



Boom



Slide



Stoper

## 7. Pictograms and social stories

Preparing people with ASD using a social story can help them know beforehand the process of each lesson step by step. This method can help both individuals with ASD and instructors to be fully prepared, before actually going on the boat where things get more challenging.

When in the boat and especially a dinghy boat, communication among instructors and students is usually non-verbal / physical when trying to give guidance and directions. Physical guidance and assisting persons with ASD would be in the form of giving them sensorimotoric feedback so they can learn all the tasks.

Teachers/skippers/instructors and individuals or groups with ASD can use pictures to interact with each other.

Below we have created different pictograms regarding sailing, which teachers/skippers/instructors can use in their classes.

On the website of the Aragonese Centre for Augmentative & Alternative Communication (<http://www.arasaac.org/index.php> ) the teachers/skippers/instructors can also create their own pictograms.

### 7.1 Pictograms



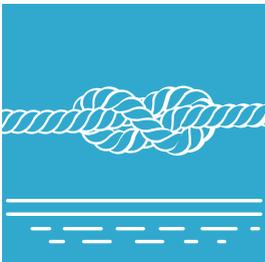
Keep the cabin and common areas always clean and tidy



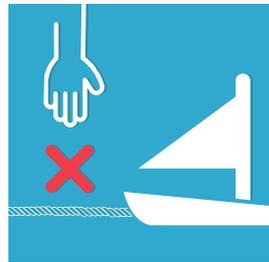
Never throw garbage into the sea



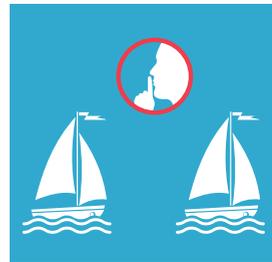
Throw garbage in suitable containers in each port or marina



Prepare the ropes and fenders when arriving in a port or marina



Do not move or tie caught ropes of another boat



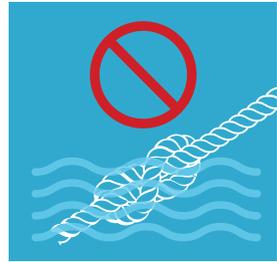
Do not make too much noise when you are near other vessels (no music, no shouting)



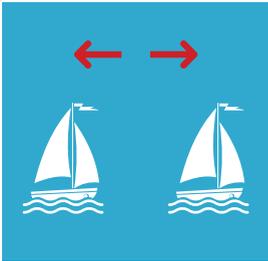
Always listen to the commands of the skipper



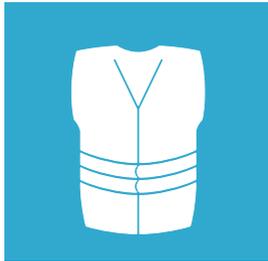
Discuss with the skipper after the sailing is complete if you have questions



Make sure the ropes are not tangled and left in the water



A boat that sails on the left reins must avoid a boat that sails on the right reins



Put on sailing safety clothes



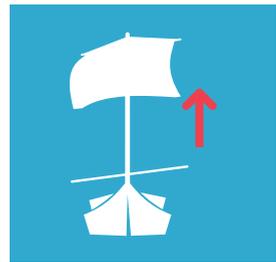
Perform maneuver with the sailboat



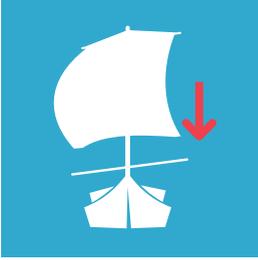
Follow the sailing course



Fix the position of the sail



Lift the sails



Raise the sails



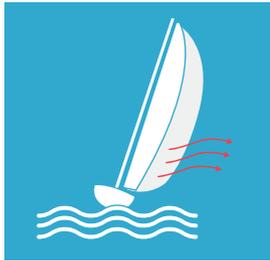
Board the sailboat



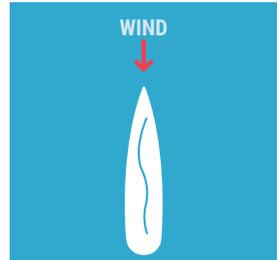
Disembark the sailboat



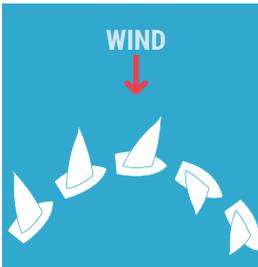
Trim the sail in



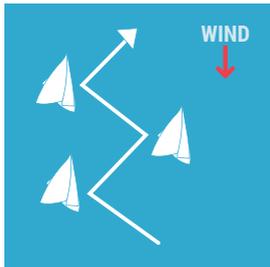
Trim the sail out



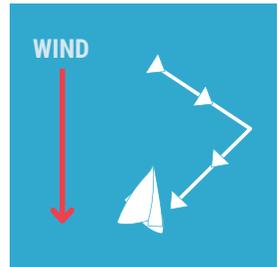
Head up



Bear away



Tack



Gybe

## 8. Landfill Exercise

Teachers/skippers/instructors must keep in mind that Individuals or groups with ASD with specific physical limitations, might have difficulties imitating some movements during the landfill exercises. Movements need to be simple, easily applicable exercises and closely related to sailing activities. The most common movements that take place during sailing are: squatting, push-ups, lunges (to the side), abdominal crunch and pulling (rope). Endurance exercises might vary depending on the surroundings, the equipment available and the abilities/capacity of the individual or group with ASD. Teacher/skipper/instructor can suggest walking, running, rowing or rope swing. During sailing a lot of changes in tempo and also in activities might occur, thus is important to prepare the students adequately.

A personalized program should be created which the individual can perform on a regular daily basis for all year round and not only as a short period of preparation before the day(s) of sailing.

The suggested physical training, will not only improve essential movements needed for sailing, but it will certainly have tremendous benefits for the person's wellbeing in their everyday life.

Breathing techniques are also suggested. Breathing consciously is a great way to reduce stress and it can be applied to various situations relevant to sailing. Unforeseen events happen often during sailing and the breathing techniques would help a lot of individuals or groups with ASD and also the teacher/skipper/instructor to remain calm and focused.

## 8.1 Fartlek runs or walks

An effective way to improve endurance is Fartlek runs or walks. Fartlek, which means “speed play” in Swedish, is continuous training with interval training (McArdle and aut., 2009). *“Fartlek runs” is a very simple form of training for long distance running / endurance running. Fartlek training “is simply defined as periods of fast running intermixed with periods of slower running. For some people, this could be a mix of jogging and sprinting, but for beginners it could be walking with jogging sections added in when possible. A simple example of what a runner would do during a fartlek*

*run is “sprint all out from one light pole to the next, jog to the corner, give a medium effort for a couple of blocks, jog between four light poles and sprint to a stop sign, and so on, for a set total time or distance”* (Kerkman, 2012). This type of walking /running technique, would be a good option for the first part of the landfill exercises routine and it could last for about 10 to 20 minutes, depending on the abilities and physical condition of the individual and/or group with ASD. Another option could be alternating plain ground with slopes even if it’s done walking.

## 8.2 Rowing and rope swing exercises

When it comes to rowing the teacher/skipper/instructor needs to teach the students the appropriate technique on how to do it properly. Like walking or running, rowing should last for about 10 to 20 minutes depending on the abilities and physical condition of the individual and/or group with ASD.

Every exercise can take 10 to 30 seconds to perform and should be repeated for 3 or 5 sets.

- must be able to swim independently (intermediate swimmer);
- double wave with two hands (climbing);
- double wave with one hand (climbing);
- “sneaks” on the floor and alternative ways with two hands and one hand.

### 8.3 Flexibility

To develop and maintain flexibility, the teacher/skipper/instructor can use hurdles which will improve hip mobility. Hip mobility is important for crossing and stepping inside the boat, since the floor might have ropes laying around and the passengers will need to be careful to skip them to avoid tripping and injuring.. For hip mobility it is important to be able to work with the hurdles in different heights.

First the teacher/skipper/instructor should put hurdles with sticks on the floor and define the appropriate height. A condition that must be satisfied to move to a higher hurdle is not to do internal rotation. To help our students we can

put cones next to hurdle for visual assistance. The first exercise is with sticks on the floor, only a few centimeters high (less than 10 cm). When athletes or group with ASD can perform jump over the stick only a few centimeters above the ground for 10 repetitions in 3 to 5 sets then they can go to the next level.

On the next level the teacher/skipper/instructor should increase the height. For example the height can rise to 10 cm, after that to 20 cm and after that to 30 cm etc., with 10 repetitions in 3 to 5 sets. After that an elastic band above the head can be added, while stepping over the hurdle.

### 8.4 Squats, push-ups, lunging and pulling

Movements like squatting, push-ups, lunges (to the side) and pulling (rope) can be developed with the appropriate support. All of them are essential, since they are applied in almost every action and movement during sailing.

"A squat, is a strength exercise in which the trainee lowers their hips from a standing position and then stands back up. During the descent of a squat, the hip and knee joints flex while the ankle joint dorsiflexes; conversely the hip and knee joints extend and the ankle joint plantarflexes when standing up. Squats are considered a vital exercise for increasing the strength and size of the lower body muscles, as

well as developing core strength. The primary agonist muscles used during the squat, are the quadriceps femoris, the adductor magnus, and the gluteus maximus. The squat also isometrically uses the erector spinae and the abdominal muscles, among others" (Rippetoe, 2007.).

When athletes or group with ASD perform first squat, the teacher/skipper/instructor has to provide support to them. The instructor can stand in front of the student while holding an elastic band in hands close to the student's hand with shoulder-width apart in and pushing the elastic band up high and diagonally. After performing squats from the chair position for 10 repetitions

and for 3 to 5 sets, the athlete can proceed with jumping at the lowest height (10 repetitions /3 - 5 sets) and in the end by doing it without the teacher's assistance. After that the teacher/skipper/instructor can suggest adding a pulling elastic band or pushing weights.

"A push-up (or press-up if the hands are wider than shoulders placing more emphasis on the pectoral muscles is a common calisthenics exercise beginning from the prone position) is an essential body exercise which is described as the process of raising and lowering the body using the arms. Push-ups exercise the pectoral muscles, triceps, and anterior deltoids, with ancillary benefits to the rest of the deltoids, serratus anterior, coracobrachialis and the midsection as a whole. Push-ups are a basic exercise used in civilian athletic training or physical education and commonly in military physical training" (<https://en.wikipedia.org/wiki/Push-up>).

Sailing instructors can use this exercise to train their students by first performing just holding in the position of a push up (isometric contraction) 10 to 30 seconds for 3 to 5 sets. The more advanced level would be having the knees on the floor and performing pushes up (repetition 3-10 times for 3-5 sets) depending on the physical condition and abilities of the individual or group with ASD. Last level would be performing regular push ups (repetition 3-10 times for 3-5 sets) If the instructor wants to provide some assistance, they can put their hand on the back and/or hips of the student and help them find

the right position when performing push-ups.

A lunge can refer to any position of the human body where one leg is positioned forward with knee bent and foot flat on the ground, while the other leg is positioned behind. Lunges are a good exercise for strengthening, sculpting and building several muscles/muscle groups, including the quadriceps (or thighs), the gluteus maximus (or buttocks) as well as the hamstrings. The lunge is a basic movement that is fairly simple to do for beginner athletes.

When working with individuals or groups with ASD, first step would be to learn how to perform front and back lunges. You can put some kind of circles or some other material to use for spotting, so it would be easier for students to form a visualised concept of the task they are asked to do. You can use again the condition of 10 repetitions for 3 to 5 sets. Set as a milestone, the task of "not crossing your knees over the thumb rule" to be achieved in order for the students to proceed to the next level of difficulty.

For the more advanced level, the teacher/skipper/instructor can raise the height or use some kind of surface that will enable them to use their balancing skills (repetition 3-10 times for 3-5 sets) until the student can perform the task without crossing their knees over the thumb projection.

Being able to perform lunges with ease, is extremely important during sailing, since it resembles accurately the body movement you need to do for taking a sit on the boat from

different angles and/or previous positions. When the students perform all the aforementioned steps, then the teacher/skipper/instructor can add pulling an elastic band in any direction (front, back and side lunge). The teacher/skipper/instructor can help the student by putting their hand on their back and/or hips and help them find the correct position when performing lunges.

One of the common movements in sailing is pulling (ropes or rudder). This pull workout involves pulling exercises targeting the butt, hamstrings, back, and biceps. One of the exercises that can help individuals or groups of people with ASD during sailing training is pulling the rope without or with the addition of weight.

When they sail and need to do maneuvers or maintain a certain direction, students need to know and perform the act of "pulling", depending on the condition at sea. Pulling the rope can be performed depending on the diameter of the rope and also on the amount

of weight that can be pulled.

The teacher/skipper/instructor should start with a rope with a small diameter and progressively advance the weight from lighter to heavier (1kg up to 10 kg). The next level should have a larger diameter rope and again progressively adjust the weight from lighter to heavier (1 kg up to 10 kg) for a small distance (1 m up to 10 m).

Pulling an elastic band can be performed up to 10 repetitions for 3 to 5 sets, using both hands and one hand.

For a more advanced level you can add lunges in any direction (front, back and side lunges), while pulling an elastic band (repetition 3-10 times for 3-5 sets). It is essential that all individuals are able to perform the act of pulling successfully, since it is a common movement needed for sailing (an individual with ASD should be able to pull with a rope at least some light object at a distance of 5 meters).

## 9. Sailing plan and program for children and youth with asd

The sailing plans and program are basically the same as the beginner's program, but in the case of people with ASD, the accompanying person and all other crew members must be familiar with the student's means of communication, ability level in all aspects of the operation, additional health issues, undesirable behaviors and other specifics. Accordingly, the plan and program are adjusted.

### 9.1 Introduction to sails (theoretical part):

The topics to be discussed during the theoretical training can be the following:

- learning and practicing sailing communication;
- basic parts of the boat;
- equipment of the boat;
- knots;
- directions (sailing course): in the wind, crosswind, downwind, pure chrome;
- maneuver (bargee): in the wind, crosswind, downwind, clean stern;
- the position of the sail in relation to the wind and the direction of navigation;
- wind flow indicators;
- mooring of the sailboat: side by side, bow - cable, chrome, using anchor;
- safety measures and "Who is the non-swimmer?", required clothing and footwear of the crew;
- rules of conduct on a boat, in marinas and ports;
- cleaning and maintaining the boat.

In the event of unforeseen situations, the teacher/skipper/instructor should have guidelines and a protocol according to which everyone on board should behave. Adding this part in the theoretical training is something necessary for the ASD population.

One of these unforeseen situations can be that a child gets scared while at sea. Guidelines for that situation would be:

- before going sailing teacher/skipper/instructor needs to know all information about the individual or group with ASD react contingencies;
- always wear a life jacket;
- what are the trigger points for the individual or group with ASD so the teacher/skipper/instructor can avoid those situations;
- always sail in a group of other boats, inform them about the situation and keep them ready for possible action.;
- the teacher/skipper/instructor can have an assistant on board;
- secure the rest of the crew on board;
- be patient and focus;
- in case of not knowing how to react, as soon as possible reach for the mainland.

## 9.2 First sailing

The following topics are covered during the first sailing:

- boarding and disembarking a boat;
- instructions to the crew for the first departure and preparation for departure;
- the position and tasks of the crew for lifting and raising the sails;
- sailing towards the target located in the wind direction, practice maneuver (crew position and tasks);
- sailing with the wind to the side (crew position and tasks);
- sailing with the wind into the stern, practice the maneuvering of the circulation (crew position and tasks);
- return to the mainland, sail stacking and sailboat equipment repair.

## 9.3 Training basic skills

The following topics should be covered:

- Departure from port;
- Practicing maneuvers;
- Sailing a certain course (to a nearby place or island regardless of wind direction);
- Return to the mainland and clearing of sailboat equipment.

## 9.4 Suggested 5-day Course Plan

DAY	MORNING	AFTERNOON
1	<p>First meeting and introduction</p> <p>Aims and objectives of the course</p> <p>Introduction to sailing</p>	<p>Landfill exercise</p> <p>Getting to know the parts of the boat and rules on the boat and at sea</p> <p>Instructions to the crew for the first departure and preparation for departure</p> <p>Entering on the boat on the shore</p>
2	<p>Landfill exercise</p> <p>Entering on the boat (shore or sea)</p> <p>Sailing with the wind to the side (crew position and tasks) (close hauled, close reach and beam reach)</p>	<p>Landfill exercise</p> <p>Entering on the boat (shore or sea)</p> <p>Sailing with the wind to the side and bow (crew position and tasks)</p>
3	<p>Landfill exercise</p> <p>Entering on the boat (shore or sea)</p> <p>Sailing towards the target located in the wind direction, practice maneuver (crew position and tasks) (close hauled)</p>	<p>Landfill exercise</p> <p>Entering on the boat (shore or sea)</p> <p>Sailing towards the target located in the wind direction, practice maneuver (crew position and tasks)</p>
4	<p>Sailing with the wind to the side (crew position and tasks)</p> <p>Sailing with the wind into the stern (broad reach and running), practice the maneuvering of the circulation (crew position and tasks);</p>	<p>Sailing with the wind to the side (crew position and tasks) Sailing with the wind into the stern, practice the maneuvering of the circulation (crew position and tasks);</p>
5	<p>Introduction to racing</p> <p>Mini regatta</p>	<p>End of Course debriefs</p> <p>Giving the medals and diploma</p>

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**SAILAWAY**

# **Sailing Guide**

for teachers/skippers/instructors  
working with children and youth with  
autism spectrum disorders



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