Communication during White Water Canoeing

Lesson Overview

During this lesson, students will examine the challenges in communicating during canoeing activities in white water environments, learn the basic dynamics of how water flows, create a system of communication tools to overcome challenges and manage risks associated with a white water environment, and practice communication procedures to increase safety in white water environments.

Overall and Specific Expectations

- PPL 10: 1, 1.5; A3, A3.1
- PPL 20: 1, 1.5; A3, A3.1
- PPL 30: 1, 1.5; A3, A3.1
- PPL 40: 1, 1.5; A3, A3.1

Learning Goals

- I can behave responsibly and apply appropriate safety rules and procedures that maximize my safety and that of othersduring outdoor activities.
- I can think critically to analyze situations, evaluate my choices and make safe decisions in a variety of situations.

Materials

- Chalkboard or whiteboard, chalk or whiteboard markers
- Learning space (inside or outside) with potential to move items around
- Paddle(s)
- **Teacher Resource: Communication during Canoeing Activities in Open Water - Checklist**
- Two pieces of 4.5- to 6-meter-long rope or cordage for demonstration
- Whistle

Ontario Physical Activity Safety Standards in Education

Activities

- **Canoeing**
- **Canoeing Moving Water**
- **Canoe Tripping**

Tools and Resources

- **Concussions**
- **Disability-Centred Safety**
- **First Aid Plan and First Aid Emergency Response**
- **Outside Activity Providers**

Other

Risk Management

Assessment for Learning

At the beginning of the lesson, work with students to co-create criteria for assessing knowledge and skills needed to apply safety rules and procedures during outdoor education activities. Consult the *Teacher Resource: Communication during Canoeing Activities in Open Water - Checklist* for sample criteria.

During the Action, have students apply their knowledge of the basics of water flow (laminar flow and helical flow). Ask them to also demonstrate the appropriate manual signals, paddle signals, and whistle signals for communication and giving instructions.

Use the co-created criteria and the completed *Teacher Resource: Communication during Canoeing Activities in Open Water - Checklist* to evaluate student learning and offer feedback. If needed, provide feedback to individual students or the entire group, to clarify or reinforce their understanding of outdoor safety, and answer any remaining questions.

Minds On

Have students think about the characteristics of a river environment and share their thoughts in a small group. Pose the following question prompts:

- What does the water sound like?
- What does the water look like?
- How does the water move? Does this movement seem organized or disorganized?

Give students a few minutes to discuss these questions, and then have them share ideas as a class. Next, guide a class discussion with these questions:

- How do the physical and natural characteristics of a river environment pose challenges to our communication while on the water?
- For people ahead of or behind us, is it easy or hard to understand the instructions and communications about safety during learning activities on the water?

Action

Basic Water Flow Dynamics in a River

Set up a straight mock river by placing two ropes or cords parallel to each other on the floor, with enough space between the two ends so all students can move from one end to another without obstruction.

Have students “spill” into the river that was created. Once they’re “in” the river, direct them to move slowly and safely throughout the exercise. Have them demonstrate the way water flows in the straight river. They should understand that it moves more or less in a straight line. Tell them this kind of straight flow is called “laminar flow.” Explain that the principal characteristic of laminar flow is movement in a straight line; when water moves towards an obstacle, like the shore or a rock in the river, it rebounds and eventually returns to a straight line of flow.

Next, change the configuration of the “river” to add a bend. Have students repeat the exercise. This time, ask them to act like laminar flow by only moving in a straight line. They will “bounce off” the “banks” of the river wherever there is a curve or a change in the water direction.

Add other curves to the river and repeat the exercise. Have students imitate laminar flow in this water.

Next, present the concept of helical flow in rivers. This includes all flow that is not in a straight line. It is often possible to observe helical flow behind rocks that emerge from the river, along the shores, or in places where white water in laminar flow meets stationary water, which is called an “eddy.” Helical flow is disorganized, and it can be more difficult to determine its direction.

Create a new “river” and place a large object in the middle. Have students explain what might happen when the laminar flow of water meets the rock. This water continues downstream roughly in a straight line, but the water is almost calm behind the rock (an eddy), and on each side of the rock helical flow (disorganized water) occurs.

As the configuration of the river changes, and the students understand the different flow of water in the river, integrate the associated elements involved in using paddles. Ask them to guide their boat according to the river configuration and the principles of laminar and helical flow.

The last objective of this activity is for the students to gain the basic knowledge to move around on the river and to determine areas that may be safer and areas that should be avoided based on what they understand of laminar and helical flow.

The following on-the-river communication exercise integrates well with this lesson on the principles of water flow of a river.

Ask the group the following question:

“What would happen if we all moved downstream at the same time?”

Answer: The people and their vessels will move in different directions, like bumper cars, and it will be difficult to maintain control and complete a rescue, if required. It is preferable to have one boat following the other on the water so we can complete a rescue in the event someone falls overboard.

Communication on the River

Present the following situation to the group:

We are all on the river, and we want to control our movement downstream so we stay safe and have fun on the water. Given the behaviour of the water and the kinds of flow that occur in the river, we need a method of communication we can use while moving as a group on the river. This will be important when we cannot hear each other over the noise of the water.”

Next, present the following instructions to the group:

We have the following tools for communication on the water:

1. A whistle
2. Our hands
3. A paddle

Basic whistle signals

Our whistles are attached to our personal flotation device (PFD). We can use them to attract people’s attention or to signal a possible emergency. We should never use our whistles for any other reason.

The basic whistle communication signals that can be used during white water activities are:

- Single whistle blow – Raise your head and look around you, because someone is trying to get your attention.
- More than one whistle blow – There is a problem and we should move quickly towards the shore and wait for other instructions.

Basic Hand Communication

Each communication is composed of two parts:

1. A question
2. An answer
    1. An arm straight up in the air– GO, you can keep moving on the water
    2. Two arms extended to the side – STOP, do not move.
    3. Point in a direction – DIRECTION TO GO IN (you must always point in a "positive" direction and not towards something you'd prefer the paddler to avoid).

If you need to communicate more, you can use your paddle instead of your hands. The same rules apply.

Basic Paddle Communication

- Paddle straight up in the air – GO
- Paddle horizontal across your head – STOP
- Point in the direction with the paddle – DIRECTION TO GO IN

The last manual signal is a personal safety signal. Do not forget that a communication is composed of two parts: a question and an answer. To ask "EVERYTHING GOOD?" or to answer "EVERYTHING IS GOOD," the paddler forms a fist on their head so their arm forms an O. This is the international river signal for "OKAY." This signal can be used after a boat capsizes to try to figure out if the people in the water are hurt or need help.

It is now time to practice river signals. Ask the students to communicate with these signals in class or outside. Once the students have had a chance to practice, take them back to the river that was created earlier. Ask them to communicate in order to stay safe while moving on the river.

Consolidation

Visualizing basic river dynamics and practicing river communication skills in a variety of settings will lead to better on-water communication and river comprehension for everyone.

Have students present a mock river either on the ground or on a chalkboard/whiteboard and explain where the water is moving and what they should be aware of.

Extend this by asking the students to describe the safest way to navigate their specific river and what obstacles and communication might be necessary to maintain the group's safety.

Notes to Teachers

There are many resources on river communication. The Ontario Recreational Canoeing and Kayaking Association and Paddle Canada are excellent places to find information and links to white water canoeing resources.

Any educator looking to extend their river knowledge and water reading skills should consider taking a white water rescue training course offered by a qualified instructor through a recognized organization. This would be a great asset to teaching white water principles.

Remember to check school board policies and procedures applicable to any outdoor education activity.