

Frostbite Technique Curriculum, Part 3 – Canoe Modules by Dan Henderson

1. Stability - set-up

- When Taught
 - Day 1
- Why
 - Proper setup right away allows beginners to learn their long term position
 - Keeps them from developing bad habits
 - Means they don't have to unlearn later on
- Teaching elements
 - Frontal plane - Knee over center of buoyancy of the canoe, front foot centered with toes pointing forward, back foot slightly off center towards offside
 - Sagittal Plane
 - Down knee (onside) forward in knee block, lower leg vertical or angled slightly forward
 - Front foot far enough forward so interior knee angle is greater than 90°.
 - Beginner - Overall position slightly stern heavy allows steering to be learned more readily
 - As the canoeist develops, move the overall kneeling position forward so the bottom curve of the canoe bow breaks the water
 - Within a few weeks, use knee block frame and footboard so canoeist can lock into place
- Things to look for
 - Down leg vertical or slightly forward of vertical.
 - Front foot toes pointed forward
- Common mistakes
 - Sitting back so buttocks are behind the down knee
 - Toes pointed laterally

2. Steering - Rudder, J-Stroke, Hip Return, Counter-Rotation

- When Taught
 - This is a progression. When beginner is learning s/he is not stable and not able to execute advanced skills. This steering is primarily aimed at turning the canoe towards the paddling or on side.
 - As canoeist learns stability, s/he can advance toward faster and more powerful steering modes
- Why
 - Allows steering of the canoe without switching sides, or slowing forward propulsion

- Teaching elements
 - The first step is ruddering with top hand thumb rotating up (along the length of the shaft), then prying off the side of the canoe to steer
 - Second step is J-Stroke, turning the thumb down
 - Next is steering with hip return
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 - Last is adding waist and shoulder return to the hip return – this is counter rotation
 - Things to look for
 - Paddler switches sides
 - Common mistakes
 - Paddler switches sides
 - Paddlers use front foot to help steer rather than learning proper paddling strokes to control the canoe with their paddler
3. Upper body rotation – Hip, Waist and Shoulder twist
- When Taught
 - Once paddler can balance themselves and steer using the J-Stroke
 - Why
 - Extends the length of the stroke forward
 - Increases power by engaging the large torso and leg muscles
 - Keeps the paddle vertical longer through the stroke
 - Allows quicker exit with no dragging
 - Earlier return gets much of the body counter-rotated before the exit to avoid killing the glide during the recovery phase
 - Loads body weight onto the paddle farther forward in the stroke to generate more power
 - Body Positioning Teaching Elements
 - Hip return first
 - Return hip forward as paddle is pulled past the front knee during the power application phase
 - Paddle shaft and hip come together during power application phase
 - Squeeze inside hip towards front knee
 - Hip should be fully returned before exit
 - Hip return replaces the J-Stroke in steering
 - Add waist (lumbar) return to hip return
 - Gets more of the body counter-rotated before exit

- Start waist return before the exit and finish during the recovery phase
- Then add shoulder return
 - Same as waist return so in the end, from the down knee up to the top hand, the entire body is counter-rotated
 - Onside shoulder stretches forward
 - Offside shoulder is pulled backwards
 - This stretches the tip of the canoe paddle forward, flattening out the “A”
- Counter-rotation (return) begins with the mid-Power Application Phase, continues and helps with a quicker exit, and continues during the Recovery Phase and Throw into the catch. It should be complete just as the throw begins.
- Dynamics Teaching Elements
 - Start with Set Up
 - Slight pause just before the catch
 - Make certain body is in position for the catch
 - Stretch farther forward to the point where balance is lost
 - Catch the falling body on the paddle blade and press up
 - Add swing into setup
 - From the exit dynamically swing the paddle forward to the Set Up position
 - Swing to the point where balance is lost
 - Fall on the paddle, catch body weight on the paddle and then press up
 - Then add throw into setup and swing
 - Continue the swing farther forward and throw the body mass forward and onto the paddle
 - Throw to the point where balance is lost
 - Fall on the paddle, catch body weight on the paddle and then press up
- Things to look for
 - Commitment to become unstable – this is not the time to be cautious
 - Stroke becomes longer towards the front of the canoe – catch point moves forward
 - Blade goes deeper into the water right away – deeper catch
 - There is no stopping of the hip rotation and then counter-rotation at the back of the stroke. Pull the hip back and immediately return.
- Common mistakes
 - Hips move laterally – side to side, especially towards the offside. This is usually an attempt to remain stable and not commit catch body weight on the paddle blade
 - Hip return is late, and even after the exit

- Counter-rotation is good, but as paddler goes to the catch, squares back up before the blade is in the water
- Bobbing with the head up and down, like trying to catch with the head, rather than the entire body. This is usually also an attempt to remain stable.

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4. Power phase

- There are two styles (pressing up tall during power vs staying low during power phase)
- Which one (or both) will we teach? ICF teaches the pressing up style, so that's what's here. My experience is that this is far superior to staying down.
 - Pressing up applies greater torque through longer moment, greater mass, and ability to acceleration the motion
 - Pressing up also allows earlier and more active counter rotation with hips, waist and shoulders, so steering and exit is quicker with less drag, and more power carried through the stroke

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- When Taught
- Why
- Teaching elements
 - During the previous Recovery Phase, complete the Counter-rotation (Return) and Throw
 - Load
 - Press up
 - Rotate
 - Return

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- Things to look for
- Common mistakes

5. Starts

- When Taught
- Why
- Teaching elements
- Things to look for
- Common mistakes

6. Group paddling

- When Taught
- Why

- Teaching elements
- Things to look for
- Common mistakes