Appendix E:

Successful Instructional Strategies

As of January 18, 2010

NASBLA Successful Instructional Strategies for Face-to-Face Basic Boating Safety Education Courses

This document's purpose is to communicate successful instructional strategies to the boating safety education community. The NASBLA Education Committee recognizes the broad diversity of boating safety education courses, instructors and settings. It wishes to encourage innovation and creativity while also communicating the successful instructional strategies gained from many boating safety educators with years of teaching experience. This list of successful strategies is not intended to be a complete list of all teaching practices nor will using these strategies guarantee an excellent course experience. Teaching is an ever-changing series of choices made by an instructor taking into account many considerations including: the instructor, the students, the content, the location, the instructional materials, organizational context and other factors. The NASBLA Boating Safety Education Committee is committed to the continuous improvement of boating safety education in order to improve the learning experience for students in all NASBLA-approved courses.

General Instructional Strategies

Effective programs clearly define the "Educational Purpose," which includes the program's mission, goals, and objectives, and assures that all are aligned with each other.

Planning effective programs

- Rely on experienced, well informed, prepared, and ethical staff.
- Have clear understanding of agency goals and objectives.
- Are inclusive of all audiences.
- Align curricula with national and state educational standards when appropriate
- Present accurate and balanced information, incorporating many different perspectives.
- Clearly address safety and other regulations, and reduce real risks to everyone involved.
- Empower learners teaching them "how to think" to "what to think."
- Use multiple teaching methods to accommodate diverse learning styles.
- Use instructors as facilitators, not "transmitters."

Course Instructors

- Are selected through a process that ascertains their knowledge of boating safety content and teaching ability related to boating safety education courses.
- Are regularly evaluated by students, peers and supervisors. Teaching evaluations and feedback are provided to the instructor and used to improve their instructional skills.
- Participate in professional development opportunities such as training sessions, workshops, or conferences to improve their boating safety knowledge and teaching skills.
- Use a variety of instructional strategies in the course such as: demonstrations with boating equipment; student involvement in demonstrating skills; simulations of practical boating situations; students solving hypothetical boating situations; short videos of boating topics; role playing boat operator decision-making; reading texts, lectures of boating safety content; computer simulations and content; etc.
- Provide opportunities for students to demonstrate their understanding of course objectives through hands-on activities that encourages application of their boating safety knowledge and skill.
- Monitor student attainment of the learning objectives during the course through a variety of assessment strategies such as: verbal conversations, written tasks, and formal assessments.

Human Learning

Boating safety course instructors should have an excellent working knowledge of how people learn and seek to continually extend their understanding of human learning. A teacher's effectiveness is in part due to knowledge of the content area but also rests on their ability to ascertain their student's learning processes and match instructional strategies to the learning needs of their students. While each student and class is unique there are some general human learning characteristics that can assist boating safety instructors in making their teaching decisions. The amount of research and written material on human learning is vast and beyond the scope of this document. What follows are a few summary paragraphs and the encouragement to read more about human learning.

Current explanations for how people learn are varied and complex. While learning can encompass memorization of discrete facts or even nonsensical information (retention rates are typically low), many current explanations focus on the ability to learn for understanding. This is thought of as learning that contains rich, deep content knowledge organized around conceptual schemes, which can be applied to new situations and contexts. One common approach in explaining human learning focuses on viewing the student as actively making meaning from their experiences rather than passively receiving information entered into an "empty" mind. It follows from this that the student brings with them into a boating safety course already established conceptions and prior beliefs about boating safety education topics. One implication for the boating safety instructor is that he must actively and explicitly pre-assess his student's prior understandings to identify any misconceptions. Then instructional choices can be better targeted to challenge the existing misconceptions and present the student with overwhelming motivation and experiences to transform their misconceptions into the more sophisticated understanding held by expert boaters. Teaching for understanding focuses on developing an educated boater rather than a boater who knows boating facts.

There are some general suggestions for boating safety instructors. Human learning can be organized into categories such as knowledge, skills and attitudes. The boating safety instructor should design learning experiences that address each of these categories and consciously select instructional strategies matched to the learning category. Another consideration is that students utilize preferred learning styles, which can be categorized as visual learners, auditory learners and kinetic learners. There are many ways to organize student learning styles but the main message for boating safety instructors is to NOT imagine their students as identical in their learning style but INSTEAD view their students as using different learning styles. The implication for the boating safety instructor is to design a course that intentionally includes a variety of learning activities that target different learning styles. The boating safety instructor should also consider that differences in culture, language, family, community and socio-economic status affect how a student learns. In order to be most effective, the ideal instructor explicitly identifies the learning needs of her students and provides a variety of instructional experiences to meet those needs. Finally, instructors should focus on designing a significant percentage of learning experiences that incorporate higher order thinking skills such as analysis, synthesis, evaluation and application. Long term retention rates for remembering specific facts or vocabulary are low and suggest that a boating safety instructor with limited time should focus on the most crucial content using instructional strategies that result in a highly educated boater.

More information about human learning and teaching successful boating safety courses can be obtained through state/province/territory boating agencies, the U.S. Coast Guard, The National Safe Boating Council and organizations such as the Coast Guard Auxiliary, U.S. Power Squadrons, U.S. Sailing, American Canoe Association and many others.

Standard Specific Successful Instructional Strategies for Face-Face Instruction

This table provides the boating safety instructor with a starting place for planning or refining his/her boating safety course. The following instructional strategies have been collected from the boating education community providing a range of ideas to consider for teaching that standard. The complete standard with rationale is given in the left column and ideas for instructional strategies are located in the right column. Additional ideas and strategies are welcomed and will be added on a periodic basis by the NASBLA Education & Awareness Committee.

Standard	**Successful Instructional Strategies**
The Boat	
Standard 1.1 - Boat Capacities The course will describe how to determine acceptable loading based on locating and determining a boat's gross load capacity (total weight and # persons) from the boat capacity plate and horsepower recommendations. PWCs or other boats without capacity plates should reference the owners' manual and state laws.	**In-Class Activities:** 1. Show example of capacity plate or photo of one. 2. Place a couple of chairs in front of room to represent a boat. Ask for two volunteers to sit in "boat" and add gear (real or imaginary) to the "boat". List the weight of everything added to boat (plus people) and see if it is too heavy for the boat using the capacity equation. (This also ties in with Standard 2: Boating Equipment) 3. Show pictures of possible boat capacity violations and ask students to evaluate them. 4. Show slides of variety of boats (including seats) and ask students to guess the boat's capacity. Evaluate information from the capacity plate and explain any differences.
Standard 1.2 - Boat Registration Requirements The course will describe: 1. that all motorized boats and many other boats are required to be registered (check state requirements), 2. requirements for hull identification number, 3. the required certificate of number (registration documentation), and external display of numbers, 4. the requirements for federally documented vessels, 5. reciprocity regulations, and 6. registration requirements in the boat's state of principal use.	**In-Class Activities:** 1. Show examples of boat numbers, registration decals, on strip of paper or picture of one on a boat. Pass around a copy of the registration papers/ card. 2. Show a USCG document and picture of proper documented vessel identification if applicable to the region.
Boating Equipment	
Standard 2.1 - Personal Flotation Device Types and Carriage The course will explain that	**Activity: In-class discussion** 1. Ask students to respond to: What types of life jackets (PFDs) are acceptable for an 18-foot boat with the

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there are different classifications, types and sizes of U.S. Coast Guard approved personal flotation devices (PFDs), including inflatable life jackets and throwable Type IV devices, and will feature examples of their respective uses, advantages, and disadvantages based upon the activity for which they are intended. The course will also describe the number and types of PFDs that must be carried aboard the boat according to applicable regulations, discuss and clarify label restrictions, and emphasize that the best life jacket is the one that will be worn all the time.	following passengers: 250 pound male, 15 pound infant, 150 pound female, two 57 lb twin boys?
Standard 2.2 – Personal Flotation Device Sizing and Availability The course will communicate that lifejackets/PFDs must be readily accessible and correctly sized for the persons using them.	**In-Class Activities:** 1. Demonstrate proper fit (not just correct size). Place life jackets on a variety of students and give them a tug at the shoulders with the student's arms extended over their heads. 2. Regarding availability: Place several students in front of the room with a variety of sizes and types of life jackets bucketed, tied, etc. and placed under their chairs. Simulate a boat crash and give the students 30 seconds to don and secure a life jacket. Review the success at the end of 30 seconds. Next, adjust the life jackets to fit the person, remove them and place them under the chair. Repeat the activity and monitor how much quicker the student's don and secure the devices. Third, leave the devices on, then repeat the activity. (With jackets already on, the person is protected).
Standard 2.3 - Wearing Personal Flotation Devices The course must: inform boat operators of the importance of wearing life jackets at all times; show passengers how to correctly put on their life jackets and tell them to wear them; emphasize the need to be aware that conditions can change quickly while boating (i.e. weather and water conditions, boat traffic, etc.); address the difficulty of putting on a life	**In-Class Activities:** 1. Have a PFD fashion show using examples. 2. Have a relay race to show how long it can take to fully put on a PFD if appropriate for the age group (young children versus adults). 3. Have assorted pictures of activities/people/boats and ask students to match type of lifejacket to pictures. 4. Show an example of an inflatable lifejacket. 5. Read a story from "Saved by the Jacket" book. 6. In a pool setting, have students put their lifejackets on shore; time them and establish how quickly they can put their lifejackets on. Then ask the students to enter water over their heads (CAUTION: follow appropriate swimming and rescue policies), throw lifejackets into the

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jacket in the water while under distress; and include state or federal regulations pertaining to children wearing life jackets aboard recreational watercraft.	water and time the students as they try to put on lifejackets in the water; compare times and emphasize that all people should wear lifejackets at all times.
Standard 2.4 - Personal Flotation Device Serviceability The course will describe the characteristics of serviceable (good) PFDs and when to replace PFDs due to excessive wear or damage. Special attention must be given to the maintenance of inflatable PFDs as per manufacturer recommendations.	**In-Class Activity:** 1. Have several PFDs in various levels of serviceability (missing buckles, straps, small tears, broken seams). Have the students determine which devices would be deemed as 'serviceable' based on the USCG serviceability policies.
Standard 2.5 – Fire Extinguishers The course will describe the legal requirements for fire extinguishers on recreational boats, the kind of fire extinguishers needed for different types of fires, the importance of placing fire extinguishers in a readily accessible location, and the need for regular inspection of fire extinguishers.	**In-Class Activities:** 1. Show Fire Extinguisher and pass around the room. (Make sure it is inert) 2. Draw fire triangle on board (heat, fuel, oxygen) explain the elements necessary for fire. 3. Give examples of types of fires. A – ash (wood) B – boil (gasoline) C – current (electric) D- dense (metals) 4. Write PASS acronym on board (Pull, Aim, Sweep, S)
Standard 2.6 - Back-Fire Flame Control Device The course will describe the purpose and maintenance of a back-fire flame control device (a required device on all enclosed engines with a carburetor).	**In-Class Activities:** 1. Demonstrate the screen and lighter. 2. Have a back-fire flame control device in class, or point out one on an inboard or Inboard /outboard boat.
Standard 2.7 – Ventilation Systems The course will discuss the ventilation system requirements for different types of boats.	**In-Class Activities:** 1. Show pictures of ducts and with cowls. 2. Have a boat available and have students chart all ductwork and cowling. Indicate flow of air when boat is underway.
Standard 2.8 – Navigation Light Equipment The course will cover the navigation light requirements for recreational boats from applicable sections of Navigation Rules (Part C) as summarized in Federal Requirements and Safety Tips	**In-Class Activities:** 1. Show examples of navigation lights. 2. Show video or online clips of lights at night and ask class to identify what they are seeing. 3. Recognizing night lights. Students should "position" themselves directly in front of the lights. That is, assume you are in the water at night and see the displayed light pattern "dead ahead". The presenter should show the light pattern, wait for those in the class to contribute both what

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for Recreational Boats.	the lights indicate and what safety action should be taken.
Standard 2.9 - Sound Signaling Equipment The course will describe the types and use of sound producing devices required on recreational boats.	**In-Class Activity:** 1. Set up a boating channel scheme with buoys (objects readily available such as a chair) and have the students practice moving through the course using sound signals to demonstrate both international and inland rules.
Standard 2.10 – Visual Distress Signals The course will describe the types and use of visual distress signals required on recreational boats operating on coastal waters and adjoining rivers two (2) miles or more wide at the mouth and up to the first point the river narrows to less than two (2) miles as summarized in Federal Requirements and Safety Tips for Recreational Boats.	**In-Class Activity:** 1. Show examples of visual distress signal equipment (Make sure they are inert).
Trip Planning and Preparation	
Standard 3.1 - Checking Local Weather And Water The course will describe how to make informed boating decisions based on forecasted local weather, water conditions, boater skill level, vessel range and capability pertinent to those conditions. It will describe dangerous weather (i.e., strong wind, storms, lightning, hurricanes, fog) and water conditions (i.e., high water, sand bars, currents, large waves) and their importance in trip planning.	**In-Class Activities:** 1. List sources for weather information (TV, radio, internet, look at clouds) 2. Listen to actual marine weather information via radio (could be tape recorded if marine weather station not available)
Standard 3.2 - Checking Local Hazards The course will describe how to obtain information about local hazards that may impede the safe operation of a recreational boat.	**In-Class Activities:** 1. Watch video clip on low-head dams Low Head http://video.google.com/videoplay?docid=-6846124409391034920&ei=VHnDSrj5GJ_oqQLMt-Uv&q=low+head+dams&hl=en&client=safari# 2. Review local charts to determine how to identify rapids, tides, sand bars, currents, whitewater, dams, bridges, sand bars, waves, areas of heavy boat traffic
Standard 3.3 - Filing a Float Plan The course will describe the importance of notifying someone	**In-Class Activity:** 1. Show a blank formal float plan to the students; then give them a blank float plan form and fill out together as a class

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of your boating plans and the basic information that should be included.	based on the specifics of a hypothetical boat trip; turn paper over and ask students to convert the float plan into the essential information for an email or text message to a family member who is staying ashore.
Standard 3.4 - Boat Preventive Maintenance The course will communicate the need for regular inspection and maintenance of the boat and its key components (e.g., through-hull fittings, motor, electrical system, fuel system).	**In-Class Activity:** 1. Generate a list with the class of what should be checked and maintained regularly.
Standard 3.5 – Transporting and Trailering The course will describe procedures to prevent trailering accidents and resulting injury and property damage. The course will cover safe trailering procedures including: 1) safe towing preparation, 2) road handling factors when pulling a trailer, 3) launching a boat, and 4) retrieving a boat from the water.	**In-Class Activities:** 1. If possible, take students out to a parking lot to see a trailered boat and point out parts. If not possible, show pictures of a trailered boat. 2. Watch a video demonstrating the boat launch process including boat preparation at the launch ramp and use of courtesy docks.
Standard 3.6 - Fueling Procedures The course will provide information on proper procedures for fueling, ventilation during fueling, and protection of the marine environment during fueling.	**In-Class Activities:** 1. Discuss the differences in fueling a boat versus fueling a car. 2. Discuss and point out the fuel vent (use slides or images if necessary.) 3. Discuss marine fuels including ethanol and its impact. 4. Get samples of fuel absorbent pads and give sources.
Standard 3.7 – Pre-Departure Checklist & Passenger Communication The course must describe the importance of using a pre-departure checklist and conducting an onboard safety discussion with passengers. Passengers should be informed about: the location and use of life jackets/PFDs (and shown how to put them on), fire extinguishers, flares, and first-aid kit; the discharge and management of waste procedures; anchoring procedures; emergency radio	**In-Class Activity:** 1. Have students brainstorm what should be included on checklist and then compare their list with one in book to see what was missed.

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operation (if applicable); storm/rough weather procedures; line handling; emergency boat operation; and falls overboard procedures.	
Marine Environment	
Standard 4.1 – Environmental Laws and Regulations The course will describe the environmental laws and regulations concerning littering (e.g., garbage and plastic), waste management plans, and display of information placards (where applicable) and aquatic nuisance species.	**In-Class Activities:** 1. Hand out two litter bags to each student and challenge them to use one for themselves and the other to pick up others' inconsiderate litter at their favorite boating location 2. Discuss the impact of aquatic invasive species to boating (zebra mussels fowling motor intake, etc). Show examples of real or pictures of invasive species. 3. Get latest handouts on "Clean, Drain, Dry" or Stop hitchhikers or zebra mussel information
Standard 4.2 - Human Waste Disposal The course will describe the proper procedure for disposal of human waste from recreational boats and how to identify no discharge zones and pumpout station locations. The Clean Water Act requires that, if a toilet is installed, it must be equipped with a Coast Guard approved and operable Marine Sanitation Device (MSD).	**In-Class Activity:** 1. Exhibit a Marine Sanitation Devices in class and demonstrate the y-valve to close off the device into a holding tank. Discuss the use of holding tanks and pumpout stations.
Standard 4.3 – Disposal of Toxic Substances The course will describe procedures for the prevention of spills and improper disposal of toxic substances such as fuels, oils, and cleaning products into the marine environment and the associated fines for non-compliance. The federal Water Pollution Control Act prohibits the discharge of oil or hazardous substances into navigable waters. Powerboats must have the capacity to retain oily mixtures on board and to transfer them to an approved reception facility.	**In-Class Activity for Environmental Standards:** 1. Show example of display placards and pumpout sign. 2. Show Boat U.S. Foundation Clean Water Programs www.boatus.com/foundation/cleanwater/

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Safe Boat Operation	
Standard 5.1 - Operator Responsibilities The course will describe a boat operator's ultimate responsibility for operator proficiency, situational awareness, safety of boaters aboard and anyone coming into contact with the boat, and all activity aboard the boat. This responsibility extends to other water users and includes but is not limited to: 1. Safety of all passengers. 2. Controlling boat speed 3. Watching boat's wake and knowing it can cause damage 4. Refraining from careless, reckless, negligent operations (definitions of these terms vary by state) 5. Operating in manner to avoid motor/propeller strikes 6. Controlling boat noise 7. Operating in accordance with homeland security measures 5.1.1. Keeping a safe prescribed distance from military and commercial ships 5.1.2. Avoiding commercial port operations areas 5.1.3. Observing all security zones 5.1.4. Observing and reporting suspicious activities to proper	**In-Class Activity:** 1. Show the most recent USCG Boating Accident Statistics and discuss the number of accidents and fatalities that are caused by standard 5.1 violations.

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authorities The course should indicate that it is but the beginning of the boater's education and that other courses are available.	
<u>Standard 5.2 - Influence of Drugs and Alcohol on Boat Operation</u> The course will describe the effects of drinking alcohol or using drugs while boating, and the boating laws pertinent to operating a boat while under the influence.	**<u>In-Class Activity:</u>** 1. Show the most recent USCG Boating Accident Statistics and discuss the number of accidents and fatalities that are caused by standard 5.2 violations.
<u>Standard 5.3 - Navigation Rules</u> The course will describe basic safe boating operation and good seamanship for recreational boaters. It is designed to assist the recreational boater when encountering typical navigation rules of the road situations. Although you are responsible to be knowledgeable of the Navigation Rules in their entirety, the course will focus on only the following Inland Rules*: *In those states that Inland Rules do not apply, the equivalent International, Western Rivers or Great Lakes rule(s) may be substituted by the Course Provider. <u>Standard 5.3.1</u> - Rule of responsibility – Rules 2(a) and 2(b) <u>Standard 5.3.2</u> - Proper lookout – Rule 5 <u>Standard 5.3.3</u> - Safe speed – Rule 6(a) <u>Standard 5.3.4</u> - Collision avoidance rules	**<u>In-Class Activities:</u>** 1. Review written scenarios (hypothetical accident reports) to determine which Navigation Rules were violated in each situation. 2. Show a video clip that illustrates basic Navigation Rules principles. 3. Read the content as written in the Navigation Rules and interpret what it means in layman's terms. The "One Minute Guide to the Nautical Rules of the Road" book will help with this. 4. Have each student stand up. Each student will put their right arm out in front of them at shoulder height. Have each student carefully (do not hit the person next to you) move their right arm clockwise as far to the right as possible. Ask the student to look straight ahead, then look to the right at their fingertips. This is their 'danger zone' in the boat. 5. Show the most recent USCG Boating Accident Statistics and discuss the number of accidents and fatalities that are caused by Navigation Rules violations. 6. Practice proper navigation around the room. Pretend people are the boats and have them move through a course in the room. Each person will wear red and green strips of paper or tape on their arms to signify the proper lighting schemes and a piece of paper will be taped to their chests to show which type of boat they are (sailing, canoe, power boat, PWC, etc.) They will need to practice correct sound signals (verbally), collision avoidance rules, and act responsibly with other "boats" that they encounter. 7. Show a portion of a CD-Rom that is a Navigation Rules Study Aid. 8. Have copies of the Navigation Rules and "One Minute Guide to the Nautical Rules" books to pass around the room. 9. Have a discussion. Example "Have you ever been in close

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Rules 7(a), 7(d), 7(d)(i), 7(d)(ii); Rule 8; Rules 13(a), 13(b); Rule 16; Rule 17; Rule 18 Inland Rules 14(a), 14(b), 14(c), Rule 15(a) <u>Standard 5.3.5</u> - Restricted visibility - Rules 19(a) through (e) <u>Standard 5.3.6</u> - Disclaimer "The navigation rules contained in this course summarize basic navigation rules for which a boat operator is responsible on inland waterways. Additional and more in-depth rules apply regarding various types of waterways, such as International Waters and Western Rivers, and operation in relation to commercial vessels and other watercraft. It is the responsibility of a boat operator to know and follow all the navigation rules. In those states that Inland Rules do not apply, the equivalent International, Western Rivers or Great Lakes rule(s) may be substituted by the Course Provider. For a complete listing of the navigation rules, refer to the document "Navigation Rules" published by the U.S. Coast Guard (COMDTINST 16672.2 Series) and available through the U.S. Government printing office or on the web at http://www.uscg.mil/vtm/navrules/navrules.pdf For State specific navigation requirements, refer to the state laws where you intend to boat.	proximity of other boats, and wondered who is the give-way boat?" 10. Situation- Ask class to discuss the following: you are in a sailboat under sail only in a narrow channel. You appear to be on a collision course with a large ferry boat. Who is the give-way boat? Why? What do the Navigation Rules require of each boat? 11. Discuss with the class that <u>No vessel ever has the</u> Right of Way! The General Rule of Responsibility states that the owner, captain, and crew must take every precaution required by the 'ordinary practice of good seamanship' to avoid immediate danger, including collision. 'Precaution' may include departing from the Rules, as…. • A large ferry boat in a narrow channel has priority of movement over a 24 foot boat of any kind, a vessel not under command would make the ferry a give way vessel • Boats in narrow channel are required to keep to the right- as close to the edge of the channel that lies to their starboard side as is safe and practical 12. Discuss with the class the following situation: Example (Limited Visibility): *Have you ever been out in the water in a heavy downpour or when a thick fog rolls in? What should you do?* • Reduce speed • Put on life jackets • Post lookouts • Turn on navigation lights • Sound the proper sound signals • Listen for sounds of nearby boats and navigational aids • Determine your position as accurately as possible and plot the safest course to your destination 13. Discuss what non-motorized craft (such as paddlers) must do according to the Navigation Rules 14. Discuss and illustrate number one rule at sea – avoid collision – by taking appropriate actions well in advance.
<u>Standard 5.4 - Aids to Navigation</u> The course will describe the Federal U.S. Aids to Navigation (USATONS) and the Uniform State Waterway Marking System (USWMS). The course must	**<u>In-Class Activities</u>** 1. Use the objects as buoys to set up a course in the classroom for the students to move through. 2. Using posters and handouts, have students draw in buoys that should be used to mark slow speed (no-wake), swim areas, launch ramps, and marinas.

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provide information about regulatory/informational markers (identified by orange bands on the top and bottom of each buoy) used to advise of situations, dangers, or directions indicating shoals, swim areas, speed zones, etc.	
Standard 5.5 - Docking and Mooring The course will describe common practices for docking and mooring a boat relative to boat size, type of boat, location, weather, and current.	**In-Class Activity:** 1. Show a video clip or animated PowerPoint to demonstrate docking procedures visually.
Standard 5.6 – Anchoring The course will describe the importance of carrying an anchor, the selection of anchors, related ground tackle, and their use for different types of boats in various boating conditions. The course must describe procedures for anchoring, use of anchors as safety devices in emergency situations, and the hazards of stern anchoring.	**In-Class Activities:** 1. Show the anchor and pass it around the room for the students to see. 2. Show pictures of the different types of anchors and explain their uses. 3. Illustrate anchoring procedures using anchor, rode, and lines. Illustrate removing the anchor and emphasize not to anchor in specific hazards areas (i.e., in a channel).
Standard 5.7 – Carbon Monoxide The course will describe the dangers, symptoms, and avoidance practices associated with carbon monoxide (CO) poisoning in recreational boating.	**In-Class Activities:** 1. Show an empty water bottle that has been "filled up" with CO from a car or boat. Ask the class to note what they see (Nothing- it is colorless and odorless) Get CO handouts from the state or the CG 2. Pass around a CO indicator for people to look at. 3. Review CO accident scenarios from USCG. 4. Review CO booklet.
Standard 5.8 - Propeller Intervention & Awareness The course will describe the dangers, unsafe activities, safety equipment, and avoidance practices to mitigate or prevent propeller strikes in recreational boating.	**In-Class Activities:** 1. Using a boat available in the parking lot, have students look at prop and illustrate the proximity of a prop to swimmers in the water behind the boat. Discuss the best location for a swim ladder. 2. Use propeller awareness handouts from the CG.
Emergency Preparedness	
Standard 6.1 - Rendering Assistance The course will explain that according to the Navigation	**In-Class Activity:** 1. Discuss various ways to render assistance without needing to tow a boat.

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Rules, boat operators are required to render assistance to a boat in distress to the extent they are able.	
<u>Standard 6.2 - Capsizing/Falls Overboard</u> The course will describe how to prevent and respond to these emergencies. The prevention responses will include at least the following: stay centered and low, avoid standing and sudden moves, maintain three points of contact, never overload, balance your load, and avoid rough water. The responding procedures will include at least the following: wearing life jackets, taking a head count, staying with the craft when appropriate, signaling for assistance, using improvised floating aids, and initiation of procedures to recover people in the water.	**<u>In-Class Activities</u>** 1. In- class discussions: *Have you ever experienced falling overboard? Why do people fall overboard?* 1. Standing in a small boat while underway 2. Sitting unsafely on foredecks, gunwales, engine boxes, transoms 3. Slipping on deck 4. Leaning over the side *2.* In- class discussions: *What should you do in a case of falling overboard?* 1. Stop the boat immediately. 2. Alert all passengers 3. Immediately toss the victim a life preserver 4. Assign someone to point to the victim and keep him constantly in sight. 5. Turn the boat and return to the victim. Approach against the wind and waves and carefully come aboard. 6. When alongside, turn off the boat engine in gear to stop the propellers. 7. Bring the victim aboard over the transom, if possible. Watch out for hot outboard motors and exhaust pipes. *3.* In- class discussions: *How can falling overboard be prevented?* 1. Make sure all passengers are sitting in seats provided 2. Make sure everyone is wearing shoes with non-skid soles, never bare feet 3. Caution passengers about leaning over the side keeping shoulders within gunnels of boat. 4. Maintain three points of contact with boat when moving around.
<u>Standard 6.3 – Cold Water Immersion and Hypothermia Prevention</u> The course will describe the dangers of cold water immersion and hypothermia, including prevention and the physiological impact of cold water immersion, including information on the various stages which include initial reaction (involuntary gasp reflex), short-term immersion/swimming failure, long-term immersion/immersion hypothermia, and post-rescue	**<u>In-Class Activities:</u>** 1. Cold Water Tank Demonstration: Have students place hand in ice water for 30 seconds and then attempt to pick up items or tie a knot with cold hands. Stress importance of wearing life jacket. 2. Watch Video – “Cold, Wet and Alive” or “Boating the Starboard Way” or “Cold Water Bootcamp”; follow up with a conversation about how physical agility and mental acuity diminish rapidly during cold water immersion.

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<u>Standard 6.4- Fire Emergency Preparedness</u> The course will describe procedures to prevent and respond to boating fires such as proper use of fire extinguishers and basic knowledge of fire suppression principles.	**<u>In-Class Activities:</u>** 1. In- class discussion: *Have you ever seen or read about a boat catching fire or blowing up? What would you do if you had a fire on your boat?* 1. Immediately notify the crew 2. Instruct everyone to don life jackets 3. Move passengers to the unaffected portion of the boat, preferably upwind 4. Turn the boat to keep the wind from blowing the fire into the occupied quarters 5. Turn off all fuel supplies, engine, galley stove, heaters. Disconnect all sources of electricity 6. Try to put the fire out with your fire extinguishers. Use water on an alcohol stove fire 7. If you are unable to get the fire under control at once, place the distress call on VHF Channel 16 immediately and display visual distress signal to attract nearby boats 8. If there is the slightest doubt about whether you can put out the fire, don't even try. Immediately get the people off your boat and as far away as possible, in case it explodes. *2.* In- class discussions: *How can fire be prevented?* Many boat fires occur from starting engines when there are gasoline vapors in the bilge. 1. Gasoline vapors are heavier than air and tend to settle in the bilge 2. Propane, alcohol and natural gas are flammable fuels that can ignite and spread easily, especially in heavy seas Preventing fires: 1. Inspect your boat systems frequently 2. Avoid getting gasoline in the bilge 3. Fuel your boat properly
<u>Standard 6.5 - Running Aground Prevention and Response</u> The course will describe how to prevent and respond to running aground for recreational boats.	**<u>In-Class Activity:</u>** 1. Have everyone stand up and act as a "lookout."
Other Water Activities	
<u>Standard 7.1 – Personal Watercraft and other Jet Propelled Watercraft</u> The course will inform all boat operators about safe boating practices, operational	**<u>In-Class Activities:</u>** 1. Use Videos or additional information to demonstrate PWC's. 2. Discuss that even non PWC boat owners/operators should know about cut off lanyards and fuel reserve tanks so that if they come across a "novice" PWC operator that is

Standard	Successful Instructional Strategies
characteristics and special accident risks unique to personal watercraft (PWC) such as: PWC handling characteristics/stability; off throttle steering; stopping (including braking and reverse systems); re-boarding a PWC; and the use of a lanyard cut-off switch. Standard 7.1.1 – Operational characteristics of PWC, including steering, stopping and stability of PWC Standard 7.1.2 – Off-throttle steering. Standard 7.1.3 – PWC load capacities as per manufacturer recommendations. Standard 7.1.4 – Re-boarding a PWC. Standard 7.1.5 – The purpose and use of a Lanyard/Cut (Shut) off switch. Standard 7.1.6 – The purpose and use of a fuel reserve tank. Standard 7.1.7 – Laws and regulations. Standard 7.1.8 – Accident prevention. Standard 7.1.9 – Noise control. Standard 7.1.10 – Hours of operation.	"stranded" they may be able to save a tow by troubleshooting. 3. Use PWC as a visual aide when discussing the characteristics of PWC's. 4. Show videos from the Personal Watercraft Industry Association.
Standard 7.2 - Water Skiing, Towed Devices and Wake Sports The course will describe procedures to follow when pulling water skiers, towing anyone behind a vessel, or allowing anyone to participate in	**In-Class Activities:** 1. Demonstrate waterskiing hand signals and then ask students to practice with a partner making and interpreting the signals correctly. 2. Water Skiing videos or additional information can be used in teaching the course. However, if the audience is not primarily made up of water skiers, this information need

Standard	Successful Instructional Strategies
an activity using the wake of the vessel (wake boards, tubes, etc.).	only be covered at the minimum.
<u>Standard 7.3 - Diving and Snorkeling</u> The course will describe how to recognize a diver down flag and the legal requirements for operating a boat in the vicinity of snorkeling or scuba diving activities.	**<u>In-Class Activities:</u>** 1. Videos on diving can be used to demonstrate important information. 2. Get a dive flag and an "alpha" dive flag to discuss what to do around divers. 3. Ask a certified diver to attend class and discuss preferred boating behavior around divers. 4. Display examples of the red diver down and vessel involved in diving (alpha) flags. Discuss the different meanings between the two.
<u>Standard 7.4 - Hunting & Fishing</u> The course will inform people who fish and hunt from boats that they are boaters and need to follow safe boating practices. Information must be provided about accident risks unique to this group of recreational boaters.	**<u>In-Class Activities:</u>** 1. Videos on hunting and fishing can be used to demonstrate specific boating dangers. Boat Fly Fishing Safety Video by Anglian Water - Part 1: Safe Start Boat Fly Fishing Safety Video by Anglian Water - Part 2: Basic Watercraft 2. Use Boat US hunting and fishing materials for any hunters or anglers in the class
<u>Standard 7.5 – Paddlesports and Small Boats</u> The course will describe that all boat operators, including paddlers and small boat operators, should be aware of their interactions around paddle boats, including the effect of motor boat wakes on paddle boats, other smaller boats and swimmers. Additionally, the course should provide information about the unique considerations for paddle sport boats and safety procedures including: being prepared to enter the water, knowing how to swim and how to effect self rescues in rivers/currents and other moving water conditions (strainers, low head dams, unusual high water conditions); how to load the boat properly and move around in the boat (e.g. keep the weight centered both from side to side and bow to stern).	**<u>In-Class Activities:</u>** 1. Videos on paddlesports can be used in teaching the course. 2. Use free pamphlets and resources available from the American Canoe Association website at: http://www.americancanoe.org/site/c.lvIZIkNZJuE/b.4486093/k.98B2/For_Instructors.htm Kayaking & Canoeing for Beginners : Knowing Boat Etiquette & Safety for Canoeing

Standard	Successful Instructional Strategies
State Specific Requirements and Continuing Education	
Standard 8.1 - Continuing Education The course will outline the need for additional boating safety education and staying informed of changes in boating safety requirements.	**In-Class Activity:** 1. Find out what "advanced" courses are coming up and have the information available for anyone who may show an interest.
Standard 8.2 - State Specific Boating Information The course will contain (as part of the text or a separate handout) state specific information in regard to boating laws/regulations and local boating conditions. The course will include the following topics as applicable: Standard 8.2.1 - Registration and titling requirements such as number of year's registration decals are valid, expiration date of registration, decal placement. Standard 8.2.2 - Laws for required wearing of PFDs for children, certain types of boats, and for special boating activities such as personal watercraft, skiers and others being towed. Standard 8.2.3 - Additional equipment requirements such as anchor, lanyard, bailing devices, visual distress signals. Standard 8.2.4 - Mufflers and noise levels. Standard 8.2.5 - Requirements for waste discharge, no discharge zones, and litter laws.	**In-Class Activity:** 1. Invite a state marine patrol officer or boat education officer to present this part of the class. Market it by advertising he/she will be there.

Standard	Successful Instructional Strategies
Standard 8.2.6 - Special requirements for mandatory education, licensing, rental operation, and proficiency test certifications. Standard 8.2.7 – Age and/or horsepower restrictions and adult supervision requirements for children. Standard 8.2.8 - Laws further defining careless, reckless, unsafe, and negligent operations such as becoming airborne and operating less than specified distances behind a water skier. Standard 8.2.9 - Boat speed limits and operation in zoned and restricted areas. Standard 8.2.10 - Laws on operating under the influence of drugs and alcohol such as implied consent and BAC levels Standard 8.2.11 - Law enforcement officer authority and boater responsibility to comply. Standard 8.2.12 - Boat accident reporting requirements including how, when, and where to file the report. Accident reports are legally required when the accident involves: 1) disappearance or loss of life; or 2) personal injury requiring medical treatment beyond first aid; or 3) property damage in excess of current state or federal thresholds; or 4) complete	

Standard	Successful Instructional Strategies
loss of the boat. Standard 8.2.13 - A state approved boating accident report form or Coast Guard form. Standard 8.2.14 - Other laws or regulations as required by the state approving authority.	
Recommended Information	
R1 – Boat Types and Uses The course should describe the common types of recreational boats, common hull designs, and their performance in various types of boating situations.	**In-Class Activity:** 1. Have pictures of the different types of boats so that the students can see them as they are being discussed.
R2 - Boating Terms The course should describe commonly used boating terms in addition to those terms required to follow the Navigation Rules. (see also standard 5.3.1).	**In-Class Activity:** 1. Write boating-specific terms and their definitions on chart paper or the board throughout the class so that they can be referenced while teaching the content.
R3 - Boat Theft Prevention The course should contain information that addresses actions the boat owner can take to deter or prevent boat theft.	**In-Class Activity:** 1. Make a list of theft prevention techniques and write them on the board.
R4 - Communication Procedures The course should describe the protocol and use of VHF marine radios and other equipment for contacting the U.S. Coast Guard or other rescue personnel in the event of a boating emergency.	**In-Class Activity:** 1. Print out a list of VHF radio channels and the protocol for using the radios on a small business-size card for students to keep as a reference while on board.

Web Resources

Aids to Navigation http://www.boatsafe.com/flash/reviewaids.html
American Canoe Association for paddlesports information:
http://www.americancanoe.org/site/c.lvIZIkNZJuE/b.4486093/k.98B2/For_Instructors.htm
Boat Lighting Schemes http://www.boatsafe.com/flash/reviewlights.html
Boating Basics Online http://www.boatingbasicsonline.com/content/general/
BoatU.S.Foundation for Boating Safety & Clean Water www.boatus.com/foundation/cleanwater/
Cold water boot camp http://www.youtube.com/watch?v=J1xohI3B4Uc
LifeSaving Study 2007 see NASBLA UTube clip -
http://www.nasbla.org/i4a/pages/index.cfm?pageid=1
Navigation Rules for Boaters. Boating Basics Online -
http://www.boatingbasicsonline.com/content/general/6_2_a.php
Navigation Rules Online http://www.navcen.uscg.gov/mwv/navrules/rotr_online.htm
Sailing Simulator http://www.thepirateking.com/ships/sail_simulator.htm
Small Craft Advisory Document p. 14
http://www.nasbla.org/files/public/SCA/JanFeb%202009.pdf
Start Boating Right www.uspowerboating.com
Tying Knots http://www.smallboat.sailingcourse.com/knots.htm
US Sailing videos online http://www.smallboat.sailingcourse.com/turning_the_boat.htm

Material Reviewed

- America's Boating Course. Instructor Manual Third Edition 2008. United States Power Squadrons
- The Squadron Boating Course. Instructor Manual 2007 Update. United States Power Squadrons
- Education Standards Checklist for Application to Meet Minimum Course Content - www.nasbla.org/files/public/Educ/Approval/Standards/2008%20Checklist.pdf
- Boating Safety Instructor Certification Course Outline, Safe Boating Council.
- Analysis of Factors Associated with Boating Fatalities. Conducted for BOATUS by Responsive Management 2006.