

## Build a big bamboo canoe

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Auckland consultant anaesthetist Dr Charles Bradfield and his wife Joy wondered whether we'd be interested in this frame-and-skin boat (coracle or currach) that their youth group was building to compete in a local raft race? "It's just under seven metres long." And it was a bamboo framed canoe covered in canvas.

"It's not often in this day and age that you can get teenagers away from their computer," they said of the project.

For a start, they built a 1.5-metre model. This was made of bamboo strips and packaging tape, an exercise in determining shape and proportions. Charles refers to this 1/5th model as a proof-of-concept construction. He says the first boat included pieces of wood bent and nailed and some strips tied. It was "a bit crude."

Then they moved up to a two-man, half-sized model about 3.5 metres long as further proof of concept and to see if it would float. The most important thing they discovered was that it had to be flat-bottomed. Otherwise, they figured out they would have ended up spending more time upside-down.

The youth spent all of their holidays in December and January working every day on the large boat tying twine around all the bamboo joints. That's a lot of knot-tying.

"The interesting thing with the calculations was that when you went to two times the length, the carrying capacity went up by the power of three. In other words, the length doubled produced an equivalent of the volume cubed. Eventually, increasing the canoe from 3.5 metres to seven metres allowed the canoe to go from carrying two boys to carrying eight."

**Read more in the April/May 2010 issue of The Shed**