Design a thermostat user interface that communicates its conceptual model to the user more effectively, so that users are less likely to make this mistake.

Solving this problem doesn't seem very hard, you could just add a little sentence tot the interface telling the user that setting the desired temperature higher doesn't make the room heat up faster. My idea is very simple and I think the most effective way of making the user interface more effective. Just by adding a little on/off switch on the interface will probably solve the problem.

I honestly think the interface that you can turn in a circular motion is the problem because it is very similar to opening the faucet which doesn't work with an on/off system. If you open the faucet more, it will result in giving you more water. This is very common knowledge and I think that the thermostat interface looks too much like the one of the faucet because it has the same principle.

What I suggest is using an interface with two buttons for adjusting the temperature. Next tot hat there should be an interface displaying the current temperature and showing if the thermostat is on or off. It should look something like this: