The test object of my grad work experiment will be a Game Boy emulator which I modified to have a memory bank controller.

For the testing, I will use a test rom. These roms give scores on the emulator used in order to give an indication on how well it emulates the Game Boy. I will test the emulator before and after implementing the memory bank controller. This will give me 2 sets of data to compare.  
I will also both fully implement 1 memory bank controller and start on another. This way, I can test if the inheritance would work the way I envision it would.

I expect after doing both tests with the test rom, that the score of the emulator has gone up. This is because with the memory bank controller, the emulator would be closer to the real Game Boy’s performance.  
For the inheritance, I want to see if it is as easy to swap out memory bank controllers as I think it would be. The result should be that the second controller should be in a working enough state to show that it is being used correctly.

By doing these tests, I will know enough about the emulation of the memory bank controller in order to get an answer to my research question.