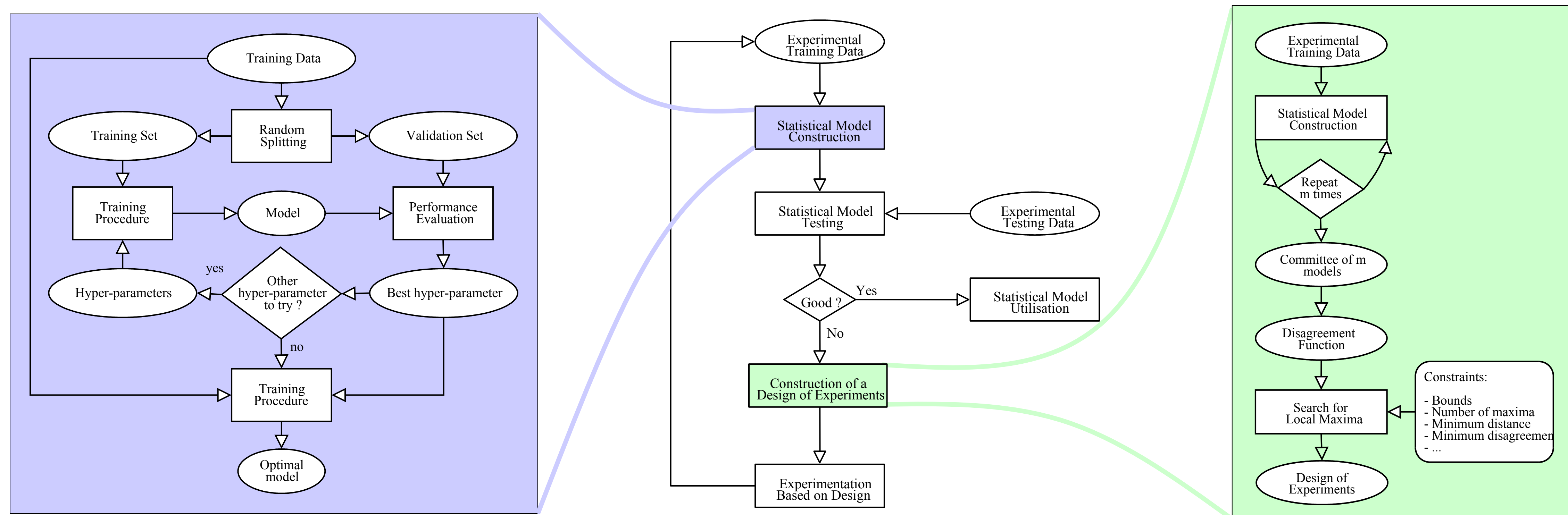
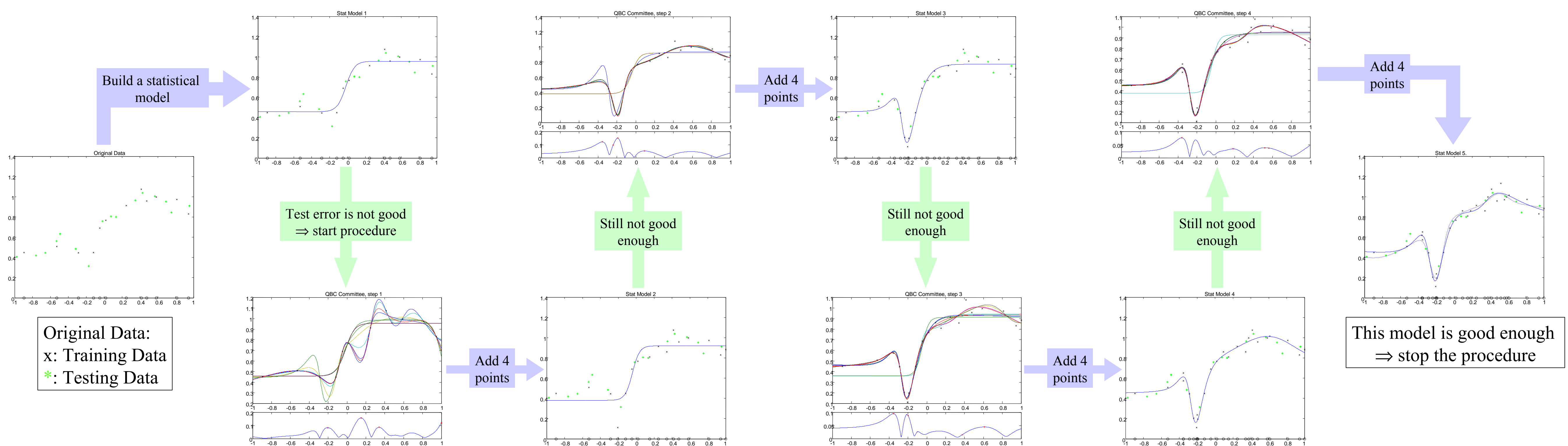


## Method



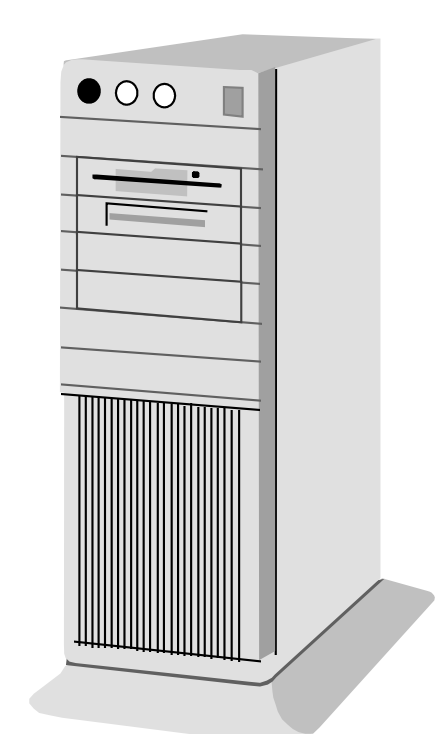
## Example



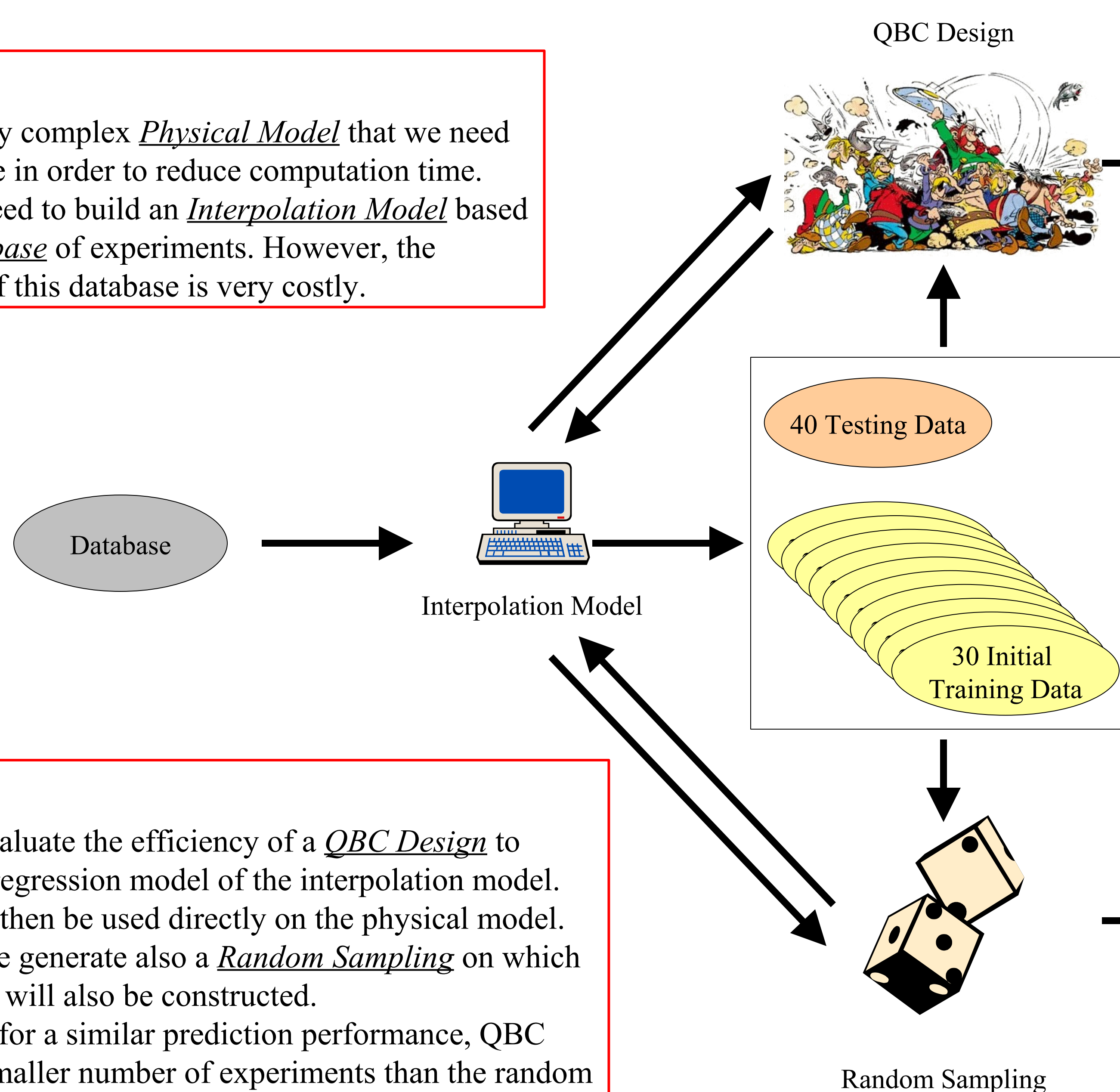
## Application & Comparison

### Problem:

We have a very complex *Physical Model* that we need to approximate in order to reduce computation time. For this, we need to build an *Interpolation Model* based on a big *Database* of experiments. However, the construction of this database is very costly.



Physical Model



### Solution:

We are going to evaluate the efficiency of a *QBC Design* to produce a “good” regression model of the interpolation model. The method might then be used directly on the physical model. For comparison, we generate also a *Random Sampling* on which a regression model will also be constructed. It is expected that, for a similar prediction performance, QBC design leads to a smaller number of experiments than the random sampling.

### Objective:

Building a good approximation of the interpolation model using less than 140 points (100 Train, 40 Test).

