Design iterations…
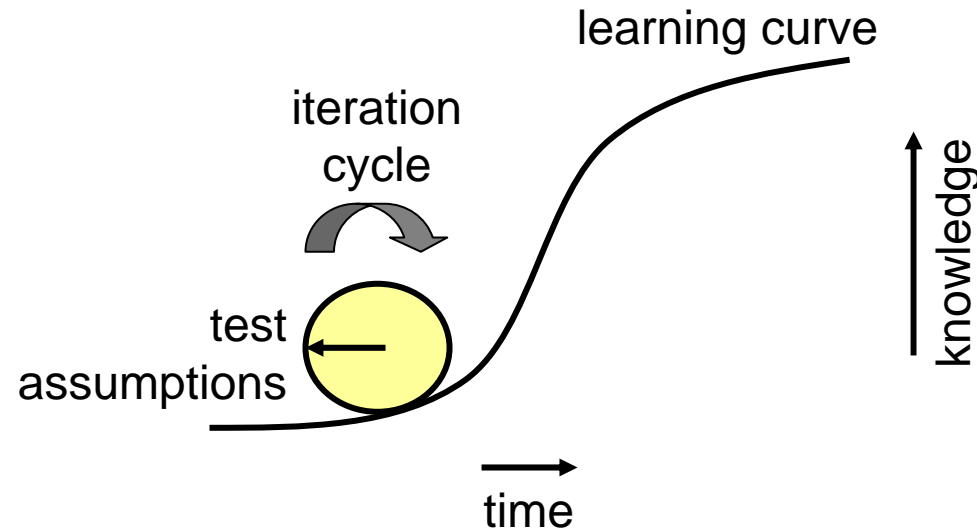
…Climbing the learning curve

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- **All development projects are based on assumptions**
- **Knowledge is created by testing these assumptions:**
  - 'Climbing the learning curve'
- **Iterations are the 'wheels' to climb the curve:**
  - Larger diameter ⇔ Test more key assumptions in each iteration
  - Higher speed ⇔ Shorten iteration cycle to learn faster

- **Each design iteration needs to be designed to validate the most critical untested assumptions**
  - Discovery-driven planning
- **Identify assumptions that are independent of each other**
  - Use Design of Experiments (DOE) methodology to cover the 'assumption space'
- **Assume the design won't work in this iteration**
  - Plan the debug strategy up front
- **Prototype everything**
  - and often!

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- **Find the bottleneck in design iterations and make sure its always kept working on the program**
- **Pipeline design iterations**
  - Set up at least two (independent) groups of assumptions to be tested
  - Run design iterations against each group of assumptions
  - Stagger the two groups to get a continuous flow of knowledge

Time →

Assumption Group I	Iteration cycle			Iteration cycle		
	Design	Build	Test	Design	Build	Test

Iteration cycle			Iteration cycle			Assumption Group II
Design	Build	Test	Design	Build	Test	

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