This Week

- We have talked about describing service processes – graphical techniques to model/represent the process

- We now need to talk about:
  - Describing the activities/tasks that make up a process
  - Flowcharting the process
  - MTM: Methods, Time, and Motion Analysis
  - Job Design
Some Ideas for Syntax

✓ System
  µ Process
    • Activity
      o Task
        – Motion/Element

✓ But this breakdown is subjective…
other variations are possible
Motion Study

Motion Study is designed to determine the best way to complete a repetitive job.

- Improve methods

- It measures distance, or how much you move to do a job, and how much you get done in a period of time.
Motion Study

- Frank & Lillian Gilbreth

- Divide task into therbligs
  (http://gilbrethnetwork.tripod.com/therbligs.html)

  - Therbligs examples: search, select, grasp, hold

- Therbligs had no relationship to Time Study

- Now, use videotape to study motions
General Guidelines For Motion Study

- Efficient Use Of Human Body
  - Work - simplified, rhythmic & symmetric
  - Hand/arm motions - coordinated & simultaneous
  - Employ full extent of physical capabilities
  - Conserve energy - use machines, minimize distances.
  - Tasks - simple, minimal eye contact & muscular effort, no unnecessary motions, delays or idleness
General Guidelines For Motion Study

- **Efficient Arrangement Of Workplace**
  - Tools, material, equipment - designated, easily accessible location
  - Seating & work area - comfortable & healthy

- **Efficient Use Of Equipment**
  - Equipment & mechanized tools enhance worker abilities
  - Use foot-operated equipment to relieve hand/arm stress
  - Construct & arrange equipment to fit worker use
Task/Motion Description

✓ Today we will undertake an in-class activity.

✓ Working in groups of two, we will attempt to describe the steps/motions associated with a common task/activity – tying a shoe.
What to do...

- Students pair up.
- One student tie the shoe and the other student write down a description of each step.
- Groups present their description.
- While one student is reading a description – another student come forward and attempt to follow the description.