

Lecture #6

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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**

q **Process**

• **Activity**

o **Task**

– **Motion/Element**

∨ **But this breakdown is subjective...
other variations are possible**

Motion Study

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

q Improve methods

q 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
 - Therbligs examples: search, select, grasp, hold
- ∇ **Therbligs had no relationship to Time Study**
- ∇ Now, use videotape to study motions



General Guidelines For Motion Study

v Efficient Use Of Human Body

- q Work - simplified, rhythmic & symmetric
- q Hand/arm motions - coordinated & simultaneous
- q Employ full extent of physical capabilities
- q Conserve energy - use machines, minimize distances.
- q Tasks - simple, minimal eye contact & muscular effort, no unnecessary motions, delays or idleness

General Guidelines For Motion Study

v Efficient Arrangement Of Workplace

- q Tools, material, equipment - designated, easily accessible location
- q Seating & work area - comfortable & healthy

v Efficient Use Of Equipment

- q Equipment & mechanized tools enhance worker abilities
- q Use foot-operated equipment to relieve hand/arm stress
- q 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.**