**TWI* Brief History**

- Established August 1940 by National Defense Advisory Committee
- Enacted by Presidential order in 1942 to become part of the War Manpower Commission
- TWI content was developed and supported by leading specialists, manufacturing companies, and union representatives
- TWI focused on producing safely, quickly, correctly, and conscientiously
- Managers and supervisors were coached in three core skill areas
  - Instruction
  - Improving
  - Leadership
- The original TWI basic training programs were
  - Job Instruction (JI)
  - Job Methods (JM)
  - Job Relations (JR)
  - Program Development (PD)

*Training Within Industry*
**TWI Results Encouraging (1/2)**

**Initial Overall Results May 1943**

<table>
<thead>
<tr>
<th>Category</th>
<th>&lt;25%</th>
<th>25-49%</th>
<th>49-74%</th>
<th>&gt; 75%</th>
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<tbody>
<tr>
<td>Production Increased</td>
<td>63</td>
<td>16</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>Training Time Reduced</td>
<td>52</td>
<td>25</td>
<td>7</td>
<td>16</td>
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<tr>
<td>Manpower Saved</td>
<td>80</td>
<td>9</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Scrap loss reduced</td>
<td>89</td>
<td>5</td>
<td>5</td>
<td>1</td>
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</table>

*Training Within Industry*
TWI Results Encouraging (2/2)

Percentage of plants reporting improvement results of 25% and over

<table>
<thead>
<tr>
<th>Category</th>
<th>May 1943</th>
<th>Sept 1943</th>
<th>Feb 1944</th>
<th>Nov 1944</th>
<th>April 1945</th>
<th>July 1945</th>
<th>Sept 1945</th>
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<tbody>
<tr>
<td>Production Increased</td>
<td>37</td>
<td>30</td>
<td>62</td>
<td>76</td>
<td>64</td>
<td>63</td>
<td>86</td>
</tr>
<tr>
<td>Training Time Reduced</td>
<td>48</td>
<td>69</td>
<td>79</td>
<td>92</td>
<td>96</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>Manpower Saved</td>
<td>11</td>
<td>39</td>
<td>47</td>
<td>73</td>
<td>84</td>
<td>74</td>
<td>88</td>
</tr>
<tr>
<td>Scrap loss reduced</td>
<td>11</td>
<td>11</td>
<td>53</td>
<td>20</td>
<td>61</td>
<td>66</td>
<td>55</td>
</tr>
<tr>
<td>Grievances reduced</td>
<td>--</td>
<td>--</td>
<td>55</td>
<td>65</td>
<td>96</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

*Training Within Industry
Leadership Qualities in Production

1. Knowledge of work
   -(e.g. how we do things)

2. Knowledge of responsibility
   -(e.g. what we need to do by when)

3. Skill in improvement
   -(e.g. how can we do this better)

4. Leadership behavior & motivation
   -(e.g. why we do things this way)

5. Teaching ability
   -(how to pass along our skills to others)
Job Instruction

How to teach an employee to do a particular job

-Safely

-Correctly

-Conscientiously
Teaching Methods

1. Telling
   - Explaining verbally

2. Showing
   - Demonstrating how it is done

3. Illustrating
   - Explaining with written material or pictures

4. Question & Answer
   - Asking about and discussing the contents
Job Instruction Card

Step 1: Prepare the learner

Step 2: Present the operation

Step 3: Try out performance

Step 4: Follow up
JI Step 1: Prepare the Learner

• Put the learner at ease

• State the job

• Find out what they already know

• Get the team member interested in learning

• Put the learner in the correct position

Create an informal atmosphere conducive to learning. Motivate the learning to master the contents.
JI Step 2: Present the Operation

1. Instructor does the job and describes the operation one **Major Step** at a time

2. Instructor does the job, states the Major steps, and stresses each **Key Point**

3. Instructor does the job, states the Major Steps, Key Points, and explains the **Reasons**

Instruct clearly, completely, patiently. Present only what the learner can master.
JI Step 3: Tryout Performance

4. Learner does the job silently. Instructor corrects errors as needed.

5. Learner does the job - explains each Major Step

6. Learner does the job - explains the Major Steps, & Key Points behind each step

7. Learner does the job - explains the Major Steps, Key Points, & Reasons Why

The learner demonstrate the operation 4 times for a combined total of 7 repetitions overall
JI Step 4: Follow Up

• Put learner on own
• Encourage questions by the learner
• Designate for whom to go for help
• Check back frequently at first
• Taper off and provide coaching as needed

If the employee has not learned, the instructor has not taught!
Session 1 Review

• What did you take away from Session 1?

• Without looking at your cards what are the 4 main steps in JI?

• What is the JI Motto?
Pre-Instruction

• Create a planning time table
• Create a job breakdown sheet
• Prepare the work area
• Make sure that all materials are ready

“Failure to plan is the same as planning to fail”

-Coach John Wooden
# Job Breakdown Sheet

**Operation:**

**Parts:**

**Tools & Materials:**

**Safety Equipment:**

<table>
<thead>
<tr>
<th>Major Steps</th>
<th>Key Points</th>
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TP 2-3
Session 2 Review

• What did you take away from Session 2?

• What are the 4 steps of JI?

• Which is the most important step for the instructor and why?
JI Basic Teaching Pattern

• Step 2 – Present the operation (Instructor)
  1. Do the job and tell the **Major Steps** only
  2. Do the job and tell the Major Steps and **Key Points**
  3. Do the job and tell the Major Steps, Key Points, and **Reasons Why**

• Step 3 – Try out the operation (Learner)
  4. Does the motions silently – instructor corrects if needed
  5. Does the job while stating the **Major Steps**
  6. Does the job while stating the Major Steps, and **Key Points**
  7. Does the job while stating the Major Steps, Key Points, and **Reasons Why**
Session 3 Review

• Without looking at your card what are the four basic steps of JI?
• What are the main points under Step 1 – Prepare?
• What are the main points under Step 2 – Present?
Session 4 Review

- Without looking at your card what are the four basic steps of JI?
- What are the main points under Step 3 – Try out?
- What are the main points under Step 4 – Follow up?
Instructing Longer Operations

Factors to consider

• Capacity of the learner
• Natural breaks in the job
• Time constraints
Instructing Longer Operations – Example 1

Golf Swing Elements
• Grip
• Stance
• Alignment
• Backswing
• Downswing
• Follow through
• Special Shots
  - Downhill
  - Uphill
  - Sand
  - Rough
  - Chipping
  - Putting
Instructing Longer Operations – Example 2

Production Job Elements
• Assembly process
• Tool Set up
• Gauging
• Quality Checks
• Machine Start Up
• Machine Shut Down
• Etc.

Ideally break longer jobs down into steps that are manageable and easy to learn. Present to more than the learner can master