



Return On Investment

A Practical Approach

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We All Want ROI...How Can we Get It?



ROI, NSRP Crosscut Panel, September 2009

What Does Success *Look* Like?



$$\text{Return on Investment} = \frac{\text{Gain from Investment} - \text{Cost of Investment}}{\text{Cost of Investment}}$$



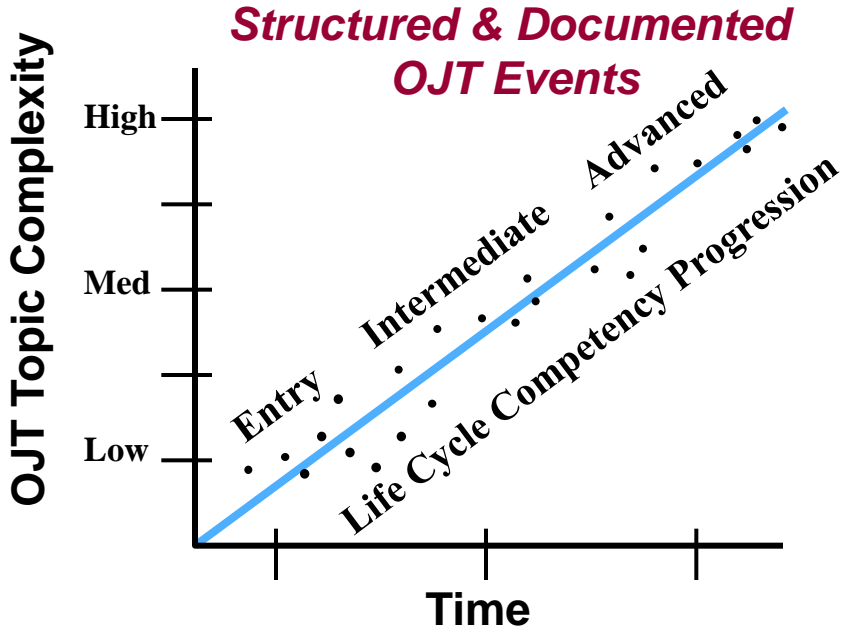
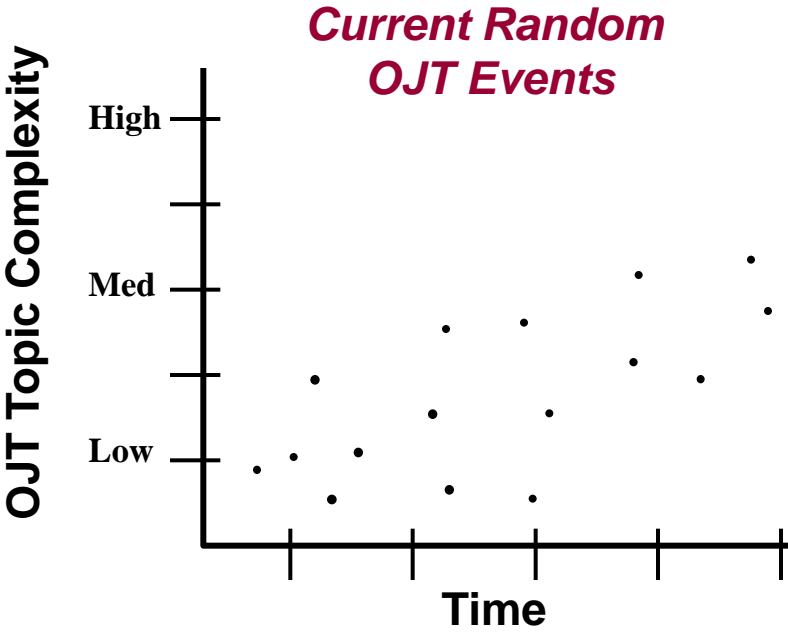
Isn't it more than a fraction or a decimal?

Could Shipyards Use These Investment Returns ?

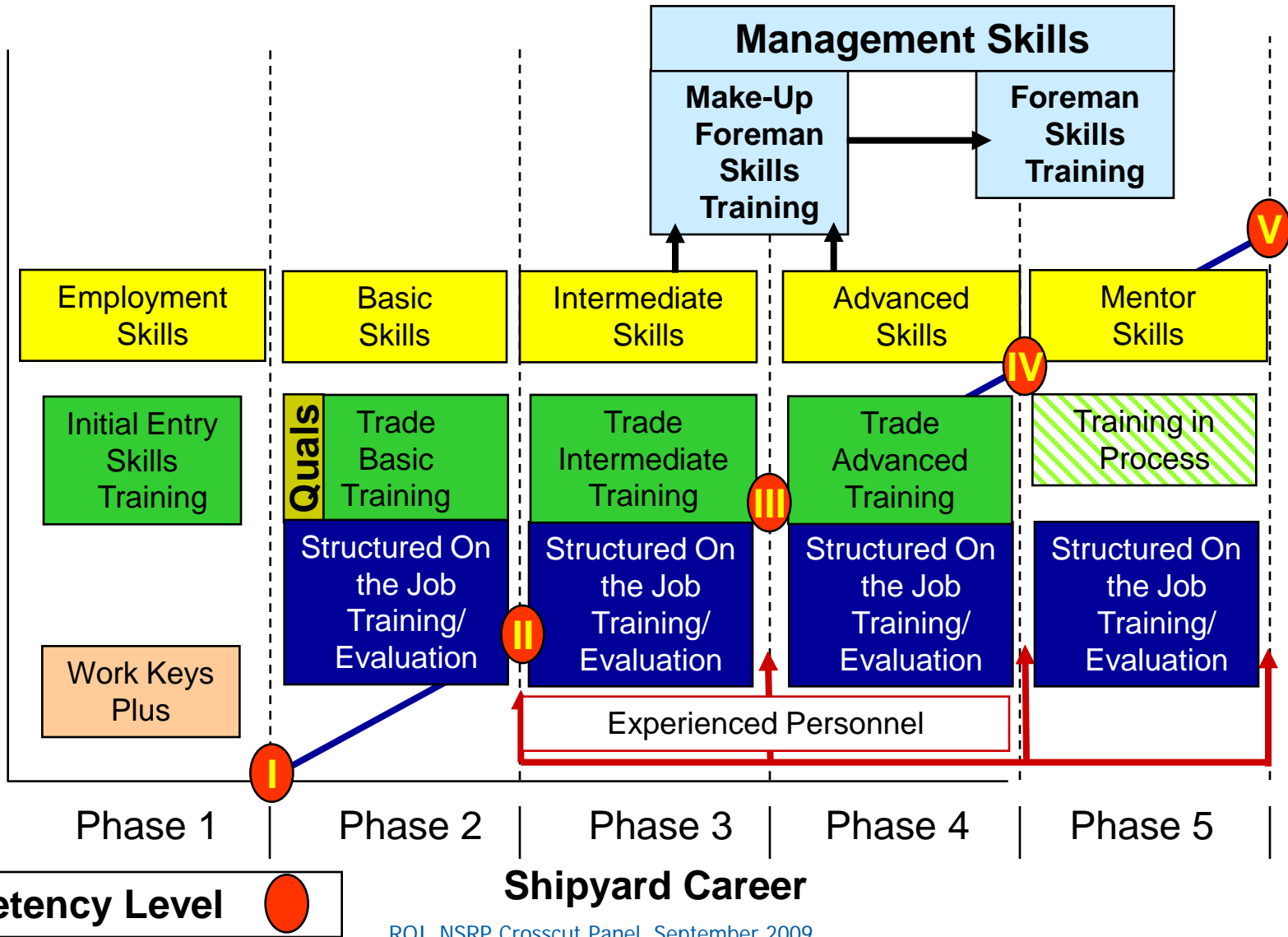


- The job being performed **Correctly & Consistently**
- Capture of experienced worker's skills and knowledge **before they leave**
- **Effective training** without time away from job site sitting in a classroom
- **Reducing the risk** of bad practices propagated by tribal knowledge
- Foreman having **validated knowledge** of what their workers can really do

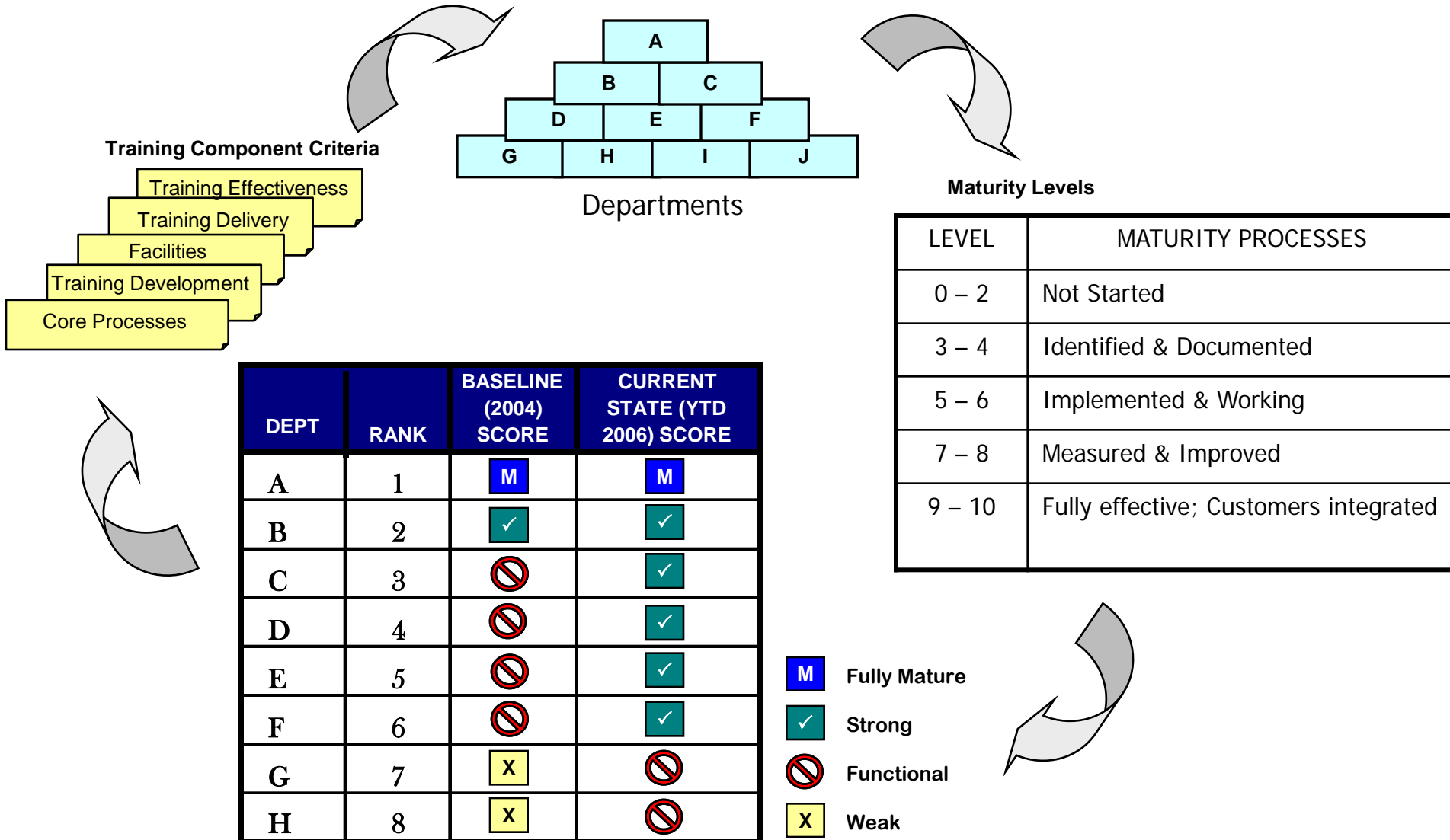
Research suggests that 90% of training and learning occur on the job



Life Cycle Skills Development Program



A Maturity Matrix Facilitates Process Improvement



Structured On-The-Job Training (SOJT) is...



- Practical application and validation of a delivered course.
- Step by step process to ensure the Trainee and Process Leaders apply the required skills.

SOJT Critical Success Factors



1. Partnership & organizational alignment among Trades Training & Programs.
2. Expanding training development from the “nice to know”, “awareness” and “theory” domain to the “practical”, “demonstratable” and “performance measurement” domain.
3. Training foremen & Process Leaders in the art & science of training on the job.
4. Linking curriculum & program development to job competencies.
5. Providing the process to move instructors out of the classroom into the job site for training validation.
6. Providing the opportunity to measure return on investment (ROI) as a result of training & SOJT.

Job Performance Support (JPS) is...



A method of providing training to small cohorts at the worksite without classrooms:

- Mentor Demonstrates and Validates
- Fully documented job skill training materials
- Mentor Training

JPS Facsimile: Cover Sheet



Steel Fabrication Shop Cutter Operator Training



JPS Forward and Goals Sheet

FOREWORD

Description of System or Job

Job Performance Support (JPS)

Objective

Handbook:

Trainee:

Mentor:

Plasma Cutter Operator Goals Sheet

Trainee: _____ Mentor: _____
Dept: _____ Dept: _____
Training Start Date: _____ Qualification Target Date: _____

Plan of action and milestones to meet final qualification goal:
List key dates for hands-on practice and demonstration, study sessions, etc. Discuss career goals and potential follow-on qualifications and training with foreman.

Mentor comments:

Foreman comments:

Typical JPS Table of Contents



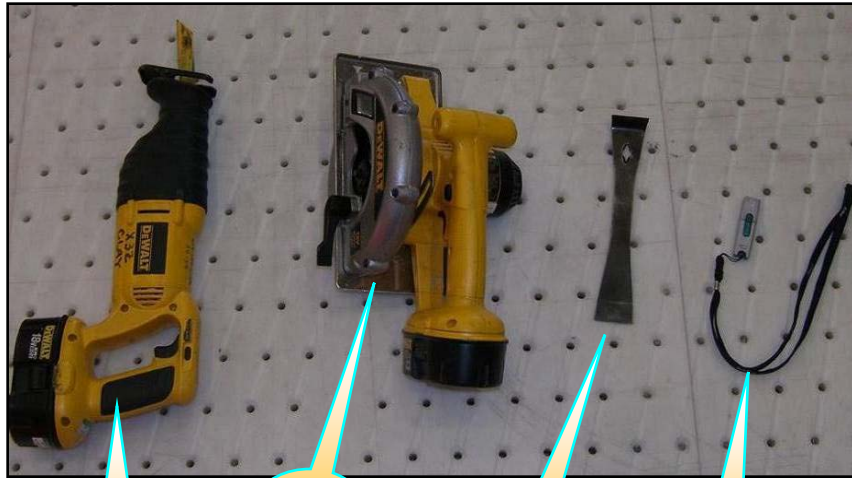
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Tools Required & Step by Step Procedure



Tools Required



1

2

3

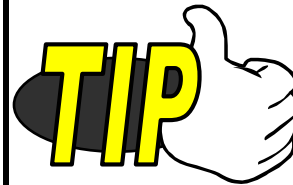
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1. Reciprocating Saw	Cutting waste pieces into more manageable pieces
2. Circular Saw	
3. De-Burring Tool	Cleaning edges of finished product
4. Flash (Thumb) Drive	Transferring production information into Fanuc Control Console

1. PLASMA TORCHES INSPECTION



Inspect torches for even flame



ALWAYS wear eye protection when plasma torches are operating

Evaluating JPS Progress with Mentor Sign-Off

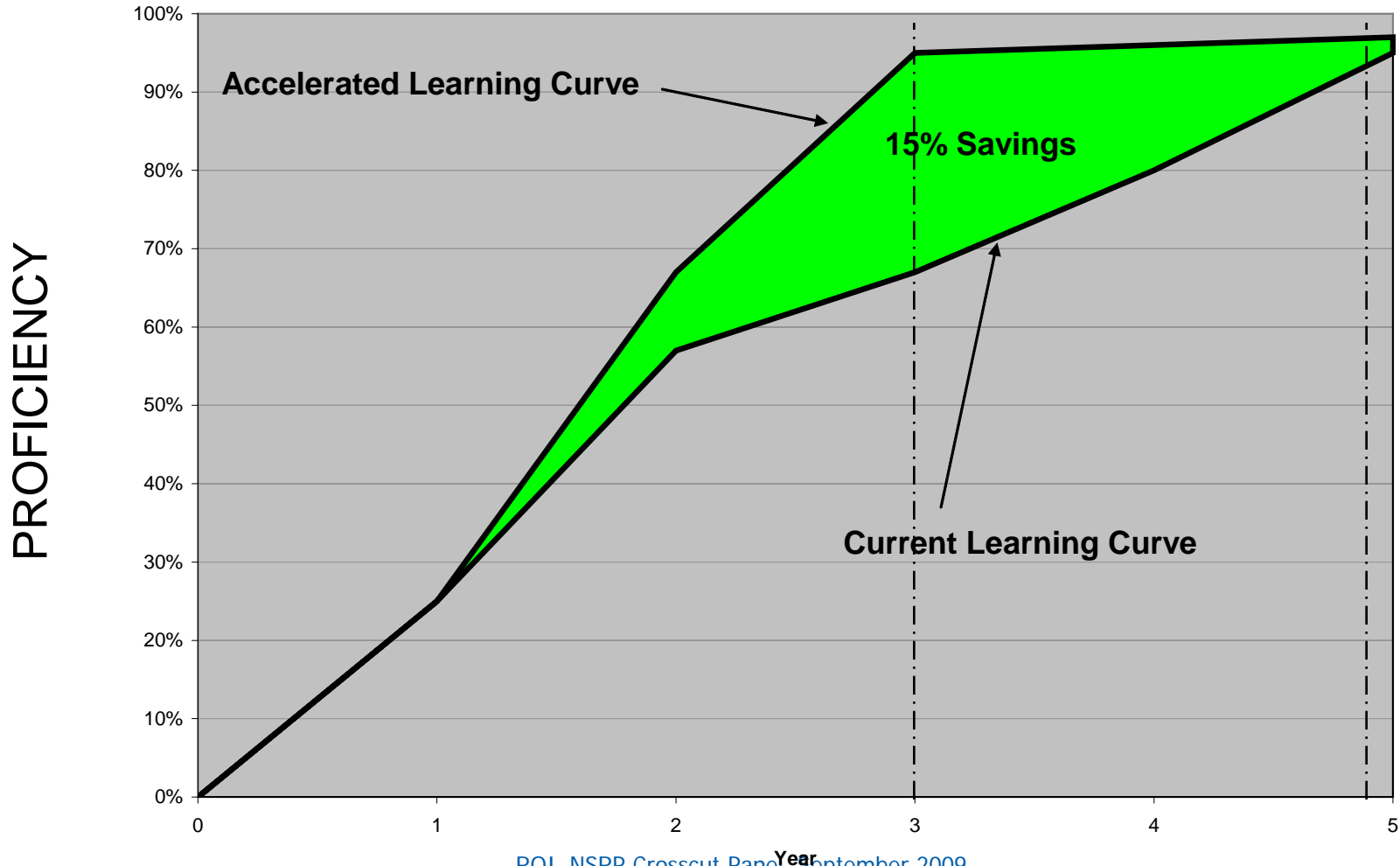
4.0 OPERATION Maximum Completion Time: 15 Days	Mentor Initials
View training videos	
View Cutter Application PowerPoint	
Perform prerequisite requirements	
Start the Plasma Cutter Machine	
Perform warm-up procedure	
Start the Plasma cutters	
Perform plate cutting procedure (see Appendix C)	
Inspect torches visually for even flame	
Allow plate to clear torches	
Turn off plasma cutter machine	
Empty space for final assessment or signature	

- Mentors are assigned to each trainee on the job
- Checklist capturing all training objectives are used as guides to assign and instruct various types of jobs and processes.
- Progress of each trainee documented and recorded 30-60-90 days until trainee is proficient.
- Trainee is validated in a database system for completing SOJT.

Does this Qualify as a Return on Investment?



5-Year Average Annual Proficiency Gain = 15%



Additional Return On Investment Elements



- Reduce Effect of Green Labor
- Implement Proactive Lifecycle Training Program
- Align Production request with training needs
- Reduce new hire attrition
- Structured OJT programs

“The right people, on the right job, on time with the right skills.”

Why Should this ROI be pursued?



- The hourly workforce of the future will be significantly less experienced than our historical memory.
- Higher skill requirements combined with a less experienced workforce will create significant performance challenges.
- Our Training Programs are not poised to meet these challenges.
- There is hope for improvement.