



Aerospace Joint Apprenticeship Committee

On the Job Training Best Practices.





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The Beginning.

The Grant

In partnership with South Seattle Community College (SSCC) the Puget Sound Educational Service District (PSESD), the Council on Adult and Experiential Learning (CAEL), the International Association of Machinists and Aerospace Workers (IAM&AW), and aerospace employers, AJAC was tasked with researching and identifying On-the-Job Training (OJT) Best Practices for effective, on time delivery and utilization of training. While the focus was on companies whose business is aerospace, AJAC has determined that the OJT Best Practices could be transferred across many trades and sectors. The goal of this OJT Best Practices manual is to assist the training process, provide guidelines for creating successful programs and support the journey-level trainers' ability to pass the greatest depth and breadth of skills and knowledge to entry – level employees.



Study Goals

The goal of the interviews was to gauge a variety of OJT training approaches currently in use, and provide next steps in creating formalized OJT training practices within a company. The goal of the Best Practices summary is to assist employers with shop implementation of the OJT training plan.

In order to assess and document employer OJT Best Practices, businesses were asked to participate in an employer case study/ interview process to assess current OJT training practices. Businesses were targeted because of their current participation as a registered training agent with the AJAC apprenticeship program. Each of them participates in some level of formal (such as apprenticeships) or informal training for their incumbent workers.

Each interview included a worksite visit, interview, shop tour, and often a conversation with an incumbent worker on the shop floor. The interview questions were designed to reveal training practices currently being used for apprentice selection, mentor selection, and the evaluation of progress and proficiency. Evaluation of progress and proficiency addresses when skill mastery was achieved and the apprentice or trainee was ready to proceed to the next skill.

The Questions

While training through apprenticeship is the main focus of AJAC, these questions could also be modified for use when referring to trainees.

Following is an outline of the questions that were asked to the participating companies. The topic and questions are listed below:

Apprentice/Trainee Selection process

- How do you choose your apprentices/trainees? How do you currently select workers to become apprentices? Do you use new hires or incumbent workers?
- What criteria do you take into consideration? Do you choose new hires for training and/or improve skills of existing workers with some skill set in mind? Both?
- Do you have any apprentices or trainees in your workforce now?
- Do you see that number growing?
- How do you make sure the apprentice or trainee is getting a well-rounded experience?

Mentor Selection/Participation

- What criteria do you use to select a mentor?
- Do you currently have any mentors on the floor? What is their responsibility currently? If you do have a program in place: how do you mentor your apprentices currently?
- Do you rotate them or have one lead? Do you rotate your mentors depending on the machine? Is there a mentor at different stages during the apprenticeship program? OR does one mentor follow them throughout the entire training?
- How does the mentor communicate with their trainee?
- How much time will this require?

Mentor Selection/Participation Continued

- Does the mentor receive supplementary training to “teach” their craft? (Some may lack confidence in their ability to teach or not be suited for the additional instruction) Do they review safety procedures? Do they have or receive coaching skills with constructive feedback?
- Is there compensation for the mentors’ time? Additional pay during their time mentoring? Bonus? Status recognition? Part of their job built in?

Progress/Evaluation of Training Program

- How do you track apprentice progress? Products? Process? Logs? Do you have a system in place for tracking and managing transitions? What is that?
- When you assess your apprentice and/or mentor, did production suffer? Was this expected? Was it a factor/non-factor?
- How do you manage rotating apprentices while focusing on production? Is there a system in place for CROSS TRAINING – how do you decide whom to send where and when? And how do you do that without impacting production quality or rates?
- What are your main training areas? What major/minor areas do you train in?
- Are proficiencies/company requirements/industry standards a part of their evaluation? i.e., rotations – AJAC has “x” amount of hours to make you “proficient” – what does that mean to you? 1 month to learn and 3 months to be proficient for example?
- How do you currently rate their performance? Quality/Quantity/Work Ethic/Machine Maintenance?
- How do you provide feedback of their performance? Paper? In person? With review panel?
- If a conflict should arise, is there a process for deliberation?
- At what point do you determine they are competent and master the machine skill or process? How do you denote completion?

Best Practices. Defined

Best Practices are strategies and/or techniques that have consistently proven to be the most effective in producing a desired outcome. These are methods that can be adopted, customized and standardized and can be used in most business environments.

The Aerospace Joint Apprenticeship Committee (AJAC) researched and interviewed companies with existing OJT programs and compiled additional information from AJAC's current, successful apprenticeship and mentorship programs. AJAC conducted surveys with companies with existing OJT programs in the Advanced Manufacturing sector and existing OJT programs in association with AJAC.

From this research, a list of the Best Practices for an OJT program was created.

This manual will describe those Best Practices for On-the-Job Training (OJT).



Introduction

Scenario1: A company needs to increase productivity, has to hire new employees, and needs them to participate and produce quickly.

Scenario2: A company needs to replace a retiring skilled worker but lacks an effective process to transfer that wealth of knowledge to incoming or existing workers.

A structured On-the-Job Training (OJT) program using the Best Practices can assist in both scenarios.

This manual outlines the process of creating a customized structured OJT program using these Best Practices. It will provide the tools to guide you through developing an effective, structured OJT program that will capture and pass on the knowledge of your best workers to the next generation of your workforce and detail the company's role in the process of:

- Company commitment
- Discovery process
- Mentor selection
- Apprentice selection
- Knowledge transfer
- Assessment

Following these steps will create a customized, structured OJT program for your company.

Note: All of the forms included are examples and should be customized for your company and specific position tasks.

Steps to Create and Implement an On-the-Job (OJT) Training Program

1

Senior Management Commitment

- Allocate resources to create the structured OJT program.
- Safety should be continuously emphasized during the OJT program.

2

Determine the company's needs:

- Increased orders/increased production needs? (An immediate need)
- A retiring workforce? Anticipation of increased sales. (Future preparations)
- Plans to grow the company? (Long term goals)
- What are the priorities for the company?

3

Take a current inventory of all work areas, machines and workers.

- This will help determine which areas need additional workers to be added.
- Survey the current workers in key positions about what they think are company needs.
- How many additional workers are needed?

4

In the specified work area:

- Clearly define the requirements and document the requirements and expectations.
- Is there more than one machine to be trained on?
- How many apprentices can the area safely support?
- What are of all processes involved in the specified work area? For the specific machine?

Steps to Create and Implement an On-the-Job (OJT) Training Program

- Gather any machine manuals relative to the specific work area. Be sure the information is current.
- What are the required minimum skills an apprentice should have to train in the specific work area?
- What is the number of hours required to reach proficiency and meet company standards and/or industry standards?
- How much time will training take to have a contributing apprentice? (short-term)
- How much time will training take to have a proficient skilled worker? (long-term)

5

Develop a rotational training schedule. This uses information from previous steps.

- Identify the equipment (these can be grouped into a major work area if there are numerous pieces of equipment).
- Identify the skills and process for each piece of equipment.
- Identify the training time it will take an apprentice to become proficient in each work area.
- Calculate the total training duration. This will include training time to reach proficiency in all work areas.
- Rotate apprentices through each major work area making sure they are trained on each piece of equipment in that major work area.

Steps to Create and Implement an On-the-Job (OJT) Training Program

6

Use a mentor to deliver the OJT program.

- Select a mentor that is a current employee in the specific position.
- The mentor will bring their experience, expertise and knowledge in the specified position.
- The mentor will use the explain, demonstrate, observe and assess style of mentoring.
- The mentor will give the apprentice immediate feedback on performance.
- The mentor will track the apprentice's skills during the OJT period.
- The mentor will assess the apprentice's acquired skills at the end of the OJT period.
- Recognize the mentor's involvement in passing on their knowledge and keeping their skill alive in the next generation of workers.
- (AJAC has a mentor-training program to support the company's mentor and provide additional tools to effectively mentor the apprentice)

7

Select an apprentice

- Select an apprentice who shows an interest in the OJT program.
- Clearly define what the apprentice will be learning and the company's expectations.
- Develop a training schedule. This uses information from previous steps.
- The apprentice will evaluate the mentor and the OJT program. This will help to improve the OJT program.
- Recognize the apprentice's accomplishments.

The Company.

Best Practices

- Senior management commitment
- Allocation of resources – investing in the company's future and ROI
- Discovery of skilled labor needs
- Assessment of machine inventory
- Structured OJT rotations
- Mentor selection and development
- Apprentice selection
- Feedback for improvement



Senior Management Commitment

The company's commitment is a pivotal motivational action that all the parties involved will recognize. The company's commitment encompasses:

- Allocation of resources
- Identifying participants; mentor and apprentice
- Committing to a training plan

Best Practice:
A company's strong and unwavering commitment to the structured OJT program.

There are benefits for a company when committing to a structured OJT program. The company will:

- Utilize a low-cost training program that captures and passes on the knowledge of their current workforce to a new generation of workers
- Have increased productivity and safety because of the thorough training
- Have less turn-over and a way to screen new employees
- Create a sense of loyalty to the company and increase pride in work

The apprentice can be a new hire or an existing employee new to the specific position. Starting all apprentices at the beginning will guarantee a consistent transfer of information. When your apprentice completes the OJT program, they will be prepared to work individually at the tasks they have been trained in, with proficient skills in all aspects required of those tasks.

Allocation of Resources

Investing in the Company's Future and ROI

The company demonstrates its strong commitment to the structured OJT with their initial investment in the startup of the OJT program.

The Initial Investment includes:

- Budgeting for OJT time in productivity
- Understanding expected production levels during the OJT program
- Compiling the needed materials pertaining to the different positions that may be covered in the structured OJT program
- Creating learning manuals for all participants

Best Practice:
Allocating resources to the development of a structured OJT program.

All of these actions are an investment in the success of the structured OJT program and the company's future.

The company should recognize that during the OJT process, there might be a dip in production for that specific position until the apprentice is considered proficient. By practicing structured OJT mentoring, the apprentice will get up to speed faster than with no structure. Making this investment on the front end will result in an accelerated Return on Investment (ROI) from both the existing employee (mentor) and the new hire or existing employee (apprentice). The investment by the company fosters loyalty from the employees who see the company commitment and the support of their future with the company.

After an apprentice goes through the OJT program, the company will be able to assess the ROI of the OJT program by charting the shortened time an employee participating in a structured OJT program requires before they are able to perform at production. This pathway is more efficient versus a new hire that had started working without any sort of structured OJT program. (This information should be available from the company's files).

Discovery of Company Needs

Through conversations, comments and brainstorming, the company will have an idea of which positions the company needs to enhance through training.

For this to be successful, the company must embark on a discovery process of the specific areas within the company that workers need to be trained on in order for the company to run at maximum efficiency.



Best Practice:
Clearly outlining the **specific position** the company wants to develop.

After deciding what positions the company wants to develop, additional valuable information should be collected from a current worker in those positions. These will be questions designed to discover the detailed description of the daily processes required to safely and effectively perform the job.

A current worker in the specific position has the everyday experience of performing that specific job. Your company may have anywhere from 20-500+ specific job processes for one position. The current worker has the knowledge to effectively and successfully execute that position and that depth of knowledge should be utilized as a training tool.

Assessment of Machine Inventory

Best Practice:
The company should **create** an inventory of **all the machines**.

The company must make an inventory of all the machinery. By making a thorough inventory, the company will know what currently exists and what specific areas it needs to develop and increase training.

This information is important in the structured OJT program. It will determine where an apprentice will be trained and the rotational schedule of the OJT.

Clearly Defining the Position

Clearly defining the position means documenting complete details of all the specific processes involved in the position, the required hours to meet company and/or industry standards and an OJT schedule (include rotational if required) for the mentor to follow.

This manual will be used by both the mentor and apprentice during the OJT program and will provide consistent program information.

Best Practice:
Clearly defining the **position**.

Development of Rotational Training Schedule

Best Practice: Creating a rotational OJT schedule.

Creating a rotational schedule to encompass a complete OJT rotation for all the machines, skills or processes required to become a proficient worker is a time consuming process but vital for having a successful OJT program. It cannot be

underestimated how valuable this piece is in an OJT program. Rotation helps diversify employees through cross training.

A rotational training schedule can be created after the company completes the discovery process and will require the following steps:

- Identifying equipment, skills and processes. (These can be grouped into major work areas).
- Identify the time it will take to become proficient for each specific work group.
- Calculate the training duration (i.e., 4 years). This will use the time needed for proficiency in all specified work areas.
- Rotate trainees through those major work areas making sure all sub areas are rotated through.

Included in this manual is an example of a participating company's rotational schedule (appendix) that covers all skills and processes throughout the company and different departments and hours required for the apprentice to be deemed proficient.

This company used AJAC's performance standards and cross-referenced those to the work areas in their own shop. They were able to define 4 major work areas in their shop and determined that each of the 11 different skill areas that AJAC uses to measure a well-rounded employee, overlaps one of their 4 major work areas.

Example One - Discovery of Company Needs:

Example one is a form the company can use during the discovery process with the current employee performing the job to expand on the details of the OJT position. These shared details, along with existing information the company has about the position (machine manuals, shop procedures, safety) will comprise the mentor's and apprentice's OJT manuals.

You are an integral part of the company team that has been created to develop and design a structured On the Job Training (OJT) program.

You have the experience and knowledge of all the specific tasks and skills required to effectively perform this job. You are considered the master or journey-level worker on this job.

Your honest and valuable input will help create an effective OJT program and learning manual for this position that will benefit you, the company and those who work with you. Working together we will all be more productive, ensuring the knowledge and skills are passed on to the next generation and securing a solid footing in a successful future for the company.

Thank you.

Worker Currently Performing the Job: _____
(Name)

Job Title: _____

Specific operation, skill or process: _____

Years Performing the Job: _____

Years with Company: _____

Please estimate the total amount of time required to become proficient at the skill, equipment or process: _____

Example One - Discovery of Company Needs:

Think about the things that are now routine for you. Of these, please list those things that you did not know when you first started. (These may already be part of your previous "Tasks of Position" list). How did you learn these tasks: Co-worker? Self (i.e., came with the knowledge)? On-the-Job, Trial and Error?

What are the most important items a new trainee needs to learn to be skilled in this position? These could be skills that you were taught or that you had discovered on your own.

This position will be a mentored position in the structured OJT program. Would you be interested in being a mentor for this position? (Additional Mentor Questionnaire required).

Mentor Selection and Development

Best Practice:
Enlisting a **current employee** that is **experienced** in the specific position to become a one on one **mentor**.

A mentor is the person who possesses the expertise and information that will be passed along to the incoming apprentice. The mentor must also have the communication skills to effectively share this information in a manner that the apprentice will easily understand. They will be in a leadership role to help the apprentice become successful and proficient in their trade.

As mentioned earlier, this side-by-side training model entails less productivity temporarily, but does decrease the amount of time for an apprentice to become productive on the machine. Initially, the apprentice is observing but not machining. In the early stages of apprenticeship, apprentices in these shops were not counted as part of the production workforce. Instead, they were part of a larger, long-term investment in the company's overall sustainability. The tradeoff to the short-term loss of productivity is an improvement in safety and quickly increasing productivity of the apprentice leading to a Return on Investment (ROI) for the company.

There is a self-assessment questionnaire (Example 2) for the potential mentor to complete. The company is probably already aware of the potential mentor's skill. The self-assessment form will help identify their communication skill level and if additional training for the mentor is necessary so the mentor can effectively transfer their knowledge to the apprentice they will mentor.

Mentor Selection and Development

Mentor Production Levels

During the time of mentoring, the mentor will oftentimes have a decrease in their personal production levels. Additionally, the apprentice will not be included in any forecasting of production levels until they are assessed to be proficient in the position.

This should be understood and addressed when beginning a mentoring program when using existing employees.

Additional Mentor Training

Best Practice:
Mentors should be **trained** on how to be a **mentor**.

AJAC has a Mentor Training program that is available to help selected mentors gain more confidence and give them additional tools for effective mentoring.



Example Two- Mentor Skills Assessment:

As a mentor, you will be required give guidance and training to an apprentice, to help them become a productive co-worker who is able to contribute to the continuing success of the company.

Clear communication is fundamental to effective mentoring. Please complete the following form and self assess your ability to be an effective mentor for the listed position.

Name: _____

Job title for the position that you are qualified to mentor:

Experience in position to be mentored: _____ years _____ months

I feel confident transferring my knowledge and skills **Y N**

Do you know the position thoroughly? **Y N**

Do you follow all procedures for the position accurately? **Y N**

Can you clearly communicate with co-workers? **Y N**

Do people easily understand you? **Y N**

Do you keep your cool when having to repeat yourself? **Y N**

Are you willing to conduct administrative work: reporting, assessing and evaluating a person's skill level? **Y N**

Can you give feedback to a co-worker? **Y N**

Can you give instruction in a respectful manner? **Y N**

Do you understand the mentoring process? **Y N**

Can you show how you will train an apprentice? **Y N**

Do you understand the different learning styles? **Y N**

Can you objectively assess the apprentice's skill level? **Y N**

Do you, if asked a question and unsure of the answer, admit it and try to find the answer? **Y N**

Can you mentor someone older than you? **Y N**

Can you mentor someone of the opposite sex? **Y N**

Would additional guidance on being a mentor give you more confidence? **Y N**

What do you think are important traits in a mentor?

Is there any additional information you would like to share?



TVD
MECHANICAL WEAR

EXIT

Emergency Exit Only
DO NOT BLOCK

Mentor Selection.

Best Practices

- Mentors must have top level skills and trade knowledge.
- Mentors are often highly skilled in one particular area.
- Mentors must have the ability to relate to apprentices and their varying levels.
- Mentors should have the capacity to handle problems that may arise.
- Mentors should be trained on how to be an effective mentor.

Roles and Expectations

Best Practice:
Selecting a
mentor who
is **proficient**
at the **specific**
position.



A mentor is someone who can clearly teach the skills and knowledge they have collected through their own experiences and expertise, to an assigned apprentice.

The role of a mentor is one of the most important parts of the structured On the Job Training (OJT) process.

After the company needs have been determined and the details of the position to be mentored have been written out, it will be the mentor's responsibility to properly and thoroughly transfer knowledge to the assigned apprentice.

The mentor will bring their personal experience and expertise in the position and share it with the apprentice. Additionally, the mentor will have a manual, as well as, any existing equipment manuals available to assist in the training. During the OJT process the mentor will be able to provide the apprentice with instant feedback.

At the end of the OJT period, the mentor will complete a formal assessment of the apprentice's acquired skills. The apprentice will also be completing an assessment form about the OJT program and the mentoring process.

Roles and Expectations

The Best Practice for mentoring is a process in which the mentor will teach the apprentice in the following manner:

- ✓ **Explain** – The mentor will explain the position and the procedure(s) in which to properly execute the task, in detail. The mentor will highlight the importance of safety procedures. Mentors should be open to two-way communication about the task. The mentors should not rush the explanation and encourage questions.
- ✓ **Demonstrate** – The mentor will then demonstrate the procedure they have just explained. The mentor will continue to describe the procedure as they demonstrate.
- ✓ **Observe** – At this point, the mentor will let the apprentice perform the task while standing nearby and observing. The mentor will stop the apprentice if there are any safety concerns and give the apprentice immediate constructive feedback of their skill at the task.
- ✓ **Assess and Release** – After assessing that the apprentice can competently perform the task, the apprentice will be ready to perform the task solo. The mentor will be completing an “Assessment of Skills Acquired” form and signing off that the apprentice has successfully completed the OJT program and is competent in the position.

Law of Expectations

The Law of Expectations tells us that whatever one expects becomes a self-fulfilling prophecy. This is true in a mentoring relationship with the apprentice.

When a person expects with confidence that good things will happen, they usually will. If, on the other hand, one expects a negative outcome to a situation, then the outcome will usually be negative. If you believe that this person will never learn this skill, or it is taking too long, it is likely they will not. On the other hand, if you believe they will master a skill with practice, it will help them succeed. Consider that everyone learns things differently. Adjusting the method of delivering the information to accommodate different learning styles may make all the difference.

Always expect the best. Assume the best of intentions on the part of those around you. Practice these same behaviors with your coworkers. The very best managers, entrepreneurs, and salespeople are “high expectations” people.

Include yourself in this practice and expect the best of yourself. Focus on your unlimited potential and imagine that you can accomplish anything that you put your mind to.



Learning Styles

The mentor will need to be aware that there are a variety of learning styles. The apprentice will complete a self-assessment of learning styles (Example 3) and give a copy to the mentor. This will give the mentor an idea of which learning style will work best for them.

Best Practice
Being able to **adapt** to different **learning styles** and levels of **teachability**.

The explanations of major learning styles below describe the characteristics of different ways people learn. The descriptions will give some information about various ways in which to adapt the instruction.

Visual Major Learning Style Preference: This person learns best by *seeing words* in books, on the chalkboard, and in workbooks. They remember and understand information and instructions better if they read them. They don't need as much oral explanation as an auditory learner, and they can often learn alone, with a book. They should be encouraged to take notes of lectures and oral directions in order to better remember the information.

Auditory Major Learning Style Preference: This person learns best from *hearing words* spoken and from oral explanations. They may remember information by reading aloud, especially when they are learning new material. They benefit from hearing audio tapes, lectures, and class discussions. They benefit from making tapes to listen to, by teaching other students, and by conversing with their teacher.

Hands-On Major Learning Style Preference: This person learns best through experience, by being involved physically in instruction. They remember information well when they actively participate in activities. A combination of stimuli--for example, an audiotape combined with an activity--will help them understand new material. Writing notes or instructions can help them remember information.

Boundaries

Culturally Aware

- Be sensitive to diversity.
- Example: The statement, “the guys” while intended as a casual reference are inappropriate and may send a message of “you are not one of us.”
- Instruction should be inclusive and respectful.

Acid Test

- Before doing or not doing something, think about how it would look on the front page of the newspaper.

After completing the training process and submitting the apprentice’s Competencies Checklist Form (Example 4), the mentor will have fulfilled the training portion of the mentoring role. They are still considered a mentor and should continue to make themselves available for coaching and advising to the apprentice.



Apprentice Selection. Best Practices

- Select apprentices from those who show an interest in the program.
- Select apprentices with school or machining experience when available.
- Develop a set of pre-screen materials.
- Incorporating feedback during and after the OJT process.

Selection Process

Accepting an apprentice into the OJT program because they are interested will guarantee an eager participant instead of assigning someone to participate who does not have an interest in additional training.



Best Practice:
Selecting an apprentice that shows an interest in the program.

An apprentice application will illustrate a person’s readiness to enter the OJT program and discover their existing knowledge base. This knowledge could come from specific classes or experience. There could be some familiarity with the position already, as in the case of an existing employee.

In order for the mentor to have an understanding of the apprentice’s learning style, there is a Learning Style Assessment Form (Example 3) for the apprentice to complete. This will allow the mentor to adapt their teaching style to the apprentice’s learning style tendency.

Role and Expectations:

The role of an apprentice is to listen and learn from the mentor. The mentor has the experience and knowledge to teach the apprentice how to effectively perform a specific job.

If the mentor’s explanation is unclear, it is the apprentice’s responsibility to ask questions to get to the point of understanding the process. The apprentice should combine the mentor’s explanations and demonstrations into practice and include the skills learned in class or from previous experience.

Example Three- Learning Style Assessment:

For each statement below: rank 1 - not true, 2 - somewhat true, 3 – very true

Visual Learner

- I learn best by seeing – watch to see what others do
- I have a good imagination (often daydream or doodle)
- I notice changes quickly
- I remember faces more often than names
- I often take notes
- I have good handwriting
- I tend to be deliberate, plan in advance, organize, and think through problems
- When in a new situation, I tend to be quiet and observant
- I am neat, meticulous
- I prefer art to music
- I see details or components (harder time seeing work as a whole)
- Add Up Column**

Auditory Learner

- I love noise/making noise
- I enjoy talking, listening
- When I read, my lips move or I read aloud to myself
- I remember names more often than faces
- I have a large vocabulary, and learn new words easily
- I am easily distracted by sound
- I tend to talk problems out, try out solutions verbally
- I tend to express emotions verbally (laugh out, shout out)
- I have little interest in matching clothes (this goes with that)
- I prefer music to art
- I learn best by discussing
- Add Up Column**

Example Three- Learning Style Assessment:

Hands-on Learner

- I learn best by doing, direct involvement
- I do not enjoy reading or being read to
- I tend to be a poor speller
- I tend to have poor handwritings, especially when space becomes smaller
- I do not like to attend visual or sound presentations
- I am fidgety, I like to tinker, touch or feel things
- I tend to be physical with emotion (hug, clap on back, etc.)
- I not a strong reader
- I learn from role-playing or acting things out
- I can easily get absorbed in my own thoughts
- Until I can try it myself, I have a hard time grasping skills
- Add Up Column**



Progress & Evaluation.

Best Practices

- Apprentices need feedback as they go, formally and informally.
- A uniform system of feedback for problem solving should be in place.
- Tracking system – written or electronic documentation.

Feedback During OJT Program

Best Practice:
Giving apprentices **feedback** as they go through the **OJT program**.

It is important to present feedback to the apprentice that is constructive and timely, and not solely focused on a “rote” exchange of information. At the end of the OJT program, the mentor will evaluate the apprentice’s competencies (Example 4).

Additionally, the apprentice should evaluate the mentor and the OJT program after completion (Example5). This will give the company the feedback it needs to determine the effectiveness of the OJT program and the ability to make improvements.



Problem solving



Best Practice:
Having a **uniform system** for feedback for **problem solving**.

When conflict arises, resolutions should be timely.

Oftentimes, resolutions can come about in informal discussions. In the case of production errors, there should be documentation of the incident with further investigation detailing how the error occurred.

Example Four- Evaluation:

Aerospace Joint Apprenticeship Committee (AJAC)

Workplace Experience Evaluation Form

(To be completed by mentor)

Apprentice Name: _____

Date: _____

Company Name: _____

Trade: _____

Evaluator Name: _____

Title: _____

On the following page please rate the candidates' knowledge, skills, and abilities in all the categories that apply, and provide a written statement on the back side of this form supporting your recommendation to the committee for advanced entry/credit for prior experience.

Example Four- Evaluation:

Personal Effectiveness Competencies

Rating: 1=Unacceptable 2=Below Average 3=Average 4=Very Good 5=Superior	Date	Proficiency (Circle One)
Attendance – Maintains good attendance		1 2 3 4 5
Punctuality – Arrives and leaves the workplace on time		1 2 3 4 5
Perseverance – Attends to task. Continues difficult tasks until completed		1 2 3 4 5
Listening Ability – Receives and responds to verbal messages effectively		1 2 3 4 5
Speaking Ability – Organizes ideas and presents them logically, clearly, and concisely		1 2 3 4 5
Initiative – Is self-motivated		1 2 3 4 5
Reliability – Completes assigned tasks without constant supervision		1 2 3 4 5
Commitment – Demonstrates alliance to company and profession		1 2 3 4 5

Example Four- Evaluation:

Personal Effectiveness Competencies Continued...

Enthusiasm – Demonstrates desire to learn and please		1 2 3 4 5
Safety Conscious – Observes safety rules and regulations		1 2 3 4 5
Leadership – Gets others to cooperate toward attainment of common goals		1 2 3 4 5



OJT Technical Workplace Competencies

NOTE: The following list of workplace competencies will be developed by the employer using information from the discovery process. It will be specific to the company and the equipment, skills and processes performed in the shop.

To be completed by Mentor:

Apprentice: _____

Job: _____

Rating: N/A=Not Applicable 1=Unacceptable 2=Below Average 3=Average 4=Very Good 5=Superior

Responsibility	Date	Proficiency (Circle One)
1. Produce parts that meet employer's high quality standards		N/A 1 2 3 4 5
2. Hand Deburr:		
a. Filing		N/A 1 2 3 4 5
b. Rotary Tools		N/A 1 2 3 4 5
c. Deburring Equipment		N/A 1 2 3 4 5
3. Basic Inspection – visual and dimensional:		

OJT Technical Workplace Competencies

Comply with all ISO/ QMS and safety requirements		N/A 1 2 3 4 5
Operate manual mill		N/A 1 2 3 4 5
a. Set-up		N/A 1 2 3 4 5
Calculate speeds and feeds for a given material and setup combination		N/A 1 2 3 4 5
Sets up efficiently maximizing productivity		N/A 1 2 3 4 5
Plans operation sequence efficiently		
A. Selects correct cutter tooling and holders for operations		N/A 1 2 3 4 5
b.		N/A 1 2 3 4 5
c.		N/A 1 2 3 4 5
Other duties listed:		N/A 1 2 3 4 5
Other duties listed:		N/A 1 2 3 4 5
Other duties listed:		N/A 1 2 3 4 5

Example Five- OJT Mentor and Program Evaluation:

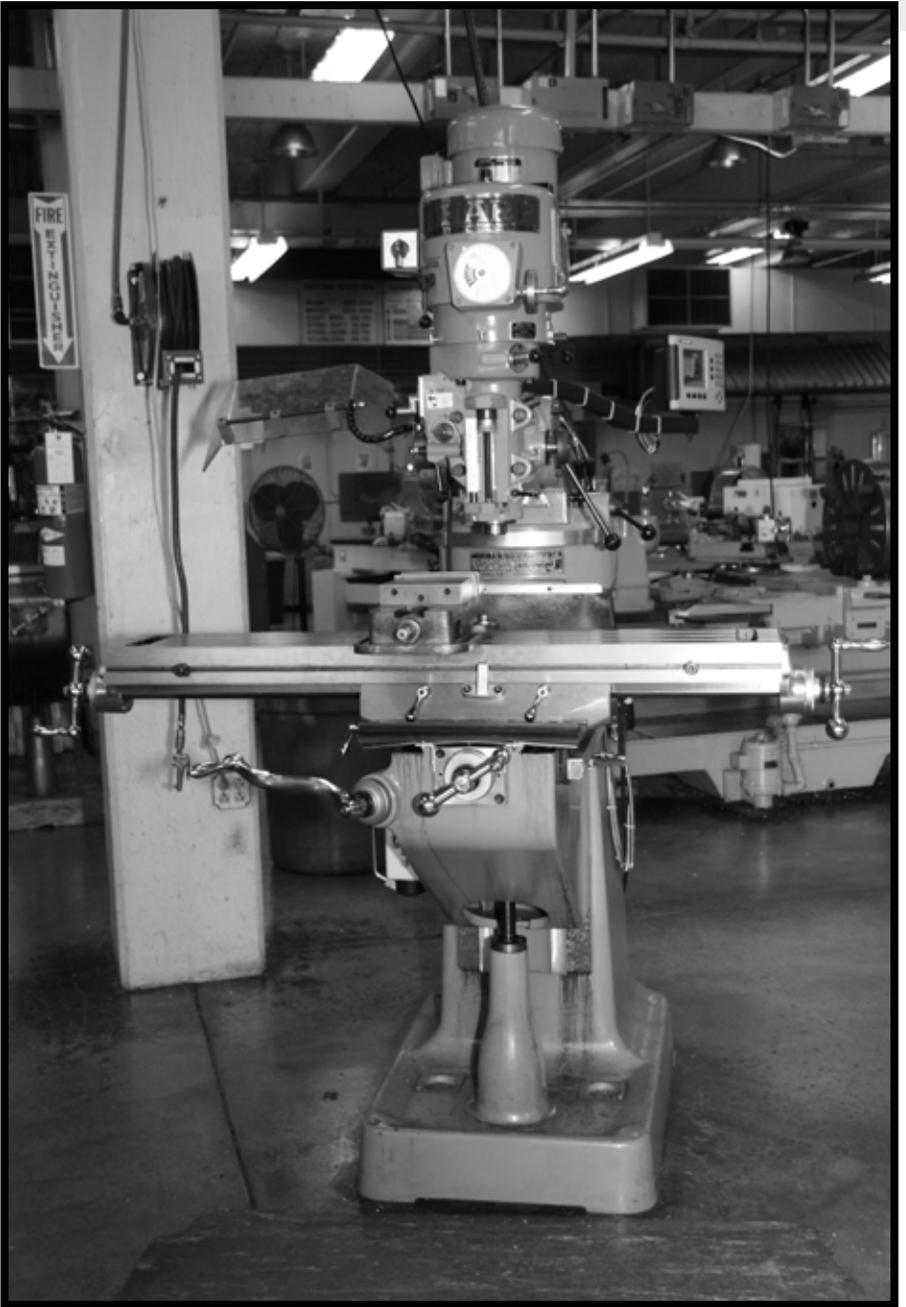
Mentor Name: _____

Evaluated by: _____

Date: _____

Please rate your experience of the OJT program using the criteria listed below, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Please provide comments.

The Mentor	1	2	3	4	5
The OJT program was effectively organized.					
Instructional materials were useful. (Manuals)					
I am clear what the objective of the OJT was.					
Rate the mentor's overall support of your learning.					
This training will make me a productive worker quicker.					
The mentor presented the information about the position clearly and effectively.					
The mentor demonstrated thorough knowledge of the position and tasks.					
The mentor made effective use of our time.					
Comments:					



Employee Training Record

The company can choose to utilize a system to track an employee's training history with the company. This Training Record (Example 6) would encompass every training experience the employee has with the company; which machines they have been trained on, by who and the date training was completed.

This is different from the apprentice OJT Technical Workplace Competencies form (Example 5). That form outlines the apprentice's proficiency at each task within a specific position. This Training Record shows that an employee has passed all aspects required to be proficient, compliant and competent in a position.

Attach a copy of each of the OJT Technical Workplace Competencies forms to the Employee Training Record for easy reference to review the employees rating of proficiency at each task within a specific job.

Example Six- Employee Training Record:

All positions listed below have been trained per company standards. The completion date signifies the employee's skill has been assessed and has proven proficient in all aspects for the listed task. This includes set-up, operation and safety protocol.

Name: _____

Date of Hire _____

Postion/Task	Trained By	Training Completion Date
General Shop Procedures		
CNC Machines:		
Lathes		
Mills		
Routers		
Drill Press		
Grinders		
Welders		
Polishers		
Burners		
Cutters		
Laser		
Water Jet		
Flame		

This list can include all of your company's machines that an employee could be trained on during their employment with the company.

APPENDIX-

Rotational Training Example:

This is an example of a rotational training schedule for 5 apprentices. Each column represents one apprentice's rotation through each work cell for a total of 8000 hours/48 months.

This particular company determined their four (4) main work areas cells to be:

Cell	Category
(A) Finish	Manual machining
(B) Grind	Manual & CNC grinding
(C) Small Turn/ Cylinder/Piston	CNC machining
(D) Inspection	Inspection

The company also detailed out work covered in each cell and time needed for proficient training:

Cell	Type of Work	Hours Spent
(A) Finish	Lathe, hone deburr	1600 10 mos.
(B) Grind	Cylindrical ID/OD grinding	800 5 mos.
(C) Small Turn/ Cylinder/ Piston	Gundrill, lathe, mill, jig grinding	4800 30 mos.
(D) Inspection	Comparator, bore gauges, CMM, height gauges, thread gauges	800 3 mos.
	Total hours	8000 48 mos.

This company determined that 10 months are necessary to become proficient in (A) Finish. The company broke it down even further to cover the necessary work areas with the following rotation:

(A)Finish	3 months deburr
	3 months manual hone
	4 months manual lathe

APPENDIX-

Rotational Training Example:

	Trainee 1	Trainee 2	Trainee 3	Trainee 4	Trainee 5
5	Grind (B)	Insp (D)	Finish (A)	Finish (A)	ST (C)
10	Fuse (C)	Grind (B)	Insp (D)	Finish (A)	Finish (A)
15	Cyl (C)	Fuse (C)	Grind (B)	Insp (D)	Finish (A)
20	Cyl (C)	Cyl (C)	Fuse (C)	Grind (B)	Insp (D)
25	Cyl (C)	Cyl (C)	Cyl (C)	Fuse (C)	Grind (B)
30	ST (C)	Cyl (C)	Cyl (C)	Cyl (C)	Fuse (C)
35	ST (C)	ST (C)	Cyl (C)	Cyl (C)	Cyl (C)
40	Finish (A)	ST (C)	ST (C)	Cyl (C)	Cyl (C)
45	Finish (A)	Finish (A)	ST (C)	ST (C)	Cyl (C)
48	Insp (D)	Finish (A)	Finish (A)	ST (C)	ST (C)