# Rapid technical design: The mechanics behind training design

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Often when designing a training solution, we wish for a set of instructions that will guide us through the process. However, a training solution can be a complex project and aligning our goals to our recommended output is required.

So, how do we design technical training rapidly? The mechanics behind training design focus on two questions: "What does the learner need to know?" and "How can I best communicate that information to the learner?"

A training approach is composed of four levels of training, with each type building upon the previous:

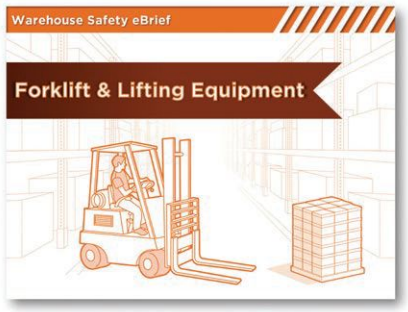
• Inform — The goal of the first level of training is for the learner to be aware of the high-level information he will be responsible for. Training modalities include pre-assessments and overview videos.

• Define — Once a learner is informed, that knowledge is built upon to include more detailed information. This level of training will help the learner be informed about the specific job requirements. Examples include 3-D animations, exploratory diagrams and knowledge checks.

• Practice — Once the learner is informed, that knowledge is built upon to ensure he/she becomes competent at routine tasks. This will help the learner apply the knowledge to specific tasks or behaviors. Examples include games, case studies and industrial-level training equipment.

• Apply — Once a learner has had an opportunity to practice, that knowledge is built upon to not only complete tasks and processes but also to apply creativity and problem-solving skills to derive new solutions. Training modalities include capstone assessments.

Once we determine the levels of training we are looking to create a solution for, we still need to determine what the solution will look like.


### How should we communicate with the learner?

The following two scenarios explore using the levels of training and their corresponding modalities in practice using the same subject matter but different desired outcomes, phases and solutions. In the first scenario, we are looking to inform the learner of the importance of forklift safety at an introductory level. This module was then followed up by a full safety program. A simple diagram will provide the learner with the needed context of the subject matter, in the most timely and cost-efficient manner.

In our second scenario, we merge several solutions together to provide the desired outcome. An exploratory 3-D image allows the learner to click on different elements of the forklift to learn more about the safety precautions. However, when the obstructed view is shown, the learner is also presented with a 3-D animation showing the alternate viewpoint.

As you embark on your design, it is important to keep these three key ideas in mind:

1. Consider the level of information you are looking to communicate.

2. Select a solution that best matches the level of information and level of detail you need.

3. Choose a variety of solutions to keep your learner engaged.

With these three ideas, you have the instructions and raw materials you need to be able to build your training solution from the ground up. A solid plan and foundation will help you and your organization achieve the desired outcomes in the most timely and cost-effective manner.

**For more information, call Sheri Weppel at (484) 363-2519 or email her at sweppel@gpstrategies.com.** ●

BUSINESS **UPDATE**

# Ultrasound-assisted lubrication extends bearing life

*UE Systems Inc.*

The most influential cause of bearing failure is lubrication related. Bearings running with too little lubricant can cause friction, requiring more energy to overcome resistance, which can lead to bearing failure and eventual seizure. Using too much lubricant can also produce heat, break seals and decrease acceptable tolerances, leading to bearing failure.

In order to reduce premature bearing failure incidents, many companies around the world have incorporated some form of a condition monitoring program. As opposed to the other forms of maintenance — such as reactive in which a failure condition has occurred and maintenance personnel must react to the problem, or preventive where maintenance activities are performed on a set schedule — condition monitoring is used to check the health or condition of operating equipment. Any change in monitored fields can alert maintenance personnel of potential failure and allow the repair to be performed on a scheduled, controlled basis.

A condition-based lubrication program requires a combination of trending bearing decibel (dB) levels and basic sound analysis. A baseline dB level is set, along with a baseline sound sample if possible, and an inspection schedule is established for periodic testing. When a bearing sound level exceeds 8 dB with no change in the sound quality, the bearing is considered in need of lubrication. A lubrication technician, while listening to the bearing, will then apply lubricant a little at a time until the sound level drops. Stopping at that point prevents over lubrication. The bottom line: With ultrasound-assisted lubrication, you will extend bearing life, ensure the proper amount of lubricant is being used, and prevent unnecessary and costly downtime.

**For more information, visit www.uesystems.com/new/bearing-information or call (800) 223-1325.** ●