

HOW TO

# Integrate Apprentices Successfully

and Ensure a **Long-Term Investment** with the **Highest Profitable Outcome**

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with contributions from Sonja Daneshgari

The beauty of every young newcomer to any kind of trade or work is that he or she will not be bringing a lot “baggage” with them on “what the right way of doing something” is. This, in itself, can violate the structure and stability of a company’s processes. On the other hand, there is a lot of learning and training to be done, and if the teaching and guidance is not done correctly it can reduce the productivity of the whole team. Costly delays can occur by one newcomer not knowing the processes or lacking the necessary skills to do the job.

It is important to capitalize on the eagerness of an apprentice and guide them from the start. We must take the initiative to teach them how to manage their time and what is important. Managing time is nothing but managing a sequence of events; and learning how to manage events on the jobsite is not something that is taught in any depth in an apprenticeship program. An apprentice will be more effective on the jobsite if they can be taught how to manage the events of his or her day by scheduling and looking ahead, followed by reflection on how well they accomplished their planned tasks and what blocked them from getting everything done. By using the principles of Short Interval Scheduling (SIS®) anyone can do just that. On the other hand, if he or she is added to the work crew without any direction or schedule to follow, they will be relegated to making use of the time in the day without maximizing his or her learning and contribution to the project.

### Creating a WBS

To help manage your time, your tasks of the overall project must first be identified and broken down into small, manageable pieces. The process of developing a Work Breakdown Structure (WBS) (September/October 2014 issue of *Insights*) will help the foreman identify the tasks and items that can realistically be done by the apprentice each day. Figure 1 shows an example of a WBS on how an overall job can be broken down. The only way to include apprentices in the full scope of the project and properly use their skills is to identify and assign them the most suitable portion of the work while integrating the resource planning as the WBS gets created. The foreman or electrician can then hand off specific task items to his team without hesitation or second-guessing who can perform the tasks at hand. This helps everyone to have a clear work plan in place ahead of time and does not force the foreman to “come up” with the next tasks for the apprentice while five other people are asking him what to do next and waiting on instructions.

Making WBS a prerequisite and completing it before the actual project starts onsite will benefit the project by reducing the uncertainty and improving job productivity. By breaking down the

work into manageable pieces and then using this information to plan through the life of the project will define which items should be done by apprentices, based on their skill set, and will provide a long-term look ahead for the apprentice as well as a clear definition of the work to everyone on the project. More importantly, it allows the project manager to review and predict his planned composite rate. Being able to measure the composite rate on a frequent basis (using Job Productivity Assurance and Control [JPAC®]) gives another lever for controlling the profitability of the project, which now can be actively planned for and predicted.

### A Changing Workforce

There is another challenge growing in the construction market: the workforce is changing. When you look at Construction Put in Place (CPIP) vs employment, we see that not only has construction come back, but the demand has continued to outpace the supply of the labor force since June 2013. Successful companies in today’s market will be the ones who not only manage their labor but optimize the job productivity of their labor force by employing the principles of Agile Construction®.

Based on the Bureau of Labor Statistics (BLS) projections, the disparity between CPIP and employment is going to become an industry norm, which will in turn be the catalyst for the next cycle of disruption in the industry. Owners and project managers now must worry about the availability of labor, which adds an additional layer of risk associated with having to flood a project with high-skilled labor to meet deadline. This “old way” of “getting a job done” will not be able to be applied any longer. There will not be enough highly-skilled labor to “save” the job.

Industrialization of Construction® is here, and it is here to stay. The only way to remain competitive and survive is to train your workforce to manage the labor effectively, including the apprentices; manage the work; and continuously improve the productivity and business processes within your organization.

### Generate Visibility

The workforce shortage is another reason to ensure that the apprentices who are deciding to go into the construction trade get enough structured training and guidance to maintain their interest in the construction trades. The best way to be productive is to know what you are supposed to do and receive structured feedback on whether you are going in the right direction or not. Figure 2 shows a WBS with clearly marked task items for the apprentices, Kevin and Peter. By receiving frequent feedback on their work, apprentices can make corrections as well as have the possibility of getting continued support from the company. The apprentices need to know what their job or scope

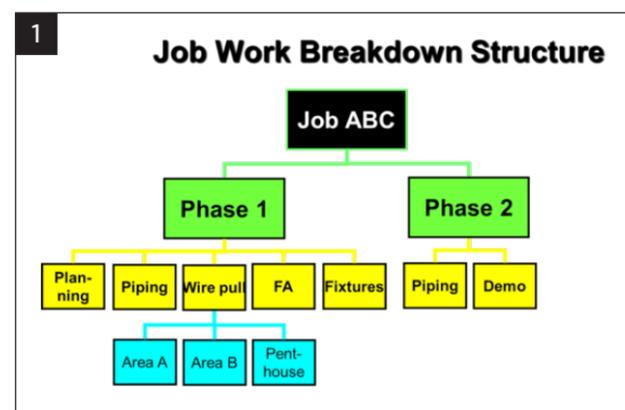


Figure 1: Work Breakdown Structure Example

Figure 2: Example of a WBS with tasks assigned to Apprentices



of work is and what portion they have to do for the day and for the week. Additionally, some apprentices also have an interest in seeing how their work impacts the project or the company.

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By using the Agile Construction® approach, the work can be made visible for everyone in the company; therefore, the best use of each qualification and skill can be ensured by working on the tasks that you are best qualified for. The long-term investment by the company in an apprentice will pay off when the future electrician and foreman are trained with the right tool set (WBS, JPAC®, SIS®), and are able to manage their work with a predetermined plan, based for all skill levels. This lowers the composite rate and therefore adds to predictability of the job and prevents obstacles from impacting the job.

Any field leader can use the WBS and SIS®, which will help them to have the

work clearly defined and will include what “done” means for the day and for the project. On the project level, this allows the work to be handed off and followed up on easier with the apprentice. Passing on these practices to the apprentice will help them learn how to see the work; schedule it; and with the help of JPAC® (ASTM’s Standard for tracking productivity), track the performance.

By being able to be a work place of choice with the help of Agile Construction® tools and principles, companies are able to keep their well-trained apprentices and achieve their sought return on investment from the training and time spent. This will pay off by having a new electrician and future foreman who is the living embodiment of Agile principles and ensures the productivity of the job is made visible to everyone.

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