

Student Construction Productivity Compared to Industry Standards

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In the construction industry, a lot of weight is put into efficiency due to the fact the most efficient company will be sought out for more construction opportunities and therefore be more successful by earning more money. While it does not always tell the entire story, efficiency is loosely correlated with productivity in the sense that an efficient construction crew will most likely be a very productive crew as well. At The United States Air Force Academy (USAFA) during the summer “Civil Engineering Practices - Field Engineering” course, USAFA faculty wanted to know how student work compared to the construction industry as a whole and how they could improve the rate of direct work.

This paper discusses a productivity study conducted during the summers of 2016 and 2017 at USAFA throughout a three-week program called “Field Engineering Readiness Laboratory” or FERL. The objective in carrying out this study is to establish a baseline for future training at FERL and find ways to improve upon the baseline by identifying strengths and areas of weakness.

This study was conducted using work sampling, where “snapshots” were taken of the construction work. From these snapshots the level of productivity of each construction worker was determined and counted as an observation. There were 544 observations collected in 2016 and 1,854 in 2017. The direct work percentages found in both years fall within the industry standards although there was an 11% increase from 2016 to 2017

This paper talks about why it is significant that USAFA student productivity falls within these standards and what it means in terms of carrying out construction projects in a teaching/learning environment. It will also discuss how this baseline can be used to improve the direct work rate and ensure USAFA and construction companies are receiving quality work on construction projects.

Keywords: Direct Work, Student Work, Productivity in Construction