

PRODUCTION CONTROL PRINCIPLES

Glenn Ballard¹, Jamie Hammond² and Romano Nickerson³

ABSTRACT

This paper reports the results of a search for the principles of production control. The search starts from the Last Planner⁴ system, develops its principles, functions and methods, then explores their applicability to designing and making, the primary types of work involved in project production systems.

What differences in these types of work make a difference for control? What adaptations of principles, functions or methods and tools are needed for different types of work?

The authors tentatively propose that the principles and functions derived from Last Planner are applicable to the types of work involved in project production systems, and that methods now in use can be successfully adapted for those types of work. The paper concludes with a description of needed research.

KEY WORDS

Last planner, principles of production control, production control, types of work

INTRODUCTION

The Last Planner system of production control is in wide use throughout the world. Despite successful applications in both design and construction phases of projects⁵, there is a lingering question: Do we need something somehow different in design?

The authors take the position that a framework is needed for exploration of this question; a framework built around principles, functions and methods of production control. Methods used in the construction phase of projects may not be appropriate for design work, but the principles and/or functions may remain the same. Some methods may be applicable to all types of work, while some may require adaptation, and some may be peculiar to different types of work.

Our concern is not to defend Last Planner, but rather to provide a framework for productive inquiry. Is there a set of production control principles that are equally applicable to both designing and making? Are there functions and methods of production control equally applicable? If adaptation is required, what differences in types of work drive that adaptation, and at what level: methods, functions, or

¹ Associate Adjunct Professor and Director, Project Production Systems Laboratory, University of California, Berkeley; ballard@ce.berkeley.edu

² Vice President, AML Technologies., jamie.hammond@amltechnologies.com

³ Principal, Boulder Associates, rnickerson@boulderassociates.com

⁴ Last Planner is trademarked by the Lean Construction Institute. As a courtesy to readers, the trademark symbol has been omitted from this text.

⁵ Koskela, et al., 1997; Ballard and Koskela, 1998; Ballard, 1999, 2000a, 2000b, 2002; Choo, et al., 2004; Hammond, 2007; Nickerson, 2008.