

# WHAT'S BEHIND TWO STATEMENTS FROM MR ISAO KATO, OHNO'S HR ADVISOR?

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## Abstract

The inability to consistently get good product out the door and complaints from customers on quality issues hurt. The likelihood of both increases when standards are poorly understood and applied. Further, necessary frontline skills such as problem solving and training are increasingly difficult for our leaders to sustain in an environment where standards are weak. Additionally, there is a *human* cost when inconsistent quality and productivity are present. (We wonder how high this cost is!)

These may well be core reasons why Mr Isao Kato, Taiichi Ohno's HR advisor during their development of Toyota's production system, made two very telling statements regarding standards applicable to any production or service provision system.

"Without Work Standards there will be no standardized work."

And ...

"The purpose of Work Standards is to create a basis of efficient production that delivers the quality our customers require."

This article considers further why Kato made both statements. It illustrates how, when development of Work Standards is practiced as a foundational element of any 'production system' (packaged beverages, construction planning components, gas line fittings, car parts and more), the importance of both statements becomes obvious and telling.

We must first go back a few steps and look at three terms that have suffered from 'Chinese whispers' – various changes in interpretation over the years since the early 90's. Confusion as to the intent of these three terms was one of the drivers for several TWI Institute people spending one week with Kato in 2018 and again in 2019. Clarification of these three terms followed by logical and sequential development suddenly made 'lean' and other associated concepts seem a whole lot less daunting!



The three terms are 'work standards', 'standard work' and standardized work'. We'll defer to Kato again in noting his definition of the three.

## Critical Definitions

**Work Standards** – concrete statements about various work conditions, work methods, work management methods, and other precautions. They are generally organized into three main categories: Control Conditions, Process Conditions, and Operation Conditions. An example concrete statement in a Control Work Standard (for a formed carton) is 'Gap between 2 flap edges 0 mm-12 mm.' (This example is shown later in this article.)

**Standard Work** – refers to a specific task or job for which the *content, sequence, timing and outcome* have been identified (and documented). Since the *focus is on human motion*, Standard Work is the description of that motion and its interaction with machines and materials.

**Standardized Work** – is the *end condition* that exists in the workplace after Work Standards and Standard Work have been *identified and taught*, and both are being *followed explicitly*.

Dealing with the last one first ... Standardized Work is a state of being – when what is happening matches what should be happening. What should be happening is contained within the Work Standards and Standard Work. So, Standardized Work can only be a consideration *after much development has been done prior!* With all the respect in the world to those organizations that are truly there, let's not concern ourselves too much with standardized work for now because the majority are nowhere near it!

Similarly, the definition of Standard Work gives us a clue as to where to first direct our efforts strongly. In standard work *the focus is on human motion and its interaction with machines and materials*. If we are going to be clear on detailing human motion, it stands to reason we must *first* be very clear on what the human needs to get done. Such clarity lies within well constructed Work Standards. Perhaps this is why Kato made those two opening statements! *So, let's start with Work Standards ...*

Now, the definition stated above for Work Standards is a little wordy and, we think, a little complex. We've found that there is a simpler view that maintains Kato's intended principles and philosophies. We'll aim to explain this simpler view in what follows being largely what we've learned from our own experience, practice and helping others practice.



## Function of Work Standards

We'll start with a fundamental and foundational point. *The primary function of a Work Standard is to define 'normal' (or 'good') – what is expected or required.*

A Work Standard moves us away from the following classic 'red poster' statement that typifies much inefficiency in processes, problem solving and/or risk mitigation ...

**"If you don't have a clear expectation of what 'good' ('normal') looks like then your definition of 'not good' ('abnormal') is subjective and varies depending on who, what and when things are being looked at."**

Mark Rosenthal

... and moves us toward 'green poster' being the (positive) opposite ...

**"If you DO HAVE a clear expectation of what 'normal' looks like then your definition of 'abnormal' is OBJECTIVE AND THE SAME no matter who, what and when things are being looked at."**

Oscar Roche

In 'red poster' situations, there is inevitable (expert) opinions and feelings (due to interpretation), thus debate about what is 'right' and what is 'wrong'. This debate wastes energy and time with the result frequently being resolution takes too long or simply doesn't happen. Work Standards move us toward green poster. 'Green poster' creates objectivity (yes, we have 'abnormal', that's clear) thus we move quickly into problem solving and/or building adherence to the standards.

Work Standards cover very clearly what is expected or required throughout the production or service provision system such that the system delivers the quality our customers require.

By the way, people often ask if 'abnormal' (bad or wrong) needs to be defined (as well as 'normal' or good). No, it doesn't. A Work Standard does not need to define abnormal because quite simply *anything other than normal* is abnormal.

## A Logical Sequence of Development of Work Standards

With the importance of Work Standards in mind, they being a key 'component' of any production or service system, how might we go about developing Work Standards? Might there be a logical sequence? We have found that there is.

First we establish a Work Standard that describes the output – the ‘elements’ being what is being *looked at*, the quality points for each element being what is *looked for*. The quality points describe ‘normal’ (or ‘good’). The elements and quality points are defined by the customer of the output which could well be internal. In a continuous production line, the downstream operation may well influence the ‘output work standard’ for the upstream operation.

Now we’ve defined ‘normal’ for the output i.e. we’ve defined what the customer requires (remember, could be internal), we can then consider the variables that influence ‘normal’ in the output. If the output is created by a machine, there will be machine elements to consider and associated setpoints and parameters. Still with the machine, there may well be elements of the machine condition that will influence achieving normal in the output.

## Industry Examples

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We’ve recently had a very good illustration of this at a dairy processor in Sydney. We were applying our Get Started With Work Standards program with the ‘learning point of focus’ being a homogeniser (machine) in the liquid milk processing line. The output elements and associated quality points in the Output Work Standard included physical and microbiological properties. Then came the question of ‘what are the machine variables that impact ‘normal’ in the output?’ First point of focus was the machine variables like first and second stage pressure (with tolerances). Then came the condition of certain homogeniser components. For example, the condition of the valve seals and impact rings. A challenge here was describing ‘normal’ (or ‘good’) remembering that anything other is abnormal (not good).

Here’s another example involving the output from a carton erector on a glass bottle (wine) packaging line. ‘Pre work standards’ the operators were *told* the erected carton had to be ‘square’ when viewed top down.

This is a classic ‘red poster’ statement seen and heard regularly (in our experience). In developing the Carton Erector Output Work Standard, we challenged the Supervisor (Peter) to define the element ‘top down view’ with quality points that moved the system toward ‘normal’ being objectively defined.



Peter determined that if the base of the carton was glued as described in one row of the Output Work Standard, then 'square' took care of itself! (The row in Peter's work standard is shown in the image below.)

Element	Quality Point Description	Illustration
3. Bottom flaps closed	<ol style="list-style-type: none"> <li>1. No overhanging edges by more than 3mm</li> <li>2. With gap between the 2 flap edges be 0 to 12mm</li> <li>3. No more than 5mm difference in height at the top of each flap</li> </ol> <p>Why: Desirable appearance, indicates carton forming is set up correctly</p>	

Output Work Standard specifics and machine set points and condition have been illustrated in the carton erector and homogeniser examples. There may be other input variables that need to be considered too like materials or environmental conditions (temperature, humidity for example). (The carton blanks required an Input Work Standard for example.)

### Logical Sequence of Development Continued – The Human ...

Now we're VERY clear on the 'normal' for the output and the machine/system variables, we're ready to define 'normal' for how the human needs to interact with the machine/system to set/maintain 'normal'. (Knowing that such will deliver 'normal' in the output.) Such a 'person' Work Standard may well seem like an SOP or Work Instruction or whatever such 'traditional' documents might be referred to. They are simple documents containing work elements (chunks of work) and the steps within each chunk. The steps describe how the person will deliver 'normal' in whatever they're doing being building the output or establishing 'normal' within a machine for example.

By the way, a traditional SOP is typically what we jumped into writing way back. They are too often structured like novels filling a bureaucratic need with little practical use. We missed key control factors necessary to reliably deliver 'normal' in the output that itself hasn't been defined! Thus we are very much in 'red poster' zone as defined earlier.

## Summary

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Through application of Work Standards principles as summarized throughout this article it has become very obvious why Kato said ...

- "Without Work Standards there will be no standardized work."

And ...

- "The purpose of Work Standards is to create a basis of efficient production that delivers the quality our customers require."

We have seen that with Work Standards as a foundation, many typical frontline leaders' skills such as problem solving and training become considerably easier to practice. Alongside, managers coaching can become more targeted and thus more productive. Lastly, quality problems decrease.