

# ASA ANNUAL CONFERENCE 2014 WASHINGTON, DC

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COMPETENCE  
&  
MOTIVATION

# **G. RINGGER CONSULTING, INC.**

***Celebrating 30 years in the  
aerospace/aviation industry!***

***Providing Engineering, Quality System, Training,  
Airworthiness, and Business Development  
Services to the aviation industry***

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# Business Consulting Services

## Business Services

- Crisis Mitigation
- Expert Testimony
- Corporate training
- Root Cause Analysis
- Corrective Action
- Internal audits
- Supplier audits
- FOD Awareness

## Engineering

- FAA-DER
- Structural Design
- Analysis
- Repair & Alteration
- FAA-PMAs
- Interior Mods
- Flammability Test Plans

## Quality Systems

- FAA- AC0056
- ISO 9001
- AS-9100
- AS9110
- AS9120
- ASA-100
- CASE 3A
  
- FAR-145
- FAA-PMA
- FAA-TSOA

## Airworthiness

- FAA-DAR Mfg.
- FAA-DAR Maint.
- FAA Airworthiness Approvals
- FAA Part Conformity
- FAA installation Conformity

# Corporate Training

## Business Development

- Better Decision Making
- How to Gain a Competitive Edge
- Human Factors
- Making the numbers in a tough economy
- Management Tools for Decision Makers
- Risk Management
- SMART<sup>2</sup> Goal Setting
- Supplier Performance
- Supply-Chain Auditing
- SWOT Analysis for success

## Quality Systems

- AC 0056
- AS-9120 /AS9110/AS9100
- ASA-100 / CASE 3A
- ISO 9001
- FAA - Repair Station
- FAA-PMA
- Corrective Action
- FOD Awareness & Prevention
- Internal Auditing
- Preventive Action
- Process vs Procedure Audits
- Receiving Inspection
- Root Cause Analysis
- QA Manager Training

## Airworthiness

- FAA-PMA Systems - *SAE Approved*
- Accident Related Aircraft Parts
- FAA SUPs
- Counterfeit Parts
- Documentation & Acceptable Traceability
- FAA-CFRs
- Human Factors for Repair Stations – *FAA IA Approved*
- OEM versus PAH parts
- Safety Management Systems (SMS) - *FAA IA Approved*
- User-Centric Design

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# Workshop Outcomes

## Block 1:

- This workshop will discuss benefits of competence-based training using Bloom's Taxonomy, and then

## Block 2:

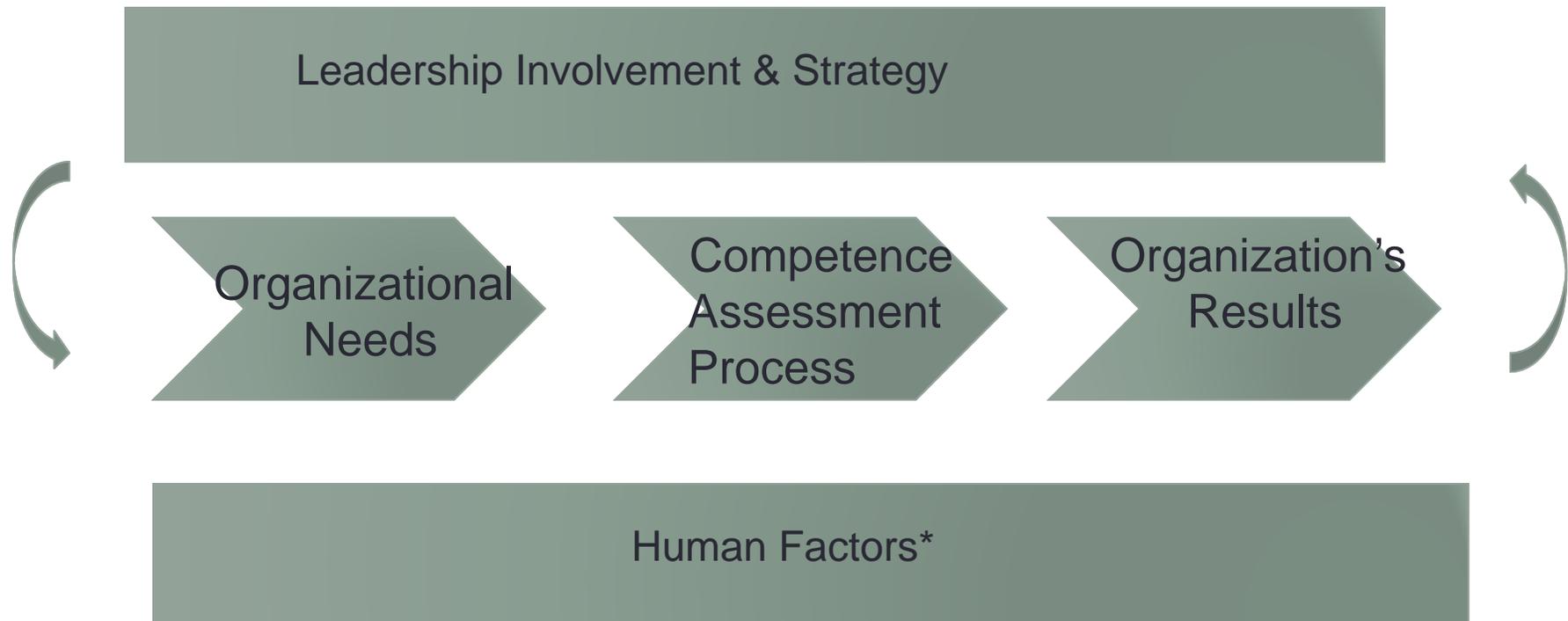
- This workshop will present various prominent theories of motivation applicable to your workforce.

# BLOCK 1

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Competence-based training using Bloom's  
Taxonomy

# Process Approach to Competence



\*physical or cognitive characteristics, or social behavior, of a person.

Ref : ISO 10018-2012 Guidelines For People Involvement & Competence

# Competence

Is the ability to apply knowledge and skills to achieve intended results.

Competence can be affected by:

- Variations in the work environment;
- pressures;
- relationships and conflicts;
- attitude and;
- commitment to apply the relevant knowledge and skills.

# Competence (continued)

Competence requirements are more than just academic qualifications, training and experience.

Competence defines:

- the results or outcomes to be achieved for a particular job;
- the performance criteria or standards to be achieved;
- the evidence required and the method of obtaining it.

# Leadership Involvement & Strategy

Leaders need to be visibly involved in achieving the involvement of people to satisfy the competence objectives.

- Should encourage people to assume responsibilities;
- Create conditions that enable people to achieve desired results.

# Organizational needs must be identified

Leadership should identify both short-term & long-term competence-needs.

This may include:

- organizational strategies;
- values;
- business plans;
- policies and;
- input from other parties (e.g. customer, market, regulatory authorities).

# Competence Assessment Process

Leadership should:

- assess workforce competence at the individual, team and organizational levels.
- should define specific methods for evaluating workforce competence.

So, How can we do this?

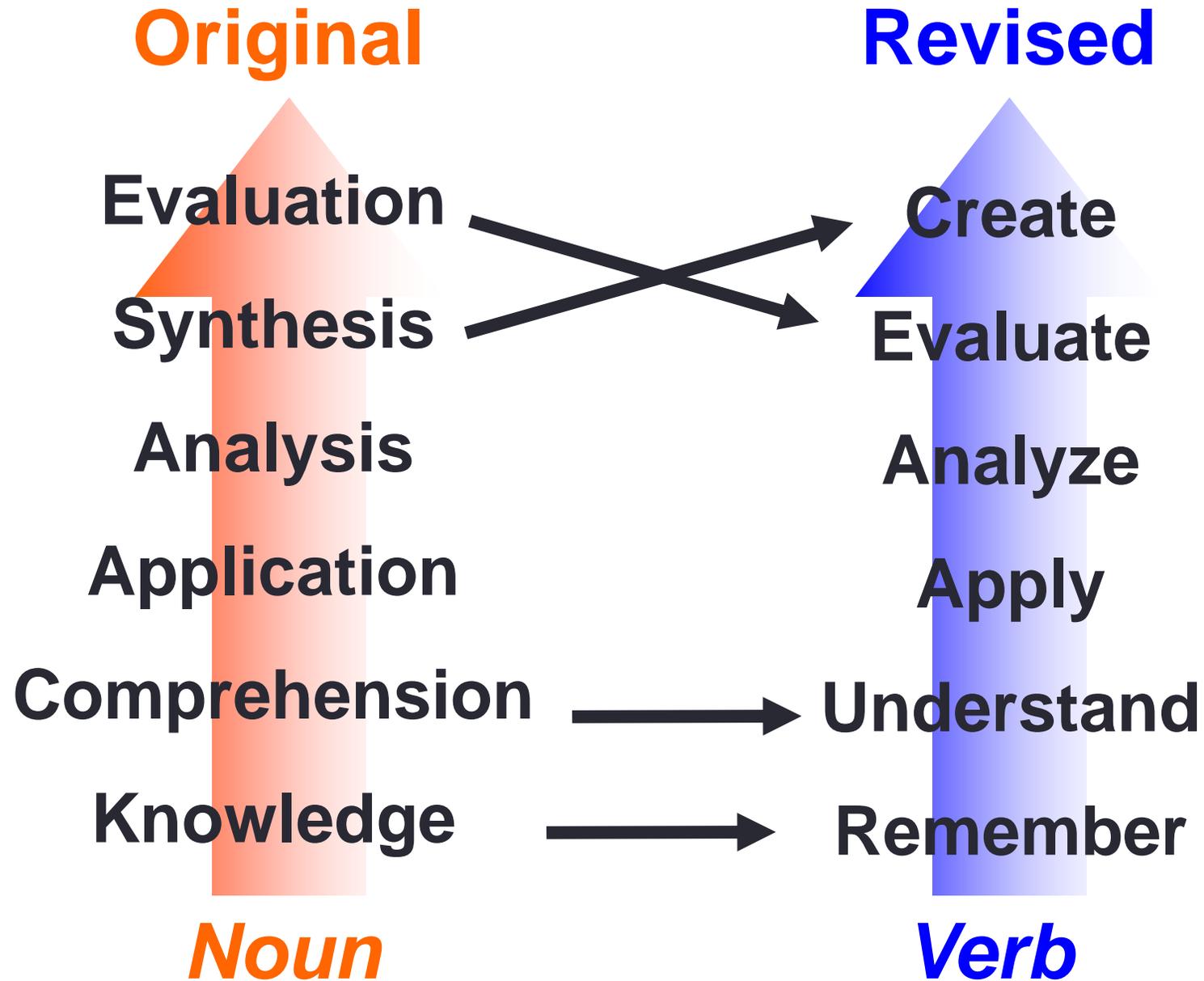
Is there a Model to follow?

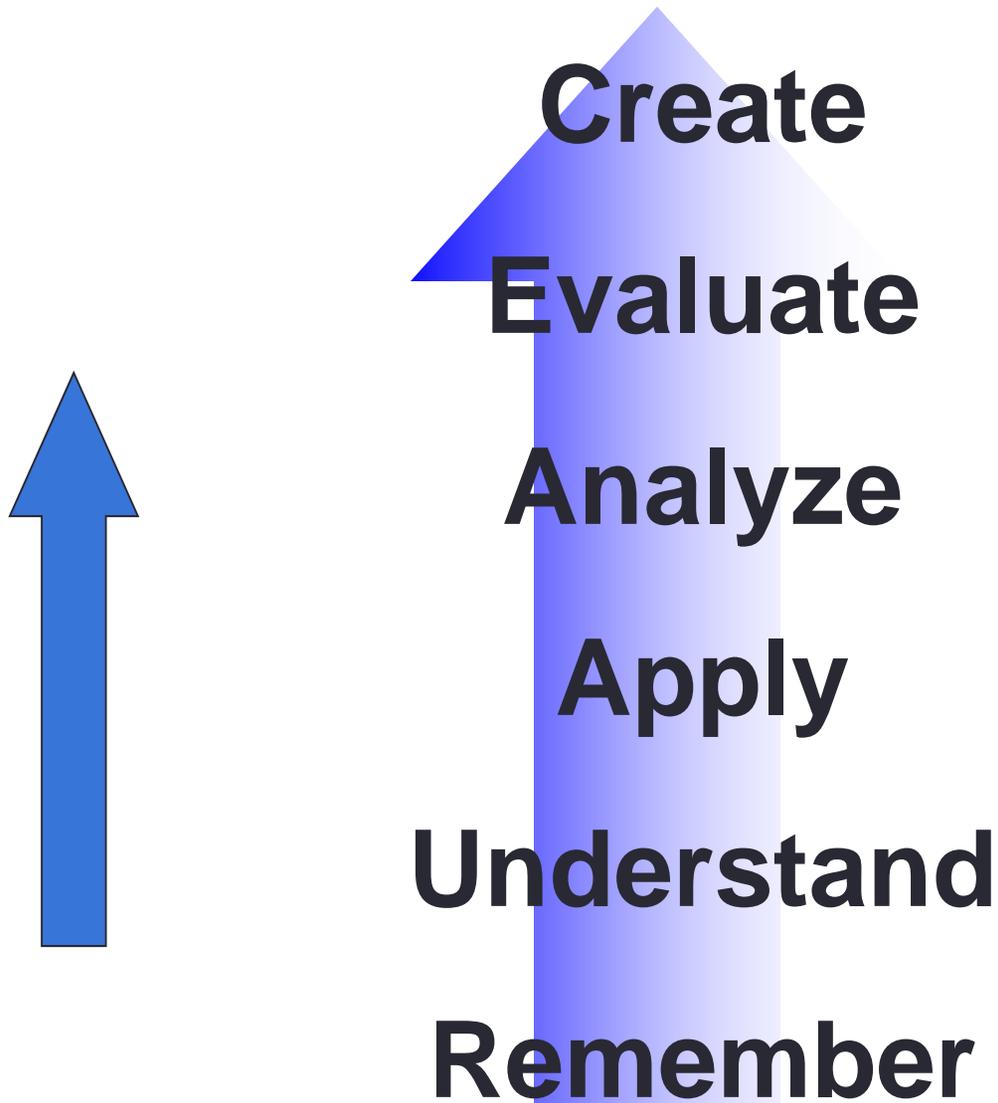
# Blooms taxonomy



- 1950s- developed by Benjamin Bloom;
- Means of expressing different kinds of thinking;
- Is one of the most universally applied models of teaching;
- Organizes thinking skills into six levels, from the most basic to the higher order levels of thinking;
- 1990s- Lorin Anderson (former student of Bloom) revised the Taxonomy.

**Taxonomy = Classification**





One level is a pre-requisite to the next level

# Remembering

The learner is able to recall, restate and remember learned information. They can:

- Describe
- Find
- Identify
- List
- Retrieve
- Name
- Locate
- Recognize



What tasks in your business require this?  
Who in your workforce requires this?

# Understanding

The learner grasps meaning of information by interpreting and translating what has been learned. They can:

- Classify
- Compare
- Exemplify
- Explain



- Infer
- Interpret
- Paraphrase
- Summarize

What tasks in your business require this?  
Who in your workforce requires this?

# Applying

The learner can make use of information in a context different from the one in which it was learned. They can:

- Implement
- Carry out
- Use
- Execute

What tasks in your business require this?

Who in your workforce requires this?

# Analyzing

The Learner can break-down learned information into its sub-parts to better understand that information.

They can:

- Attribute
- Compare
- Deconstruct
- Make Findings
- Integrate
- Organize
- Outline
- Structure



What tasks in your business require this?  
Who in your workforce requires this?

# Evaluating

The learner can make decisions based on in-depth reflection, criticism and assessment.

They can:

- Check
- Critique
- Detect
- Experiment
- Hypothesize
- Judge
- Monitor
- Test



What tasks in your business require this?  
Who in your workforce requires this?

# Creating

The learner can create new ideas and information using what previously has been learned. They can:

- Construct
- Design
- Devise
- Invent



- Make
- Plan
- Produce

What tasks in your business require this?  
Who in your workforce requires this?

# Cognitive Process Matrix

SIMPLE



COMPLEX

THE KNOWLEDGE DIMENSION	THE COGNITIVE Dimension (Blooms Taxonomy)					
	Remember (Knowledge)	Understand (Comprehension)	Apply (Application)	Analyze (Analysis)	Evaluate (Synthesis)	Create (Evaluation)
<i>Factual</i>						
<i>Conceptual</i>						
<i>Procedural</i>						
<i>Meta-Cognitive</i>						

# Knowledge Dimension

## **Factual**

- Discrete bits of information

## **Conceptual**

- More complex, organized knowledge
- Classifications, categories, principles

## **Procedural**

- Steps to take, how to do something
- Determining when to do what

## **Meta-Cognitive**

- Personalize understanding for the user
- Strategic and contextual

**CONCRETE**



**ABSTRACT**

# Metacognition

Refers to a learners' automatic awareness of their own knowledge and their ability to understand, control, and manipulate their own cognitive processes.

For example:

Mumford (1986) describes an effective manager as a person who:

- has learned to learn,
- knows the stages in the process of learning,
- understands their own preferred approaches to learning,
- can identify and overcome blocks to learning and,
- can bring learning from off-the-job to on-the-job situations.

(Ref: Metacognitive: [http://education.calumet.purdue.edu/vockell/edPsybook/Edpsy7/edpsy7\\_meta.htm](http://education.calumet.purdue.edu/vockell/edPsybook/Edpsy7/edpsy7_meta.htm))

# Cognitive Process Matrix

SIMPLE



COMPLEX

THE COGNITIVE Dimension (Blooms Taxonomy)						
THE KNOWLEDGE DIMENSION	Remember (Knowledge)	Understand (Comprehension)	Apply (Application)	Analyze (Analysis)	Evaluate (Synthesis)	Create (Evaluation)
<i>Factual</i>	✓	✓	✓	✓		
<i>Conceptual</i>		✓		✓		
<i>Procedural</i>					✓	
<i>Meta-Cognitive</i>						✓

# The 3 Domains of Learning

## **COGNITIVE DOMAIN:**

Thinking, intellectual abilities. Comprehending information, organizing ideas, evaluating information and actions.

## **AFFECTIVE DOMAIN:**

Motivation. A learner's emotions toward learning; their Interests, attitudes, opinions, appreciations, values, emotional sets.

## **PSYCHOMOTOR DOMAIN:**

- Basic motor skills, eye/hand coordination, physical movement.
- Speech, reading, handwriting, manipulative skills (typing), physical skills.

## Cognitive Domain



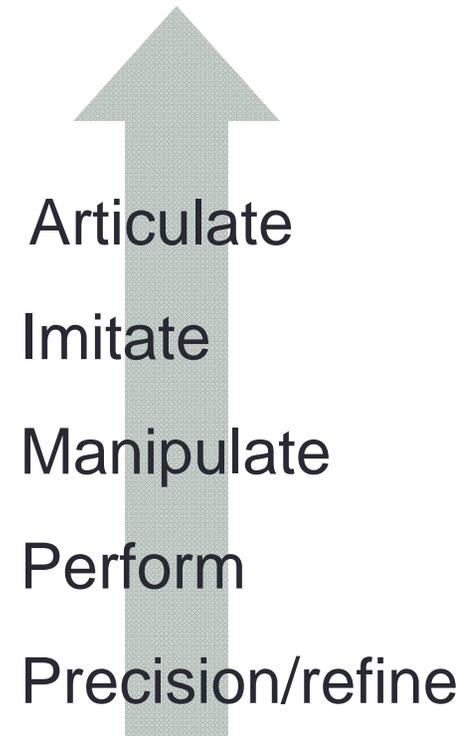
**(Bloom)**

## Affective Domain



**(Motivation)**

## Psychomotor Domain



**(Skill)**

# Block 1 Summary

## **Bloom's revised taxonomy:**

- Classifies a systematic process of thinking & learning.
- Provides a visual representation to align goals & objectives with standards, activities, & outcomes.
- Helps identify gaps between training methods versus expected results.

## References and Resources

ISO 10018-2012 Guidelines For People Involvement & Competence

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Reference: Charlie Cook, University of West Alabama

# BLOCK 2

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Theories of Motivation in the Workplace

# The Story of the Front Lawn

Let us begin this with a short story (McCullagh, 2005).

Once there was a man, who lived in a house and had a lawn. And kids would come to play on this mans lawn to have fun. The man began to be annoyed by this, and decided to do something about it. So, strangely enough...he paid them a dollar to come play on his lawn. The kids happily took the dollar and played on his lawn.

The next day, the man told the kids that he did not have enough money, so he could only give them 50 cents to come play on his lawn. On the third day, he told them he could only give them a nickel to come play on his lawn. The kids were displeased with this, and told the man he could forget that, and that they would not play on his lawn for such a cheap reward. What happened?

These kids played on his lawn before for absolutely nothing, but now, they quit playing, even though they were offered a nickel!

Well, it just so happens that this man understood an important concept in Motivation.

# Defining Motivation

**The processes that accounts for an individual's intensity, direction, & persistence of effort toward attaining a goal.**

**It is the force between what a person is *capable* of doing and what they are *willing* to do.**

## Key Elements:

1. Intensity: how hard a person tries
2. Direction: toward beneficial goal
3. Persistence: how long a person tries

# Motivational Theories

1. Reinforcement
2. Theory X/Y
3. Maslow's Hierarchy
4. Two-Factor
5. Expectancy
6. Equity
7. Goal-Setting
8. ERG
9. Theory of Needs
10. Theory of Achievement
11. Cognitive Evaluation
12. Flow & Intrinsic Motivation

# Reinforcement Theory (B. F. Skinner)

## **reinforcement theory**

Behavior is a function of its consequences.

### Concepts:

Behavior is environmentally caused.

Behavior can be modified (reinforced) by providing (controlling) consequences.

Reinforced behavior tends to be repeated.

# Theory X and Theory Y (Douglas McGregor)

## Theory X

The assumption that employees dislike work, are lazy, dislike responsibility, and must be coerced to perform.



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## Theory Y

The assumption that employees like work, are creative, seek responsibility, and can exercise self-direction.

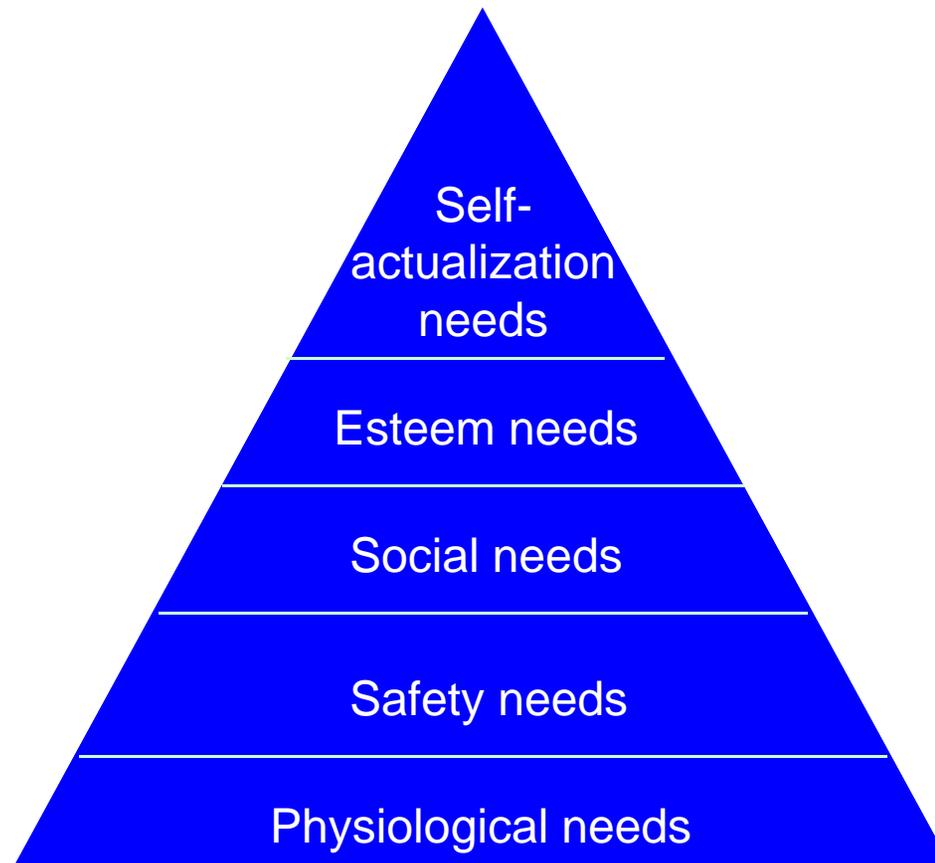


# Maslow's Hierarchy Theory

Higher-order  
needs



Lower-order  
needs



# Two-Factor Theory (Frederick Herzberg)

## **two-factor theory**

Intrinsic factors are related to job satisfaction, while extrinsic factors are associated with dissatisfaction.

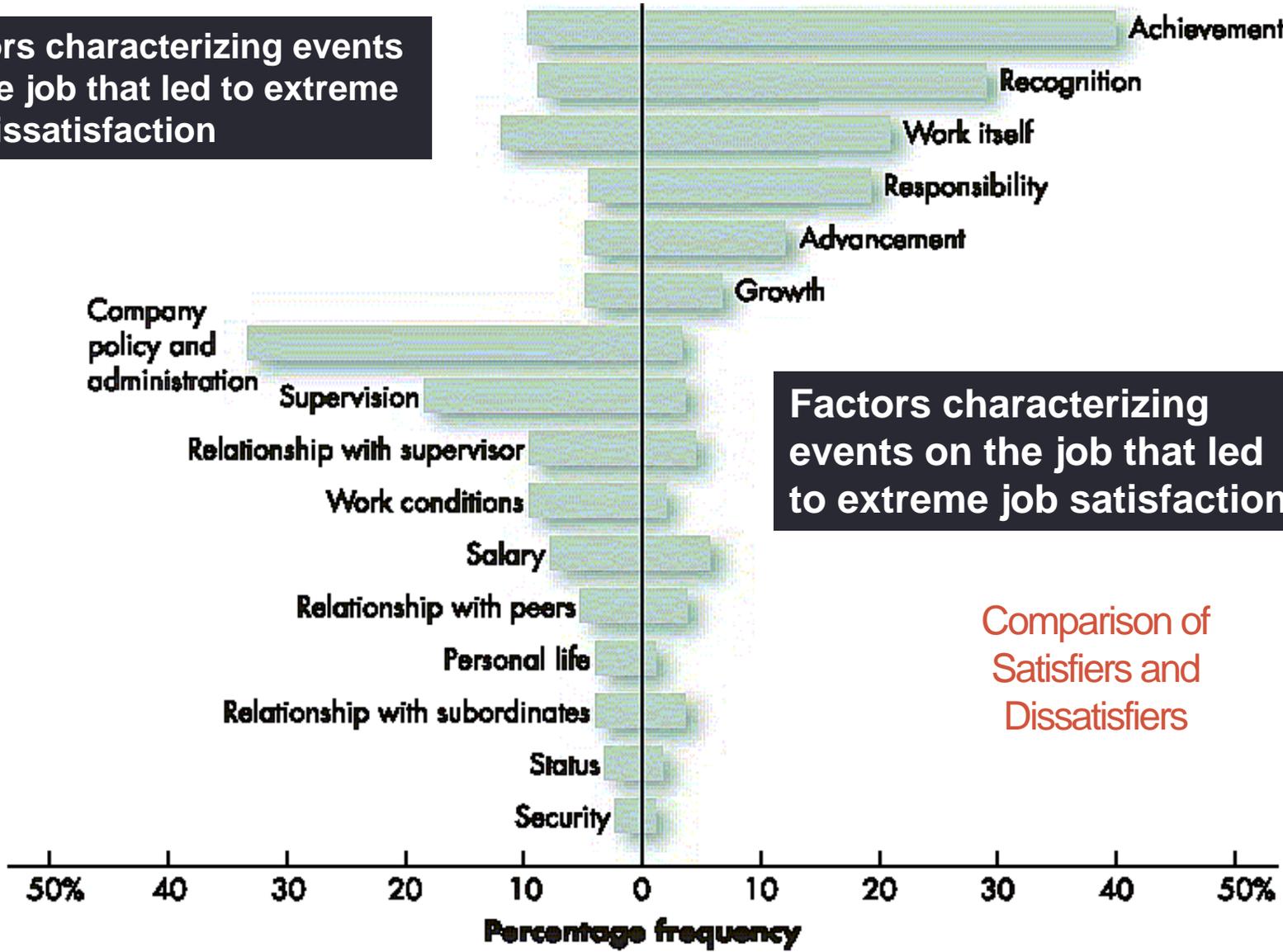
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## **hygiene factors**

Factors—such as company policy and administration, supervision, and salary—that, when adequate in a job, placate workers. When these factors are adequate, people will not be dissatisfied.



**Factors characterizing events on the job that led to extreme job dissatisfaction**



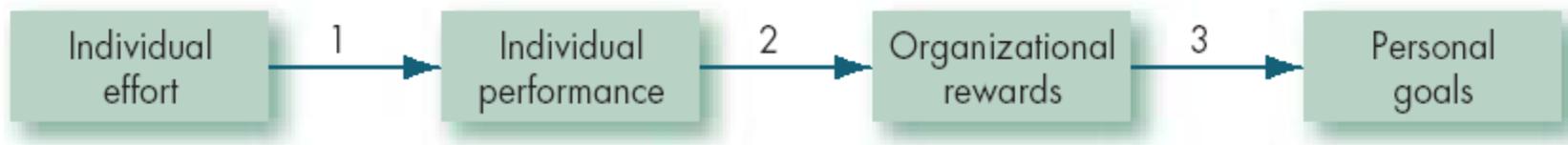
**Factors characterizing events on the job that led to extreme job satisfaction**

Comparison of Satisfiers and Dissatisfiers

# Expectancy Theory

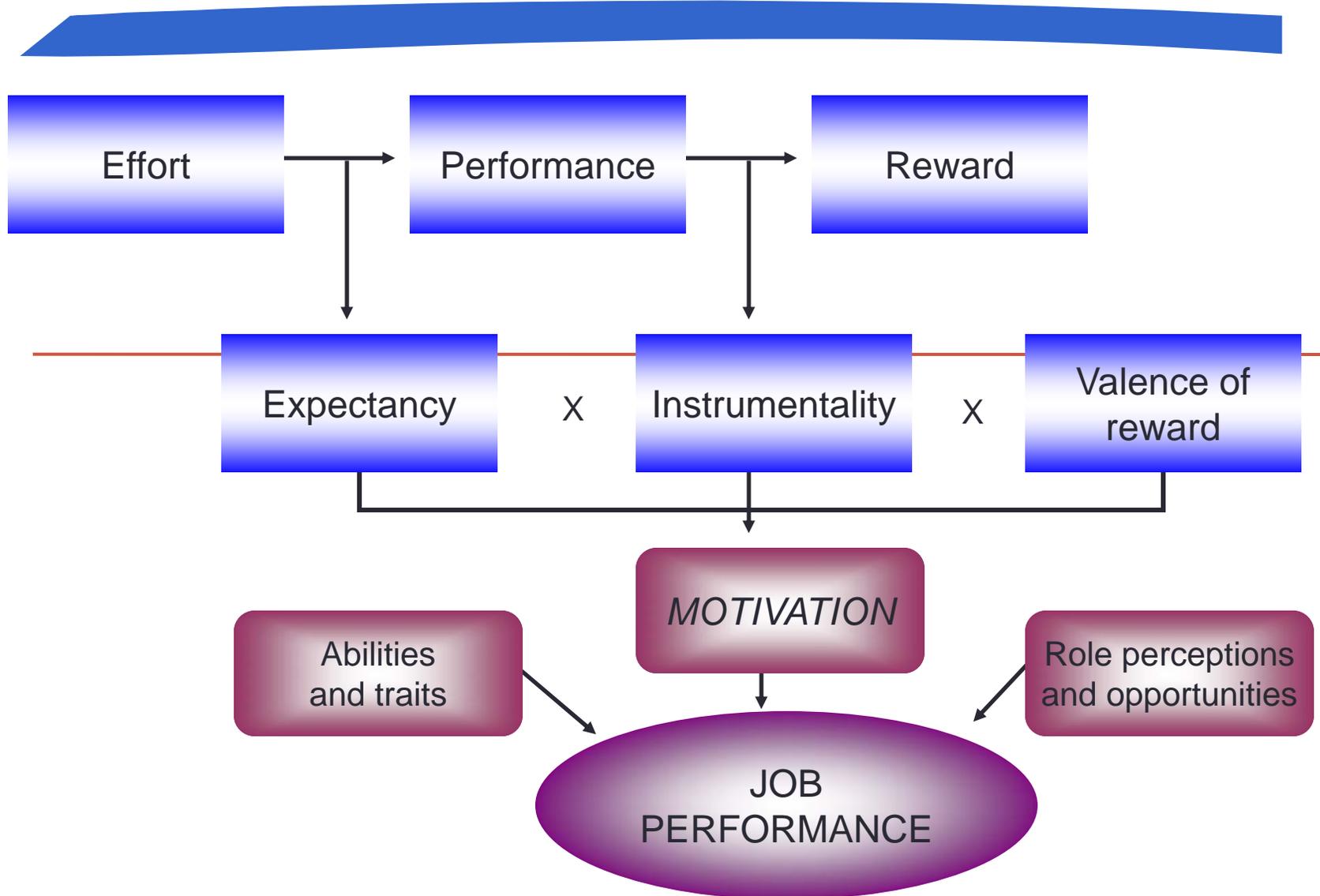
## expectancy theory

The strength of a tendency to act in a certain way depends on the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual.



- 1 Effort–performance relationship
- 2 Performance–reward relationship
- 3 Rewards–personal goals relationship

# EXPECTANCY THEORY (VICTOR VROOM)



# Equity Theory (John Stacey Adams)

## **equity theory**

Individuals compare their job inputs and outcomes with those of others and then respond to eliminate any inequities.

### Referent Comparisons:

Self-inside

Self-outside

Other-inside

Other-outside

# Equity Theory (cont'd)

## **Ratio Comparisons\***

## **Perception**

$$O/I_A < O/I_B$$

Inequity due to being underrewarded

$$O/I_A = O/I_B$$

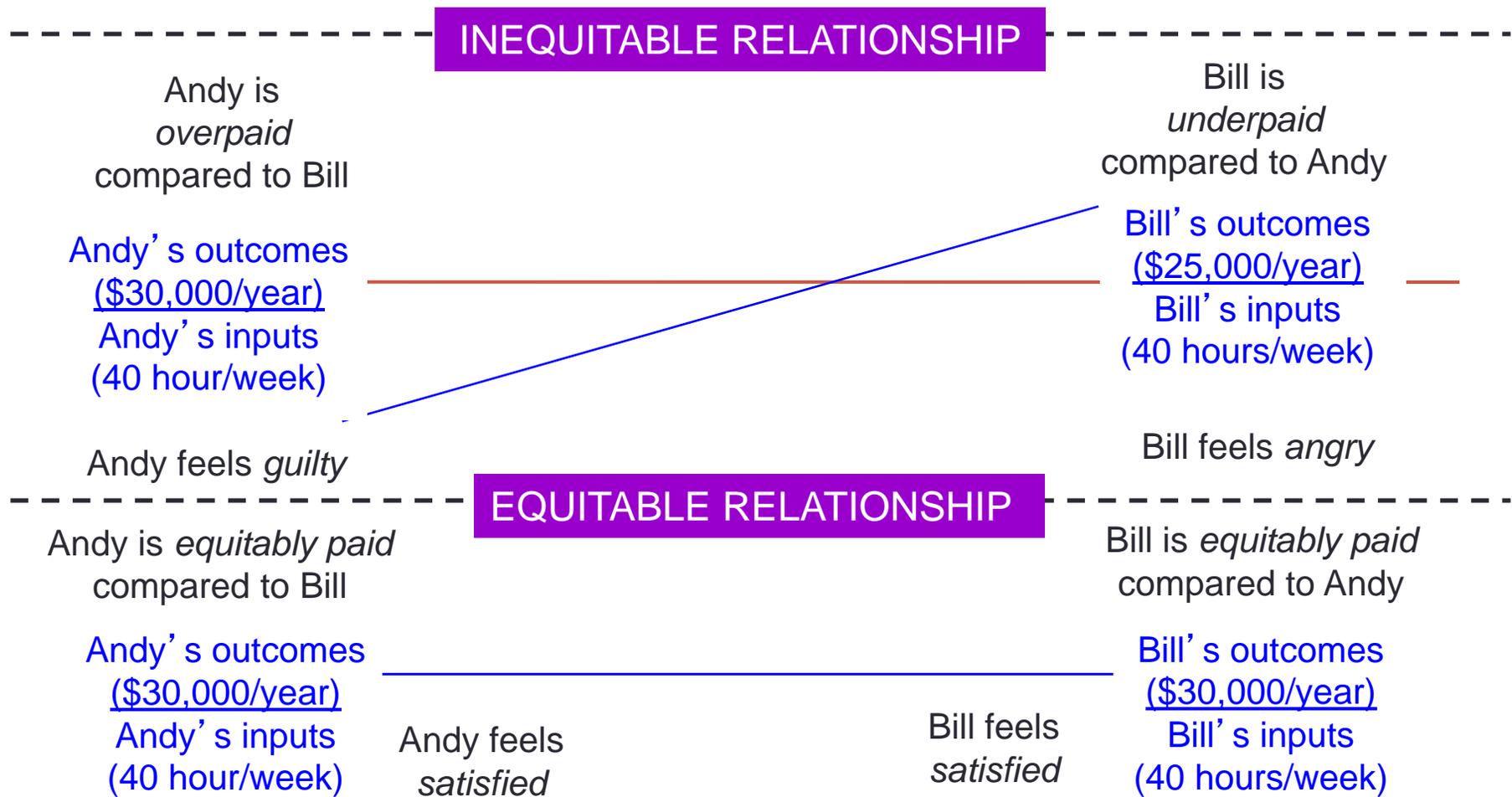
Equity

$$O/I_A > O/I_B$$

Inequity due to being overrewarded

\*Where  $O/I_A$  represents the employee; and  $O/I_B$  represents relevant others.

# EQUITY THEORY (JOHN STACEY ADAMS)



# Equity Theory (cont'd)

## **distributive justice**

Perceived fairness of the amount and allocation of rewards among individuals.

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## **procedural justice**

The perceived fairness of the process used to determine the distribution of rewards.



## Equity Theory (cont'd)

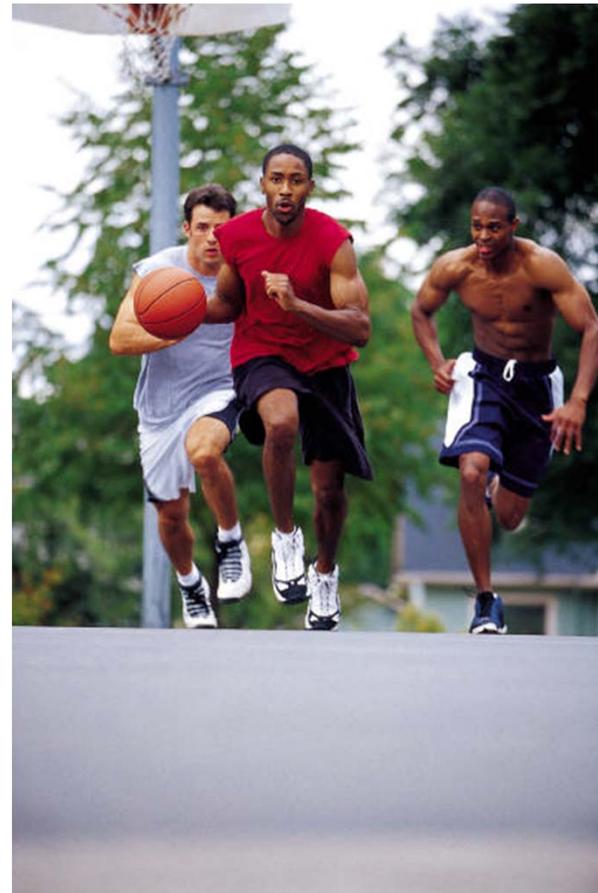
Choices for dealing with inequity:

1. Change inputs (slack off)
2. Change outcomes (increase output)
3. Distort/change perceptions of self
4. Distort/change perceptions of others
5. Choose a different referent person
6. Leave the field (quit the job)

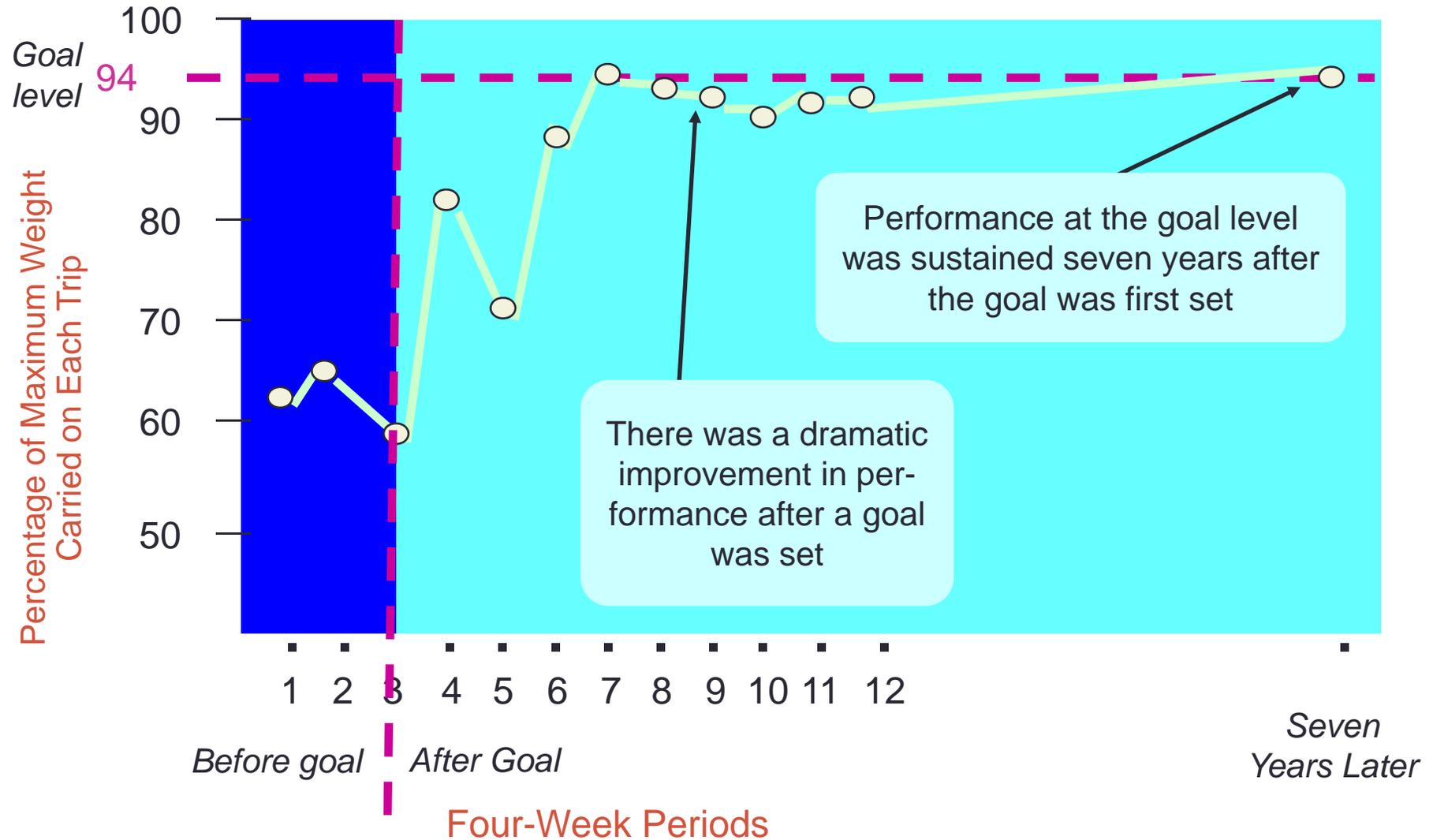
# Goal-Setting Theory (Edwin Locke)

The theory that specific and difficult goals with feedback, lead to higher performance.

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# Goal Setting: Some Impressive Effects



# ERG Theory (Clayton Alderfer)

There are 3 groups of core needs:

Existence: provision of basic material requirements.

Relatedness: desire for relationships.

Growth: desire for personal development.

Concepts:

More than one need can be operative at the same time.

If a higher-level need cannot be fulfilled, the desire to satisfy a lower-level need increases.

# David McClelland's Theory of Needs

## Need for achievement

The drive to excel, to achieve in relation to a set of standards, to strive to succeed.

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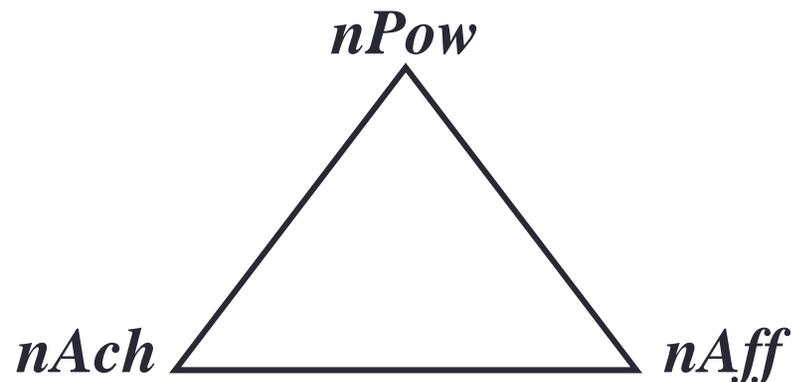
## Need for affiliation

The desire for friendly and close interpersonal relationships.

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## Need for power

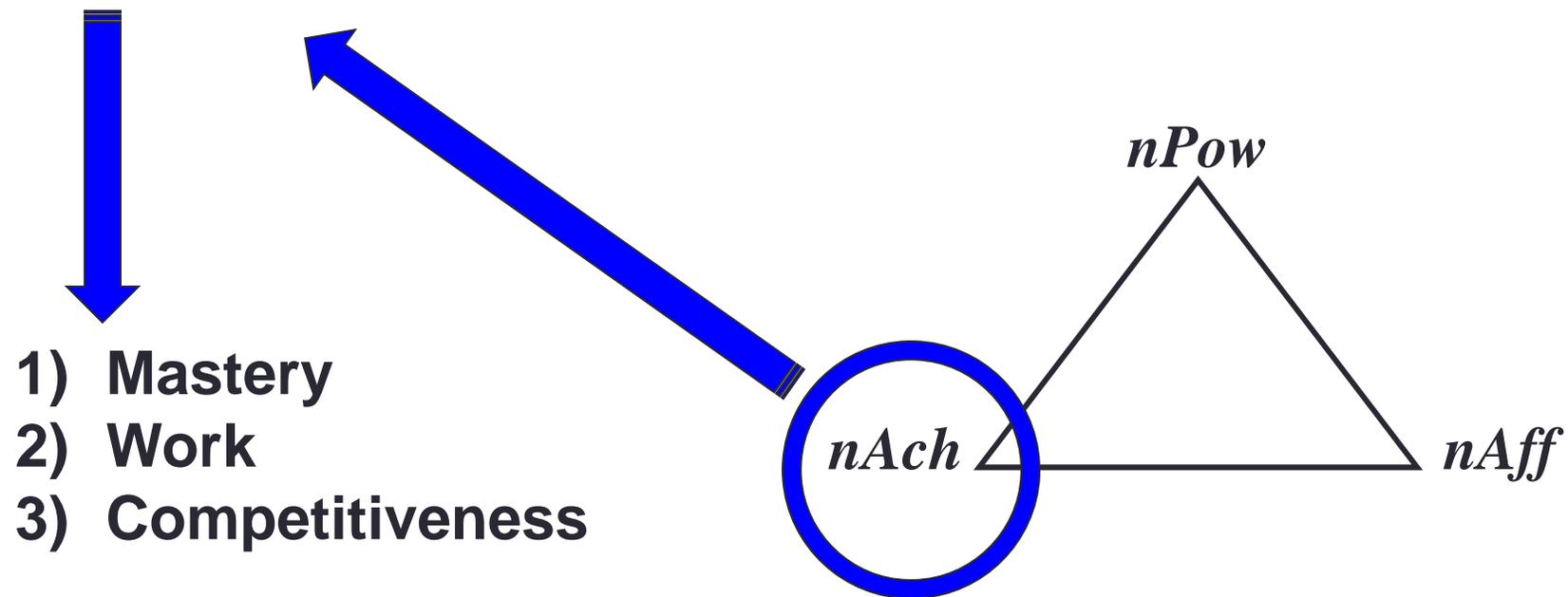
The need to make others behave in a way that they would not have behaved otherwise.



*Ref: Based on Murray's theories of Motivation (1938)*

# Theory of Achievement (Helmreich & Spence 1978)

*Achievement* can be broken down into 3 sub-motivators:



Studies that take these sub-motivators into account have been successful in predicting performance between males and females.

# Theory of Achievement (Helmreich & Spence 1978) continued...

## 1) Mastery:

- The need to confront new challenges or surpass one's own performance

## 2) Work:

- Gaining the satisfaction of accomplishment

## 3) Competitiveness:

- The drive to surpass the performance of others

These traits are developed in early childhood and are very difficult to “recalibrate” in adulthood.

(McClelland, 1965)

# Cognitive Evaluation Theory (Deci's)

Allocating extrinsic rewards for behavior that had been previously intrinsically rewarding tends to decrease the overall level of motivation.



**Remember the children playing on the neighbor's front lawn?**

# Flow and Intrinsic Motivation Theory (Dec, Ryan, Thomas)

**Getting yourself “into the zone”!**



Is characterized by intense concentration and motivation that centers on the process more than on the goal.

# Flow and Intrinsic Motivation

Employees are intrinsically motivated when rewards from work result from:

- **Choice**— the ability to freely self-select and perform task activities.
- **Competence**— the sense of accomplishment from skillfully performing chosen tasks or activities.
- **Meaningfulness**— pursuing a task that matters in the larger scheme of things.
- **Progress**— the feeling of significant advancement in achieving the task's purpose.

## Block 2 Summary

**We reviewed 12 prominent theories of motivations and discussed their occurrence in the workforce.**

- Classifies a systematic process of thinking & learning.
- Provides a visual representation to align goals & objectives with standards, activities, & outcomes.
- Helps identify gaps between training methods versus expected results.

# Theories of Motivation – Questions?