



Exploring The Effect of Team Leaders Who Are Autonomous Learner in Enhancing Team Learning within Construction Management Classes

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Thanks !!!!

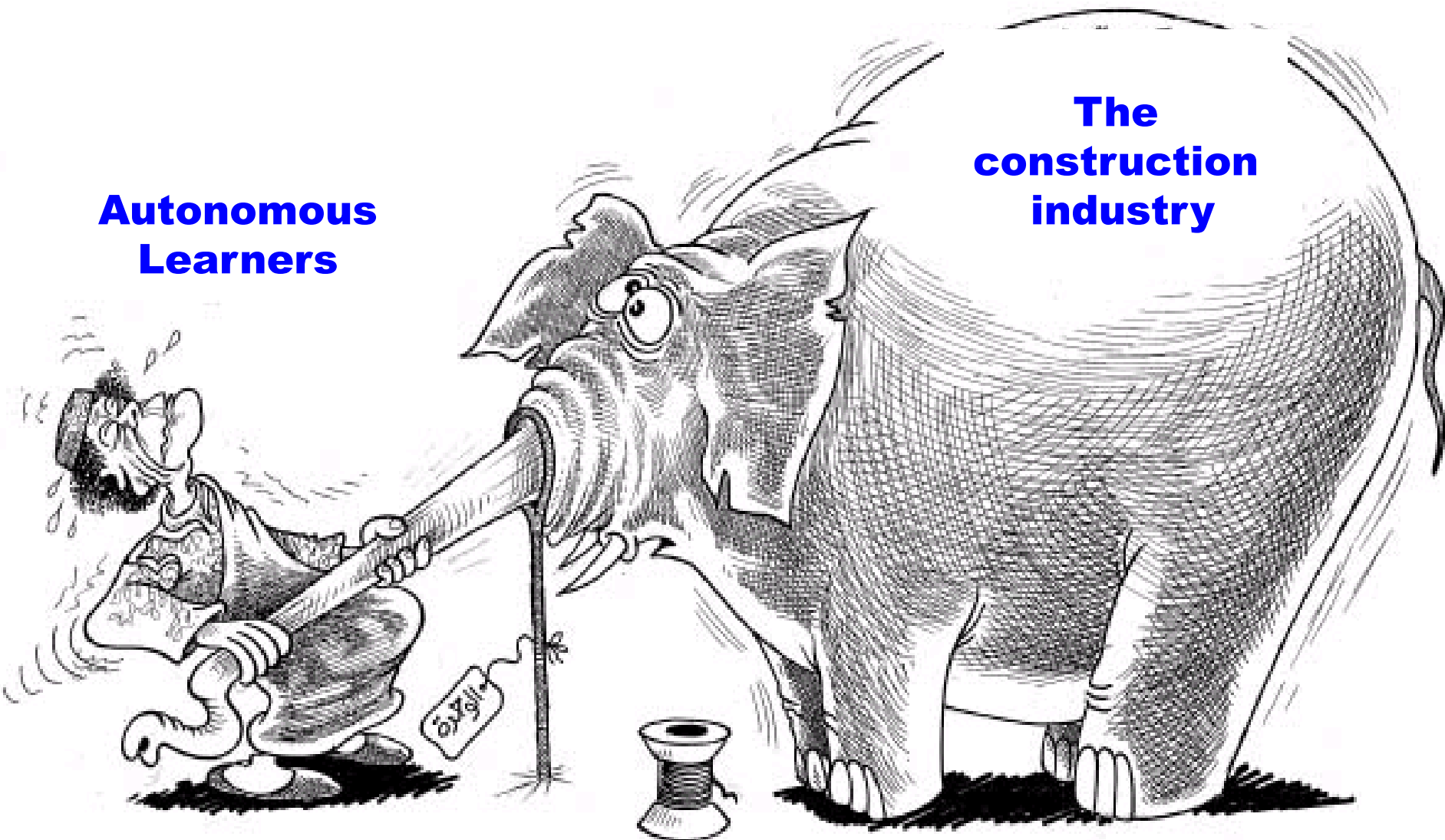
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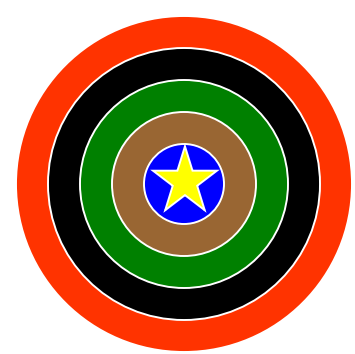
Presentation Outline

- Previous work for Construction Management Classes
- Enhancing Team Learning
- Model for Team Learning
- Research Questions
- Methodology & Analysis
- partial Results
- Future Directions

**Autonomous
Learners**

**The
construction
industry**





When you develop a CM Course?

Do you want it to do for:



An Individualist

- no need for communication
- I can do it my own way
- in isolation



A TEAM

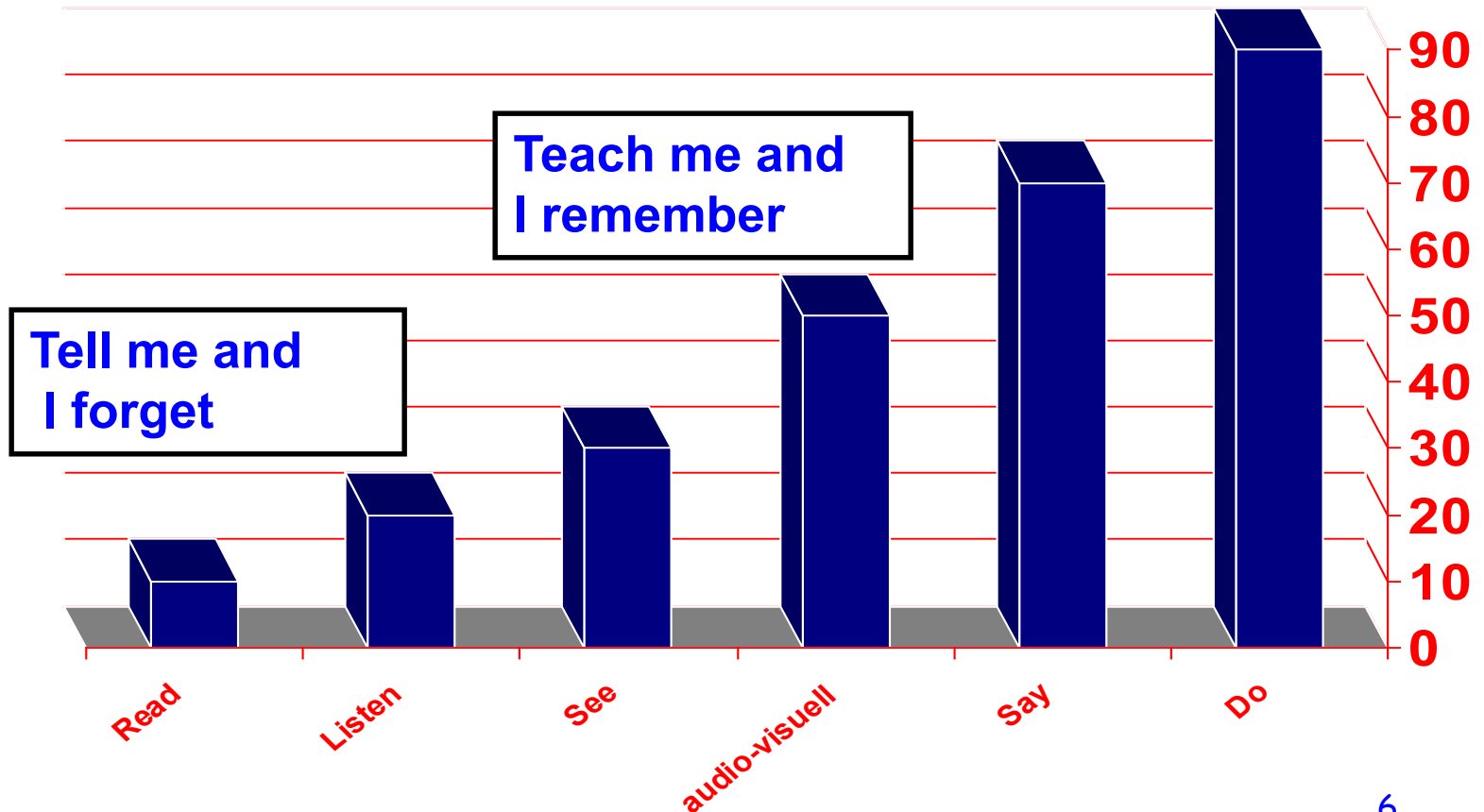
- learning from each other
- helping each other
- communicating
- sharing troubles and success
- have fun



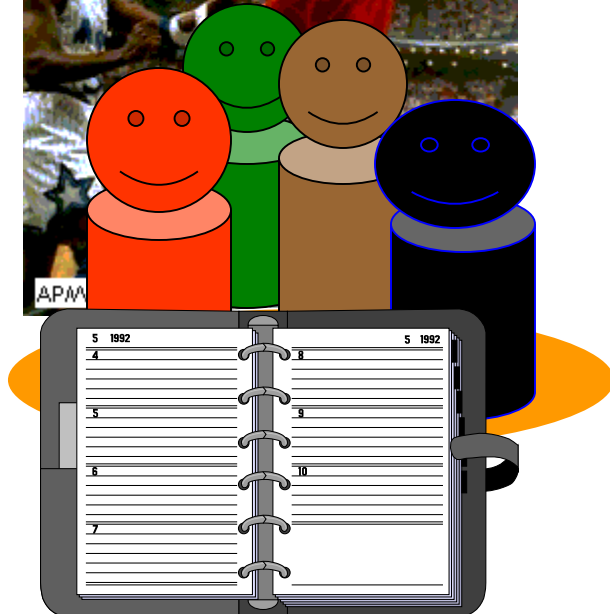
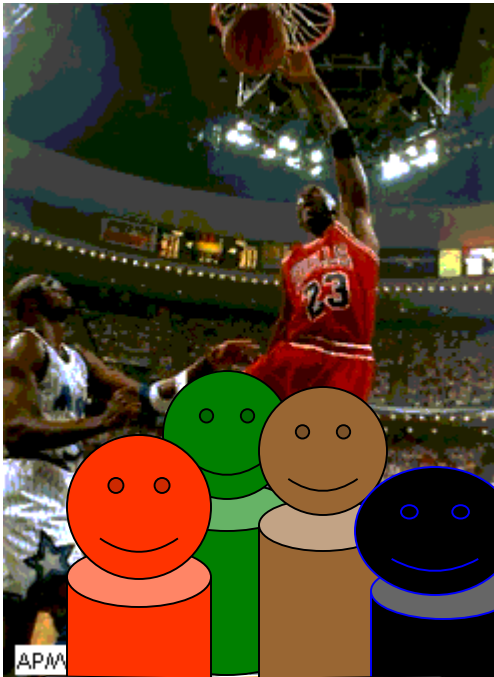
Team Learning/Teaching in Construction Management Classes

Involvement and Learning

Benjamin Franklin



Teamwork in Construction Management

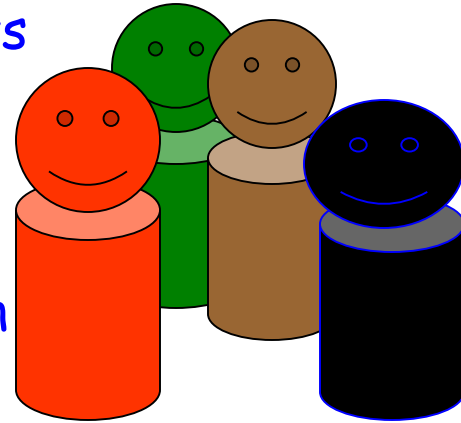


- Only the best for C.M. DREAM TEAM
 - Find an appointment for all of them
 - Strong individuals for an excellent team
 - Create Team culture



Enhancing Team Learning !!!

- Literature suggests that the leader's character plays a significant role in guiding outcomes from a team (Carroll & Edmondson 2002, Cohn & Baily, 1997)
- this study considers Enhancing Team Learning within Construction Management Classes by assigning Autonomous Learners to team leadership positions



Autonomous Learners

- Want to relate new concepts with their own experiences
- Develop a high degree of autonomy
- Ask critical questions and want to understand
- Take ownership of their learning
- Have many responsibilities
- Show preferences in learning styles
- Are involved in different networks

A Model of Team Learning

Current Conditions

Mental Models

Learning Behaviors

Outcomes

**Organized
Simulated
Structure**

supportive
Environ.
Well designed
Project
Appro. Grading

**TEAM
LEADER**

directional
environ.
Facilitate
learning

SAFETY

(if I take a risk on this
team, I won't be hurt)

EFFICACY

(if we try we will
succeed)

**LEARNING
ORIENTED
BEHAVIORS**

(discussing mistakes and
feedback, reviewing progress, in
the team)

**EXTERNAL
COMMUNICATION**

(Information & feedback
seeking from instructor and
professionals)

**TEAM
PERFORMANCE**



Team Learning is a process of using data to guide behavior in such a way as to promote ongoing adaptation

Research Questions:

- Q1: Are the components in the team learning model, team safety and team efficacy, legitimate group-level components?
 - The research uses multiple methods to test a model of team learning.
- Q2: Do team mental models of safety and efficacy facilitate team learning behaviors?
 - The model specifies that shared tacit perceptions related to interpersonal trust and team efficacy affect the degree to which teams engage in learning-oriented behaviors.
- Q3: Does Team learning facilitate team performance?
 - Shared perceptions among team members about the team social environment affected the team ability to learn.

Methodology

- Research Site: "Construction Management and Administration (TEC 394)"
- Study Sample: 30 students/ 8 groups
- Research measures:
 - Quantitative: Learning Styles Survey , Team Learning Survey, Observers Survey
 - Follow Up Qualitative : Direct Observation sheet

Methodology

| Research Questions | Analysis |
|--|--|
| Q1: Are the components in the team learning model, team safety and team efficacy, legitimate group-level components? | One-way ANOVA & Interclass correlation Coefficient... assess team members agree and teams vary |
| Q2: Do team mental models of safety and efficacy facilitate team learning behaviors? | Run Zero-order correlations as first check. Then run a series of regression analysis with group level data set |
| Q3: Does Team learning facilitate | Run Zero-order correlations as first check. Then run a series of regression analysis with group level data set |

Results (Inter-item Correlation Coefficient)

| | | Pearson r's | | | |
|-----------------|--|-------------|-------|-------|-------|
| Safety | | 1.07 | 1.13 | 1.21 | 1.23 |
| 1.07 | If you make a mistake on this team, it is often held against you. | 1.00 | -0.13 | 0.22 | -0.09 |
| 1.13 | Members of this team are able to bring up problems and tough issues. | | 1.00 | -0.24 | -0.12 |
| 1.21 | People on this team sometimes reject others for being different. | | | 1.00 | -0.36 |
| 1.23 | It is safe to take a risk on this team. | | | | 1.00 |
| Efficacy | | | 1.08 | 1.14 | 1.22 |
| 1.08 | Achieving this team's goals is well within our reach. | | 1.00 | 0.30 | 0.82 |
| 1.14 | This team can achieve its task without requiring us to put in unreasonable time or effort. | | | 1.00 | 0.09 |
| 1.22 | With focus and effort, this team can do anything we set out to accomplish. | | | | 1.00 |

Results (Intra-class Correlation Coefficient)

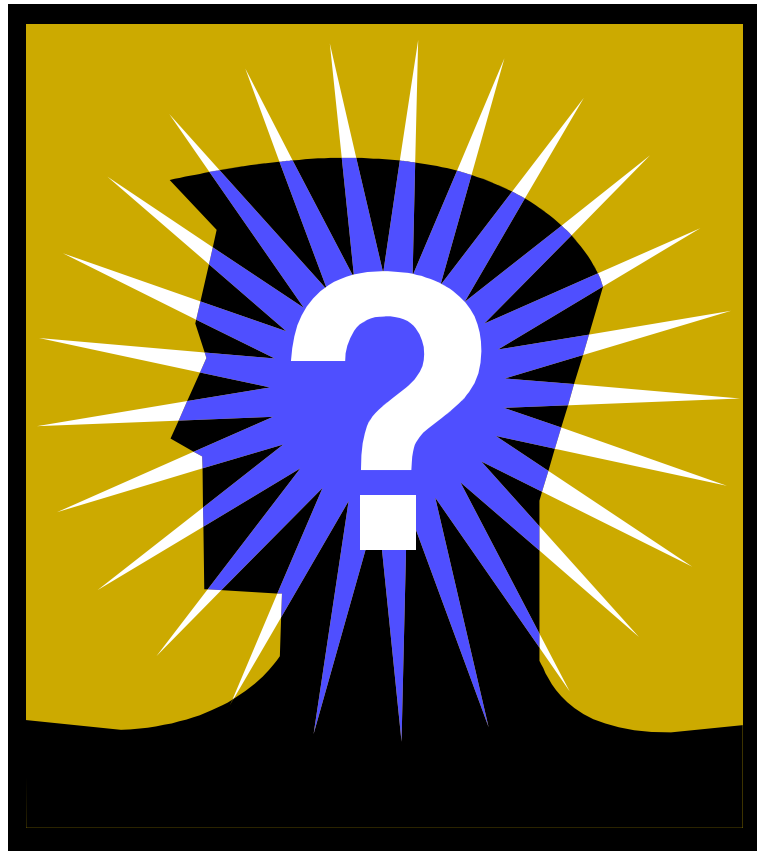
ICC measures of statistical agreement to assess the extent to which individual members' perceptions converge in assessing aspects of their team

| <u>Variable</u> | <u>Intra-class R</u> |
|-----------------|----------------------|
| | |
| Safety | 0.34 |
| Efficacy | 0.39 |
| | |

Future Directions

- Complete the Zero-order correlations and run the regression analysis with group level data sets. (This seems to take for ever)
- Use the Qualitative "Observation" Data to support (or contradict) with the quantitative analysis.
- Run a second round of data collection (with controlled group) and compare the data.

Any Questions?



Thank You