

# Failure stress as a motivator for creative construction management

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**CC2013**  
CREATIVE CONSTRUCTION  
CONFERENCE

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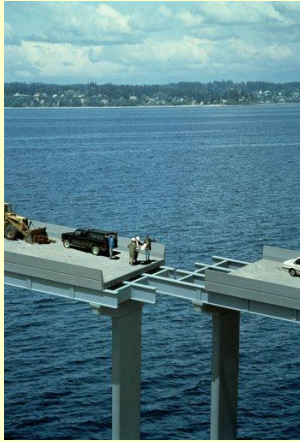
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Where innovation starts

# Outline

- **Problem in the construction industry**
- **Solutions**
- **Creative meetings**
- **Teaching collaborative working**
- **Testing educational tool**
- **Conclusion**

# Problem in the construction industry



**The client and the society do not get the values they want.**

## Values clients:

- Profitability
- User-friendly
- Flexibility
- Quality

## Values Society:

- Save energy
- Avoid waste and pollution
- Safe working conditions

# Solutions

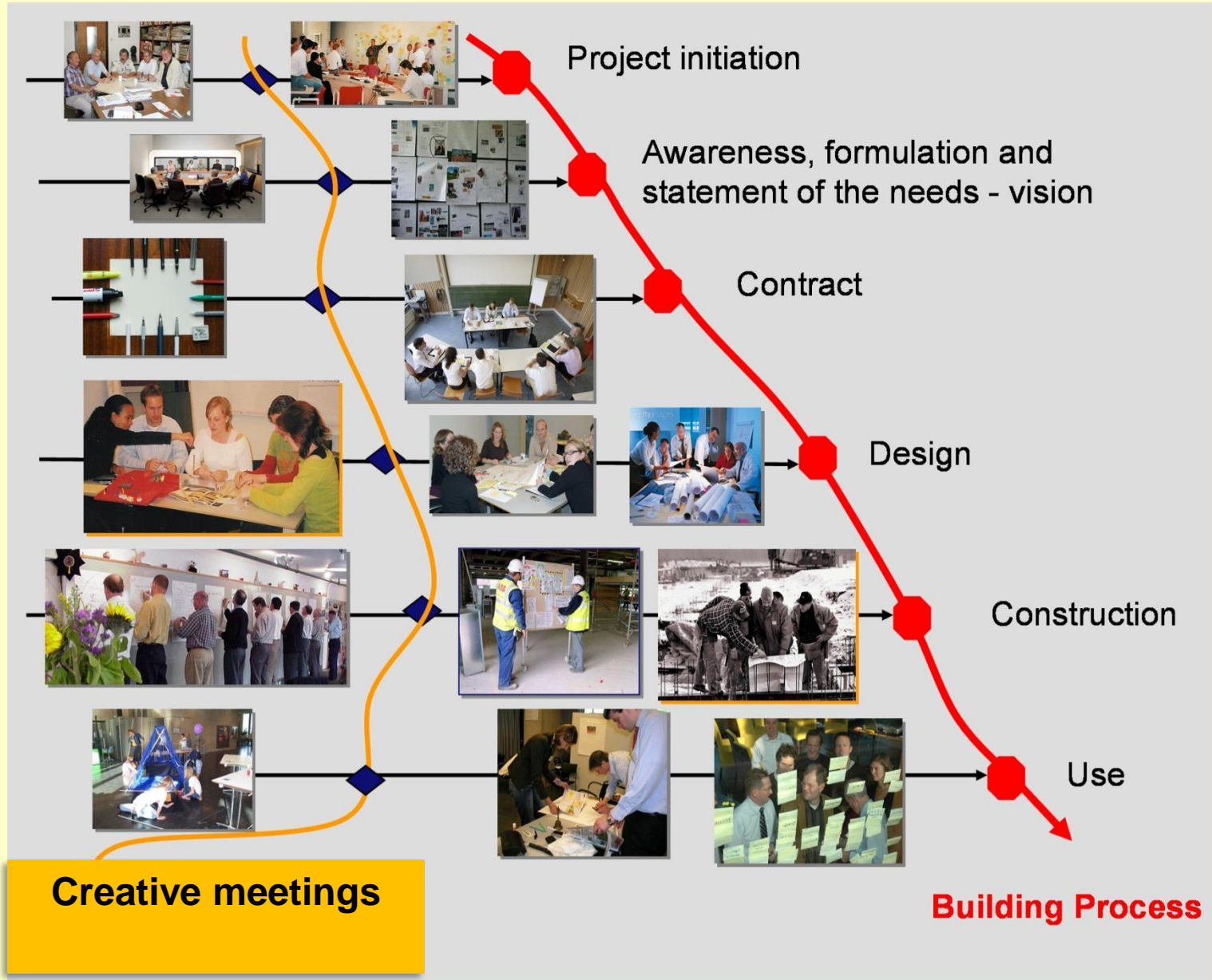
A building assignment is a complex task that demands special solutions to achieve added value for users and society.

## **Some solutions:**

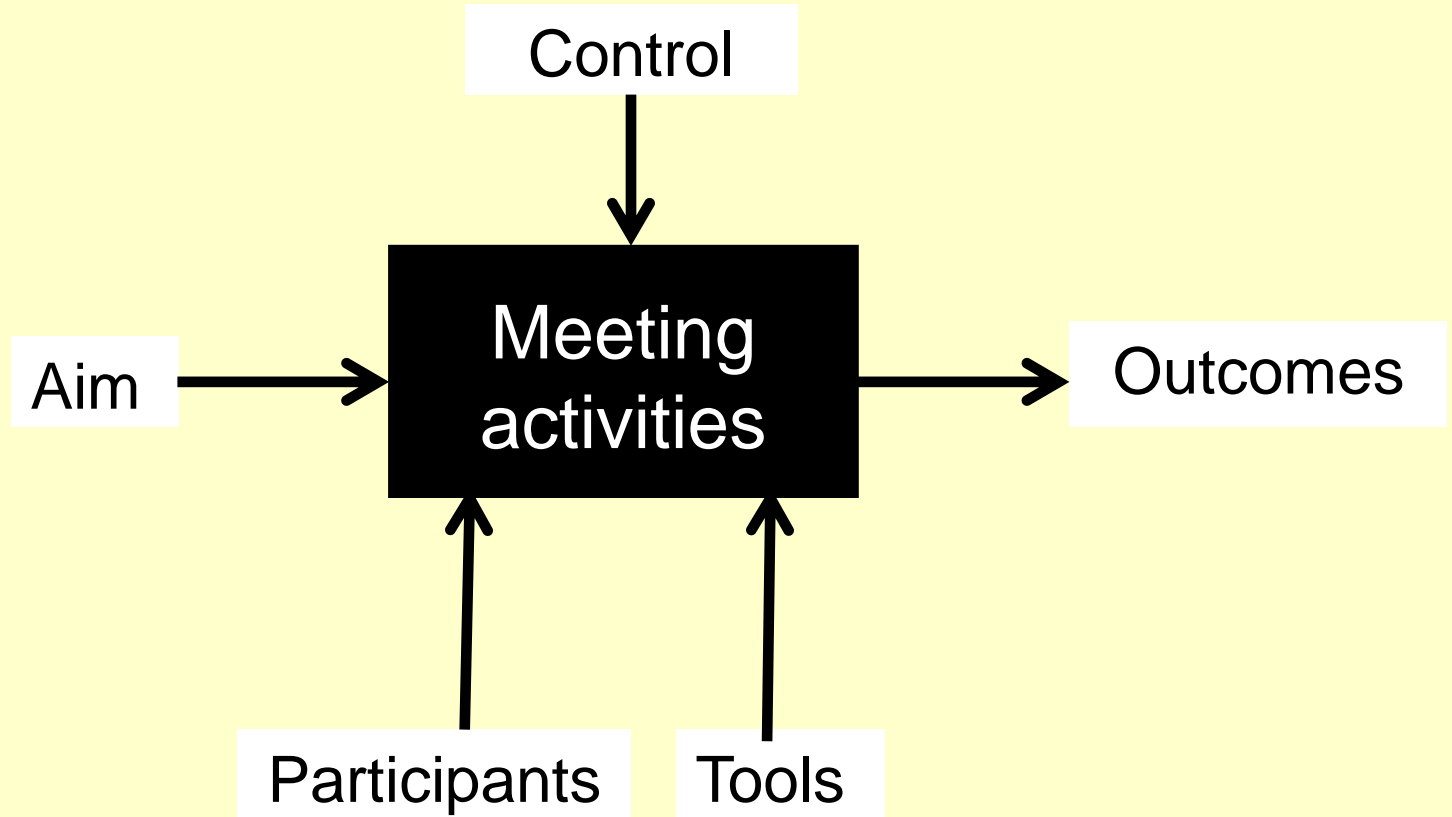
- Robotizing
- Mechanizing
- Automating
- Modular Building
- Mass Customization
- Pre-fabrication
- Industrial, Flexible and Demountable (IFD) Building
- Collaborative working ←



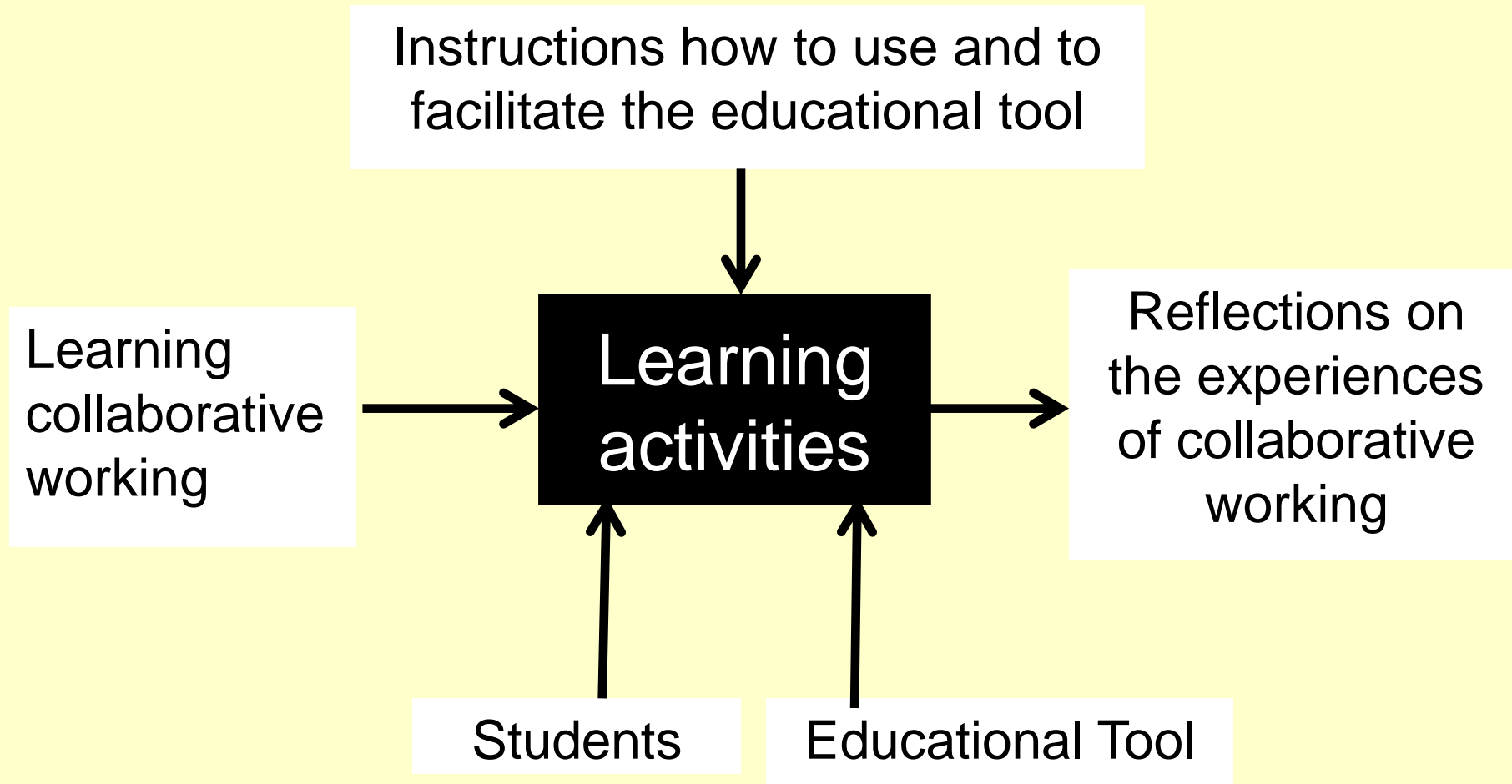
# Collaborative working & creative meetings



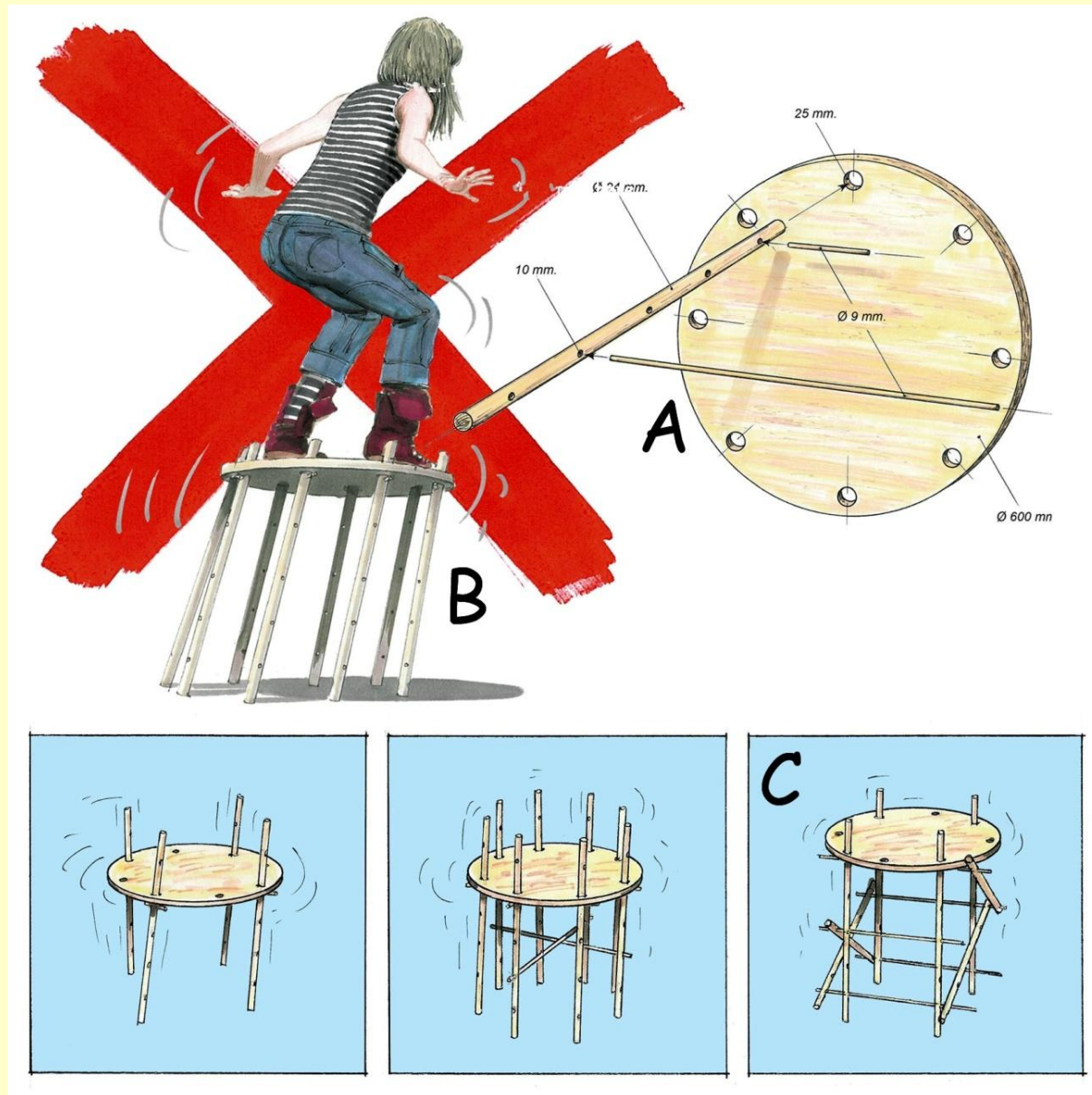
# Model creative meetings



# Teaching collaborative working



# The educational tool





# Case A: Postgraduates in competition

## **Assignment:**

- Two groups in the same room and they could observe each other.
- Time 60 minutes to plan, design and construct a platform.
- The platform must so height as possible with a minimum on building parts.
- The platform must carry the weight of the group members at the same time and only one person on one disk.

## **Failings:**

- Instability of the construction.
- Emotional falling by success of the other group.



# Case A: Postgraduates in competition

## Observations

- **Group I:** no leader, design time, collapse, new (winning) concept
- **Group II:** leader, flap-over, emotional failure, new (loosing) concept, after 60 minutes again a new concept

Frequency of activities of 30-seconds blocks \* in the video

Activities	Frequency in %	
	I	II
No activity	2	2
Discussion	17	20
Trying connections	4	5
Constructing initial design	11	27
Improving the construction	5	0
Testing the construction	11	3
Construction to new design	13	7
Not recorded 30-seconds blocks	37	36
Total no. of 30-seconds blocks	103	101
Total duration of the experiment	51'30''	50'30''

\* In paper 30 minutes

# Case A: Postgraduates in competition



# Case A: Postgraduates in competition

Constructed platforms



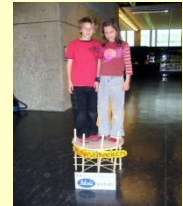


# Conclusion

The results indicate that the presence of failure stress is a valid motivator in teaching creative construction management.



# Questions





# Case A: Postgraduates in competition

Results