Experimenting Team-Building Strategies in an Innovative Nexus Learning Capstone Course

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Agenda

- Motivation and Primary Goals
- Re-design Steps of Capstone
- Sample Team-building Activities
- Problem-solving in a Team
- Student Assessment Results
- Digital Tools for Collaboration
- Conclusions

Motivation and Primary Goals

Research Motivation

Primary Goals

the need for a collaborative capstone course in many disciplines

experiment with team-building and collaborative working problems

stimulate peer and team-based learning

Ozcan Deniz, G. (2016), Innovative Nexus Learning Capstone Experience for Construction Management Students, Philadelphia University Nexus Learning Grant Proposal, 2016-2017.

Motivation and Primary Goals

Specific Project Goals

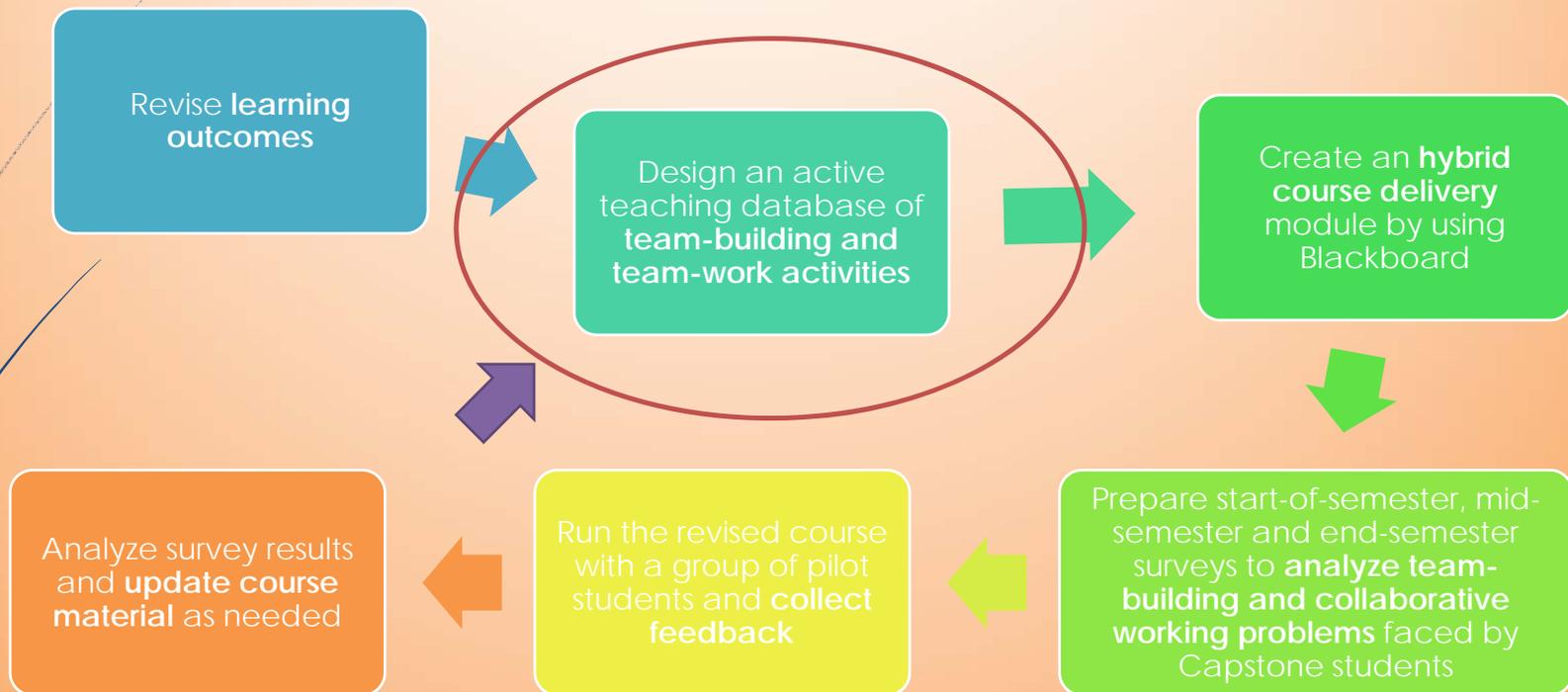|		
To understand **the background, characteristics, processes, and dynamics** that contribute to team-working and team-success in construction	To determine which **digital tools** enables collaboration within teams	To determine **the impact of collaborative learning** on preparing and presenting an actual bid package to external parties

Re-design Steps of Capstone

Revise **learning outcomes**

Design an active teaching database of **team-building and team-work activities**

Create an **hybrid course delivery** module by using Blackboard

Prepare start-of-semester, mid-semester and end-semester surveys to **analyze team-building and collaborative working problems** faced by Capstone students

Run the revised course with a group of pilot students and **collect feedback**

Analyze survey results and **update course material** as needed

Bloom's Taxonomy

create
Produce new or original work
Design, assemble, construct, conjecture, develop, formulate, author, investigate

evaluate
Justify a stand or decision
appraise, argue, defend, judge, select, support, value, critique, weigh

analyze
Draw connections among ideas
differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test

apply
Use information in new situations
execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch

understand
Explain ideas or concepts
classify, describe, discuss, explain, identify, locate, recognize, report, select, translate

remember
Recall facts and basic concepts
define, duplicate, list, memorize, repeat, state

@cirtlmooc

Sample Team-building Activities

- 3-truths and a lie

- Which team player style are you?

Contributor

Challenger

Collaborator

Communicator

Parker, G.M. (2008), Team Players and Teamwork, Completely Updated and Revised: New Strategies for Developing Successful Collaboration, Jossey-Bass: Wiley, San Francisco, CA (survey via link: http://my.safaribooksonline.com/book/teamwork/9780787998110/resources-tools-for-developing-teams-and-team-players/resources_tools_for_developing).

Which team player style are you?

|	
Contributor	This member gets the team to focus on the immediate task.
Collaborator	This team player emphasizes the overall purpose of the team.
Communicator	This member encourages positive interpersonal relations and group processes.
Challenger	This style asks the tough questions and pushes the team to take reasonable risks.

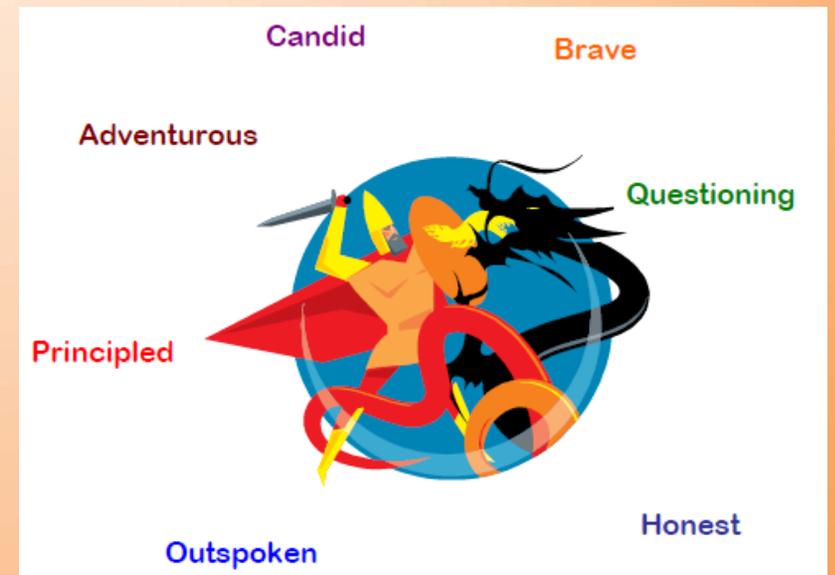# Which team player style are you?

Which team player style are you?
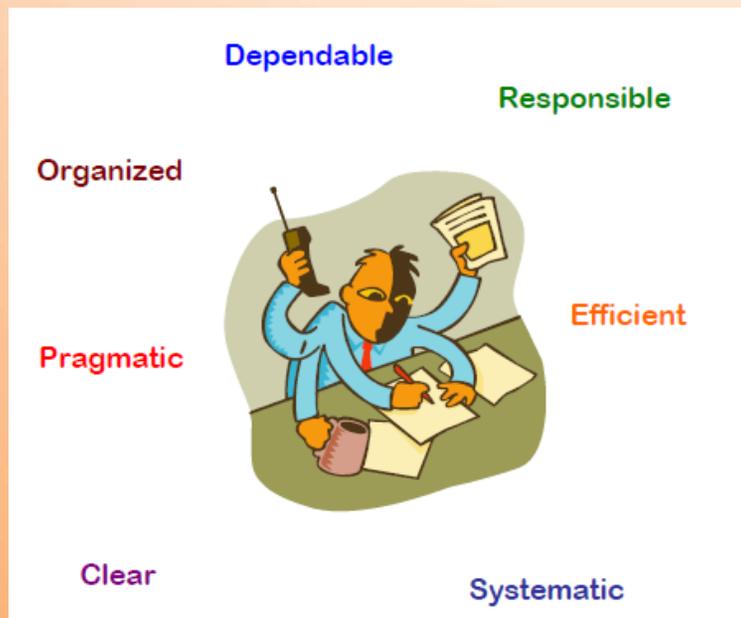
- Contributor
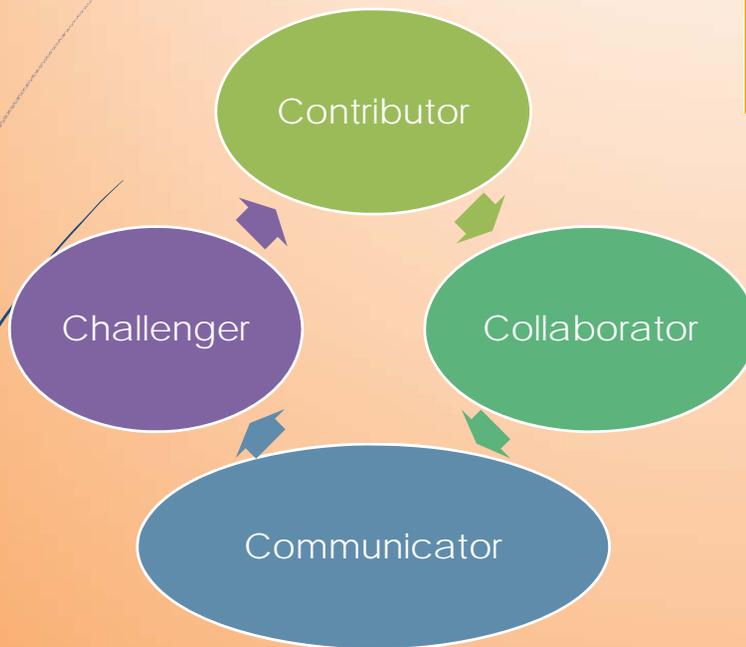

- Collaborator
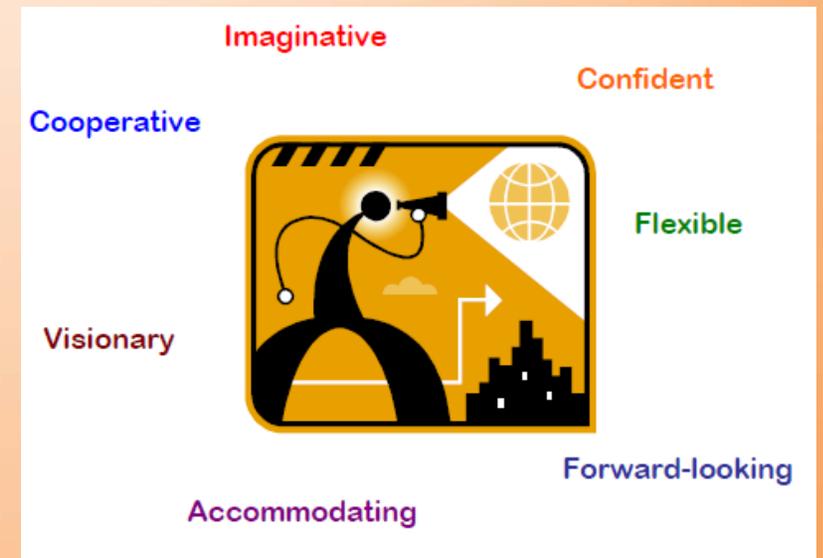
Which team player style are you?

▶ Communicator

▶ Challenger

Equal Distribution vs Too Much of…

Contributor

Challenger

Collaborator

Communicator

. . . contributors,

it may be data-bound, shortsighted, perfectionist, and may have trouble completing the whole task.

. . . collaborators,

it tends to become overcommitted, too global, and overly ambitious, and it does not know when to stop.

. . . communicators,

it focuses on the team processes and may set these as an end in itself, with the project goals taking second place.

. . . challengers,

it spends a great deal of time in non-constructive conflict, constantly questioning the goals and mission, and finds it difficult to complete the project tasks.

Problem-solving in a Team

- Who is who in the team?
- Create a responsibility chart

- Tools
 - Brainstorming
  - Nominal Group Technique

Legend

■ Primary Responsibility

□ Secondary Responsibility

|	Marketing/Business Development	Strategic Planning for the Firm	Project Management	Schedule Preparation	Earned Value Analysis	Cash Flow Analysis	Risk Management	Constructability Studies	Value Engineering	Training	Expert Testimony	Management Consulting	Quality Control/Quality Assurance	Website Maintenance/Updating	Proposal Preparation
Principal	■	■	■	■	■	■	■	■	■	■	■	■	■		■
Sr. Consultant	□	■	■	■	■	■	■	■	■	□	■	□	■		■
Scheduler/Cost Engineer	□	■	■	■	■	■		□	■	□			■	□	□
Scheduler/Cost Engineer	□	■	■	■	■	■		□	■	□			■	□	□

Student Assessment Results

- As an essential part of team-building, the students are asked of their individual opinions on:
    - understanding project/team goals
    - effectiveness of the team throughout the semester
    - resolving team issues successfully
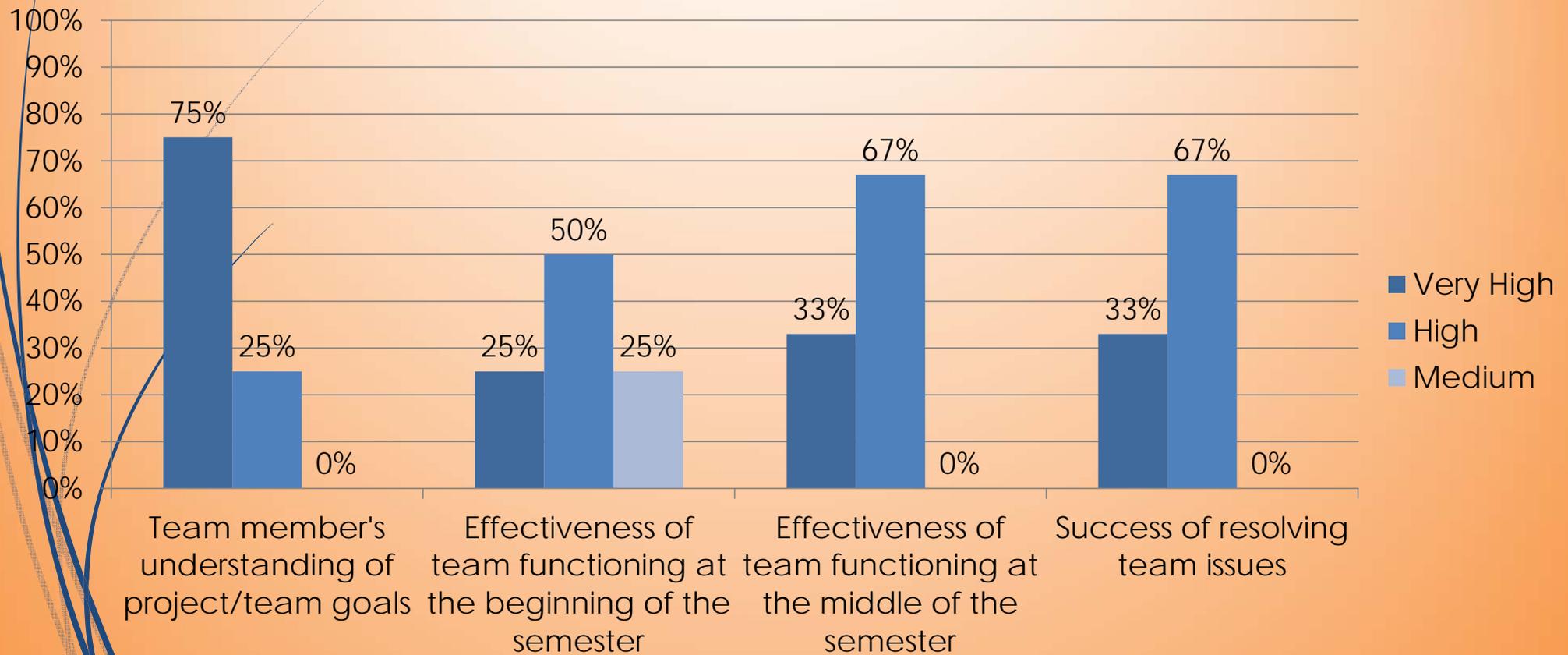
Digital Tools for Collaboration
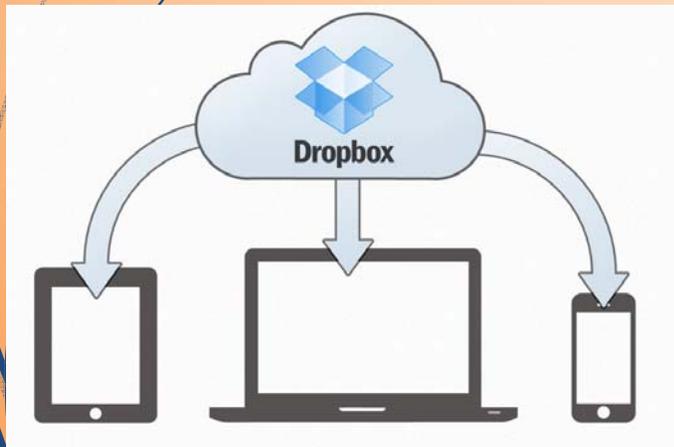
Conclusions

- Based on student feedback, hybrid course delivery and the team-based activities were found very efficient.

- Team-work should be an essential part of a capstone course.

- Survey results showed that effectiveness of team working had improved throughout the semester due to in-class team activities.

- The results revealed that students' knowledge on preparing and presenting the final project had significantly increased by integrating team-work.

- The new approach of capstone is planned to be implemented in future course offerings.

References

- Ozcan Deniz, G. (2016), Innovative Nexus Learning Capstone Experience for Construction Management Students, Philadelphia University Nexus Learning Grant Proposal, 2016-2017.

- Parker, G.M. (2008), **Team Players and Teamwork, Completely Updated and Revised: New Strategies for Developing Successful Collaboration**, Jossey-Bass: Wiley, San Francisco, CA (survey via link: http://my.safaribooksonline.com/book/teamwork/9780787998110/resources-tools-for-developing-teams-and-team-players/resources_tools_for_developing).

Questions???