

# **CSSE2003**

## **Software Engineering Studio**

Semester 2, 2009

### **2: Working in teams**

# Lecture Summary

- ◆ Why teams?
- ◆ What is a team ?
- ◆ Features of effective teams
- ◆ team development stages
- ◆ team decision making
- ◆ Controversy
- ◆ Negotiation

# Why teams?

- ◆ Effective for dynamic environments
- ◆ Valued by employers
- ◆ Improved academic performance
- ◆ Improved communication skills
- ◆ Higher student self-esteem
- ◆ Ref: D.W. & F.P. Johnson, *Joining together: Group theory and group skills*, Allyn & Bacon, 1994

# What is a team ?

- ◆ Collection of individuals who
  - interact with each other,
  - are interdependent,
  - are conscious of their team membership, and
  - pursue common goals

# Group or Team ?

- ◆ Teams have:
  - compelling, distinctive purpose
  - shared leadership responsibilities
  - team and individual accountability
  - work performed collectively

# Your Experience with Teams

- ◆ Recall groups/teams that you have been involved in
  - one that was positive for you, and
  - one that was negative for you
- ◆ List some distinguishing characteristics of each

# Effective Teams -1

- ◆ Share leadership
  - all team members take responsibility for moving the project forward and resolving problems.
- ◆ Set and achieve goals:
  - goals must be understood and relevant to all members.
- ◆ Develop and adapt:
  - conflict is encouraged and managed constructively.
  - the team evaluates its performance regularly and learns from its mistakes.

## Effective Teams -2

- ◆ Maintain good working relationships:
  - ideas and feelings must be communicated accurately and clearly.
  - participation must involve all members.
  - high cohesion and levels of trust.
- ◆ Put the team's needs first:
  - are prepared to take on extra tasks.
  - flexible to enhance the effectiveness of the team.
  - willing to learn new methods and take on new roles.

# Team Development Stages

- ◆ Forming:
  - members determine their role and team establishes procedures
- ◆ Storming:
  - conflicts arise as members resist influence of team
- ◆ Norming:
  - team establishes cohesion and commitment
- ◆ Performing:
  - team develops proficiency

# Stages of Team Development

- ◆ Forming
- ◆ Challenging
- ◆ Accepting
- ◆ Collaborating
- ◆ Self-Managing



*Dr. Jack McGourty  
Columbia University*

# Forming

- ◆ Common behaviors
  - attempts to define tasks
  - determining acceptable behavior
  - floundering as to where to begin
  - dependence on leader
  - unequal participation
  - diving into “solutions”
  - everyone is “polite”
- ◆ Common feelings
  - anticipation
  - confusion
  - anxiety
  - impatience
  - fear

# Challenging

- ◆ Common behaviors
  - arguing among members
  - defensive & competitive
  - establishing unrealistic goals
  - questioning credibility of leader/members
  - choosing sides
  - passing the blame
  - not so “polite”
- ◆ Common feelings
  - resistant
  - rebellious
  - defensive
  - angry
  - suspicious
  - jealous

# Accepting

- ◆ Common behaviors
  - attempts to achieve harmony by avoiding conflict
  - expressing opinions more openly
  - sharing of information
  - less resistance to team tasks
  - learning the best way to work together
- ◆ Common feelings
  - “we-ness”
  - cooperative
  - enthusiasm
  - relief
  - tentative

# Collaborating

- ◆ Common behaviors
  - balanced contributions
  - focused on goals & results
  - solving problems collectively
  - able to reach consensus & closure
  - encouraging criticism & conflict
  - sharing accountability
- ◆ Common feelings
  - satisfaction
  - energetic
  - motivated
  - close affiliation
  - confident in each other's abilities
  - invulnerable

# Self-Managing

- ◆ Common behaviors
  - pushing for higher standards
  - following through on commitments
  - challenging the way things are normally done
  - stressing continuous improvement
  - meeting only when necessary
- ◆ Common feelings
  - increasingly motivated
  - sense of self-fulfillment
  - excitement about new challenges
  - fear of adjournment

# Forming—Skills

- ◆ Communication
  - proactively listens
  - conveys interest
  - restates to show understanding
- ◆ Self-Management
  - identifies purpose & goals
  - defines priorities
  - suggests ways to proceed
- ◆ Decision-Making
  - solicits participation from other members
  - discourages rushing to conclusions
- ◆ Collaboration
  - reinforces contributions of others
  - encourages opposing ideas & opinions

# Challenging—Skills

- ◆ Communication
  - articulates ideas clearly
  - clarifies to ensure understanding
- ◆ Self- Management
  - clarifies roles & responsibilities
  - creates action plans & timetables
- ◆ Decision Making
  - suggests new approaches to solving problems
  - accepts change
- ◆ Collaboration
  - helps reconcile differences of opinions
  - accepts criticism openly

# Accepting—Skills

- ◆ Communication
  - gives compelling reasons for ideas
  - wins support from others
- ◆ Self-Management
  - monitors progress
  - places top priority on getting results
- ◆ Decision making
  - generates new ideas
  - solicits information from “outside” the team
- ◆ Collaboration
  - involves others in decisions that affect them
  - frequently polls others for opinions

# Collaborating—Skills

- ◆ Communication
  - shares information openly
  - encourages communication with people outside the team
- ◆ Self-Management
  - reviews team process frequently
  - focuses on building required skills
- ◆ Decision Making
  - challenges the status quo
  - plays “devil’s advocate”
- ◆ Collaboration
  - shares accountability
  - works towards “win/win” solutions

# Self-Managing—Skills

- ◆ Communication
  - provides continuous feedback to team
  - proactively communicates across the organization
- ◆ Self-Management
  - pushes for higher standards
  - stresses continuous improvement
- ◆ Decision Making
  - focuses on creativity & innovation
  - anticipates problems & develops contingency plans
- ◆ Collaboration
  - resolves external issues/ barriers affecting performance

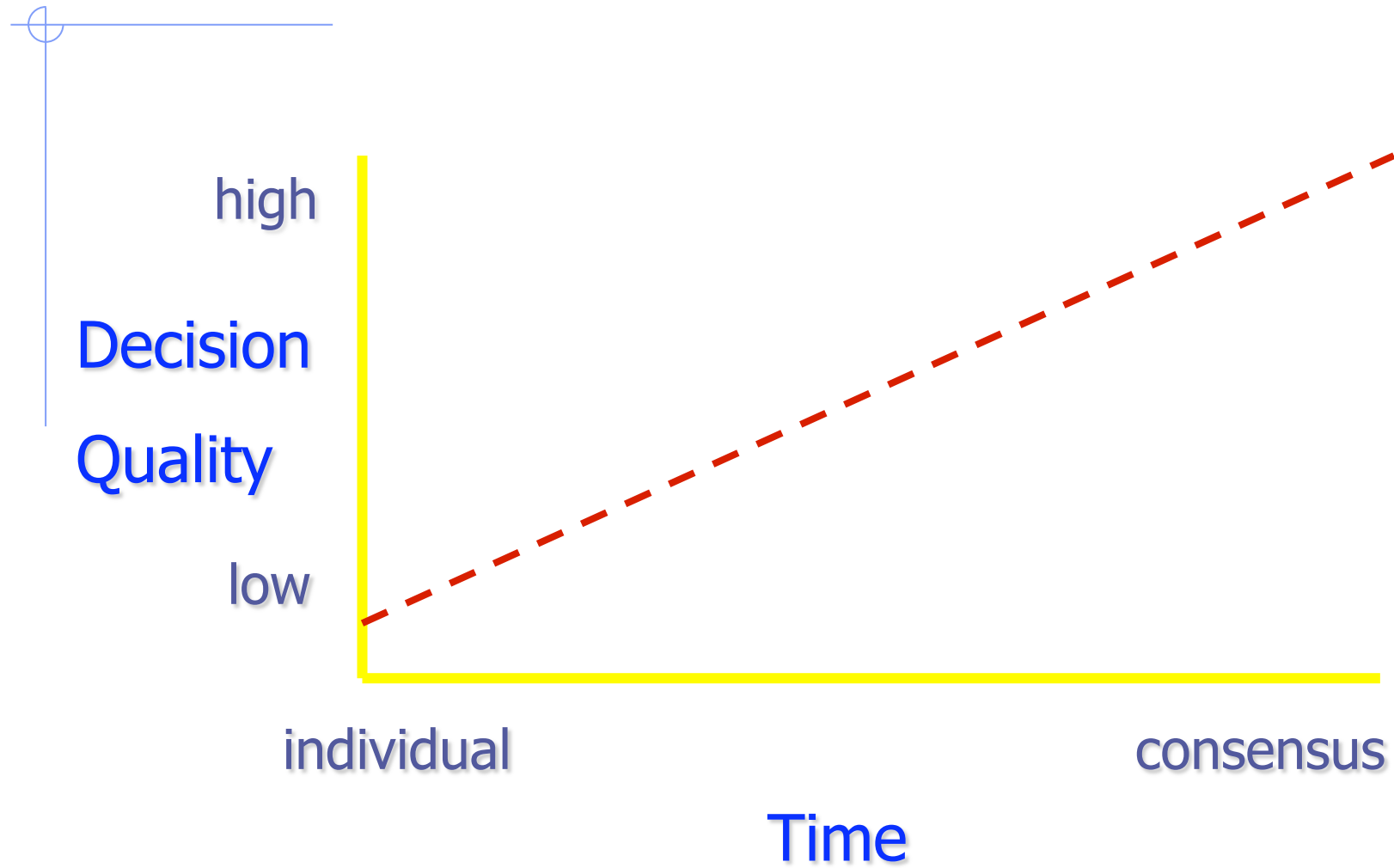
# Team Decision Making

- ◆ Effective characteristics:
  - resources of team members are fully utilised
  - time is well spent
  - decision is correct or of high quality

# Methods of Decision Making

- ◆ By authority without discussion
- ◆ By expert
- ◆ By averaging individual opinions
- ◆ By authority after team discussion
- ◆ By minority
- ◆ By majority vote
- ◆ By consensus

# Comparing Methods



# Seeking Consensus

- ◆ Don't
  - argue blindly for your opinion
  - change your mind just to avert conflict
  - accept win-lose; look for alternatives
  - avoid conflict-reducing procedures
- ◆ Do
  - seek out differences of opinion
  - discuss underlying assumptions

# Enhancing Factors

- ◆ Positive interdependence:
  - goals, rewards, roles, tasks, resources, identity
- ◆ Positive interaction: frequent meetings
- ◆ Individual accountability: to counter social loafing
- ◆ Social skills:
  - communication, leadership, trust, decision-making, conflict management
- ◆ Team processing:
  - collective reflection on team performance

# Hindering Factors

- ◆ Lack of team maturity - takes time.
- ◆ Uncritical decision making.
- ◆ Social loafing - most likely if low incentive.
- ◆ Free riding - most likely if individual contribution seen as dispensable or under-valued.
- ◆ Sucker effect - avoid being exploited by other members.
- ◆ Group-think:
  - self censorship, illusion of unanimity, pressure on dissenters, rationalisation, homogeneous & insular group

# Constructive Controversy

- ◆ Emphasise common benefits of making the best possible decision.
- ◆ Advocate your position with an open mind.
- ◆ Encourage others to advocate their position.
- ◆ Understand then challenge opposing ideas.
- ◆ Don't take disagreements personally.
- ◆ Look at issues from other people's perspectives.
- ◆ Ensure there are cycles of differentiation and integration.
- ◆ Synthesise results from all viewpoints.

# Ways to Negotiate

- ◆ Turtle withdraw
  - ◆ Shark force
  - ◆ Teddy bear smooth
  - ◆ Fox compromise
  - ◆ Owl confront
- 
- ◆ Best strategy varies with the situation.

# Resolving Conflict

- ◆ Jointly define the conflict
  - in terms of actions and issues, not personalities
- ◆ Exchange proposals and feelings.
- ◆ Reverse perspectives.
- ◆ Invent options for mutual benefit.
- ◆ Reach a wise agreement.
- ◆ Try, try and try again.

# Working with other People

- ◆ It is important to realise that people are not all the same. We have different
  - Backgrounds
  - Beliefs
  - Likes and dislikes
  - Styles of interacting and working
- ◆ These differences can help teams by providing a wider range of knowledge and skills than any individual team member
- ◆ The challenge is to find ways to use the full potential of all team members

# Classifying People

- ◆ It is dangerous to classify people if it limits our view of them, but it can be helpful for understanding them.
- ◆ One of the best-known classifications is the Myers-Briggs Type Indicator that uses four independent scales:
  - Extraversion (E) / Introversion (I)
  - Sensing (S) / Intuition (N)
  - Thinking (T) / Feeling (F)
  - Judgement (J) / Perception (P)

# Belbin Team Role Model

- ◆ In the context of teams, the Belbin Team Role model provides nine team roles that, if present in a team, provide increased likelihood of success.
- ◆ All roles have value and are missed if not present in a team.
- ◆ In small teams, people can and do assume more than one role.

# Belbin Team Roles

<b>Coordinator</b>	Able to get others working to a shared aim
<b>Shaper</b>	Gives shape to the team effort, gets results
<b>Plant</b>	Source of original ideas, suggestions and proposals
<b>Monitor-Evaluator</b>	Contributes measured and dispassionate analysis
<b>Implementer</b>	Turns decisions and strategies into defined and manageable tasks
<b>Resource Investigator</b>	Brings in ideas, information and developments from outside the team
<b>Team worker</b>	Operates against division and disruption in the team
<b>Finisher</b>	Maintains a permanent sense of urgency with follow-through
<b>Specialist</b>	Technical expert, highly focused capability and knowledge