



Team Dynamics

- ❑ ME 481 Senior Design I
- ❑ Fall 2021



What is a Team ?

- ❑ “A team is a set of people with **complementary skills** who are committed to a **common** purpose, performance goals, and approach for which they hold themselves **mutually accountable**. ” -- J. Katzenbach and D. Smith, *The Wisdom of Teams*, 1999



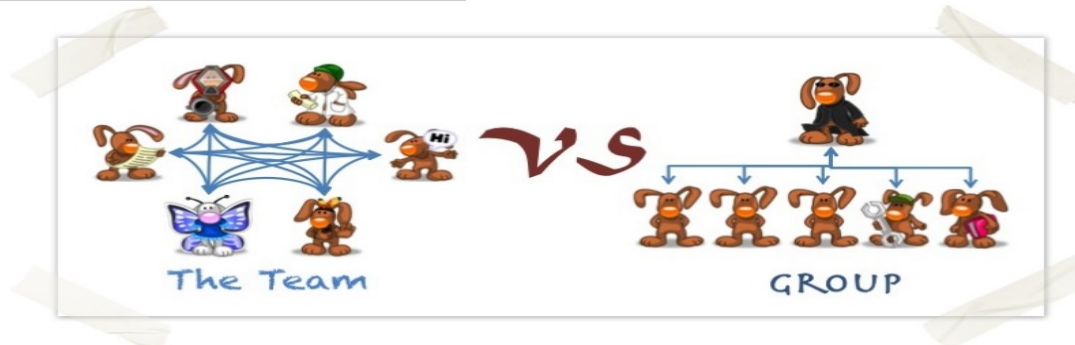
Team

1. Two or more individuals
2. **Work together** regularly
3. **Share a goal** or purpose



Group

1. Three or more individuals
2. **Work independently**
3. Towards organizational goals



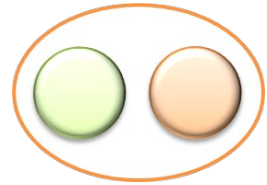
B. F. Redmond



Why Working in Teams ?

❑ Benefits

- ❑ Attack bigger problems in a short period of time
- ❑ Utilize the collective experience of everyone



"No two minds ever come together without, thereby, creating a third, invisible, intangible force which may be likened to a third mind."

-- Napoleon Hill, *Think and Grow Rich*, 1937

❑ Collaborative learning beneficial

- ❑ Employers rate teamwork skills (along with communication skills) at the top of the list of attributes they would like to see in new hires.
- ❑ Learn **teamwork** and **communication** skills, Now



Benefits are not automatic !

❑ Risks

- ❑ Communication and coordination issues
- ❑ Groupthink: diffusion of responsibility; going along
- ❑ Working by inertia; not planning ahead
- ❑ Conflict or mistrust between team members

❑ Communication is the key

- ❑ Communication requirements increase with increasing numbers of people
- ❑ Everybody to everybody: quadratic cost
- ❑ Every attempt to communicate is a chance to miscommunicate
- ❑ But not communicating will guarantee miscommunicate



Common Team Dynamics Problems

- ☐ Weak leadership
- ☐ Excessive deference to authority
- ☐ Blocking
 - ☐ Aggressor: Who often disagrees with others or is inappropriately outspoken.
 - ☐ Negator: Who is often critical of others' ideas.
 - ☐ Withdrawer: Who does not participate in the discussion.
 - ☐ Recognition seeker: Who is boastful or dominates the session.
 - ☐ Joker: Who introduces humor at inappropriate times.
- ☐ Groupthink: Discourages creativity or individual responsibility
- ☐ Free riding (Active v.s. Passive)
- ☐ Evaluation apprehension



Problem Team Members

❑ Almost guaranteed

- ❑ It is rare that a team does not eventually run into problems with one or more of its members.
- ❑ Several weeks into the course, interpersonal problems inevitably begin to surface

Coping with Hitchhikers and Couch Potatoes on Teams[†]

You will usually find your university teammates as interested in learning as you are. Occasionally, however, you may encounter a person who creates difficulties. This handout is meant to give you practical advice for this type of situation.



Reasons for Team Dynamic Issues

- ❑ Teams are composed of individuals
- ❑ Understand that each person is influenced by:
 - ❑ Desire / ability to learn new skills
 - ❑ Personal Development - career & future needs
 - ❑ Motivation - (intrinsic) enthusiasm
 - ❑ Morale / Self-worth - self-awareness of skill
 - ❑ Desire / ability to take on a task
 - ❑ Empowerment - control over own work
 - ❑ Trust - between team members
 - ❑ Stress / Commitment – course load



Teams Evolvement

- ❑ All 'small' groups evolve over time based on *interpersonal relationships* and *task behaviors*

- ❑ Multiple theories exist to describe, but all have common themes:
 - ❑ getting to know each other
 - ❑ experiencing conflict (positive & negative)
 - ❑ roles shift based on knowledge & experience
 - ❑ (consensus, moving forward: decisions happen here)



Don't let team development stages ruin the team experience

Forming

Team acquaints and establishes ground rules. Formalities are preserved and members are treated as strangers.



Stage I

Storming

Members start to communicate their feelings but still view themselves as individuals rather than part of the team. They resist control by group leaders and show hostility.



Stage II

Norming

People feel part of the team and realize that they can achieve work if they accept other viewpoints.



Stage III

Performing

The team works in an open and trusting atmosphere where flexibility is the key and hierarchy is of little importance.



Stage IV

Adjourning

The team conducts an assessment of the year and implements a plan for transitioning roles and recognizing members' contributions.



Based on [Bruce Tuckman](#), *Psychological Bulletin*, 1965



Tuckman's Stage I – Forming

❑ Characteristics

- ❑ People are cautious, guarded, wondering
- ❑ Little visible disagreement
- ❑ Lack of identity
- ❑ Little investment in the group
- ❑ Watching to see what is expected of team members, and what is acceptable from team members

❑ Leaders Tasks (Coordinating Behaviors)

- ❑ Give clear directions
- ❑ Help everyone to feel safe and included
- ❑ Help clarify
- ❑ Give positive feedback

Forming

Team acquaints and establishes ground rules. Formalities are preserved and members are treated as strangers.





Tuckman's Stage II – Storming

❑ Characteristics

- ❑ Conflict occurs
- ❑ Work is in fits and starts and not very productive
- ❑ High level of frustration and/or confusion
- ❑ Pairing and cliques develop
- ❑ Beginning development of identity, purpose, and interest
- ❑ People take risks and get to know one another

❑ Leaders Tasks (Coaching Behaviors)

- ❑ Help work through conflict
- ❑ Allow members to resume leadership and responsibility

❑ Members

- ❑ Be professional, respectful and forgiving
- ❑ Focus on tasks

Storming

Members start to communicate their feelings but still view themselves as individuals rather than part of the team. They resist control by group leaders and show hostility.





Tuckman's Stage III – Norming

❑ Characteristics

- ❑ Developing goals, roles, and relationships
- ❑ Learning to appreciate differences in people
- ❑ Conflict is about issues, not egos or people
- ❑ Communication is open and clear
- ❑ Sense of belonging develops
- ❑ Progress is beginning to be made
- ❑ Work becomes enjoyable

❑ Leaders Tasks (Empowering Behaviors)

- ❑ Become a facilitator that helps members develop their own tasks
- ❑ Support changes that increase productivity
- ❑ Listen and encourage progress

❑ Members

- ❑ Help facilitate with clear communication
- ❑ Create effective decision making procedures
- ❑ Seek norms that increase participation and cohesion

Norming

People feel part of the team and realize that they can achieve work if they accept other viewpoints.





Tuckman's Stage IV – Performing

❑ Characteristics

- ❑ Team acts on common goals, with synergy, high morale, and high productivity
- ❑ Easy shifting of roles from one to another
- ❑ Differences are valued
- ❑ Team members look out for one another's interests
- ❑ Spontaneous, collaborative efforts
- ❑ Sharing of all relevant information
- ❑ Conflict is frequent, but leads to problem solving

❑ Leaders Tasks (Supporting Behaviors)

- ❑ Act as an expert member
- ❑ Participate fully without dominating
- ❑ Watch for signs of problems or regression

❑ Members

- ❑ Work well with other team members
- ❑ Can accomplish tasks
- ❑ Feel sense of belonging

Performing

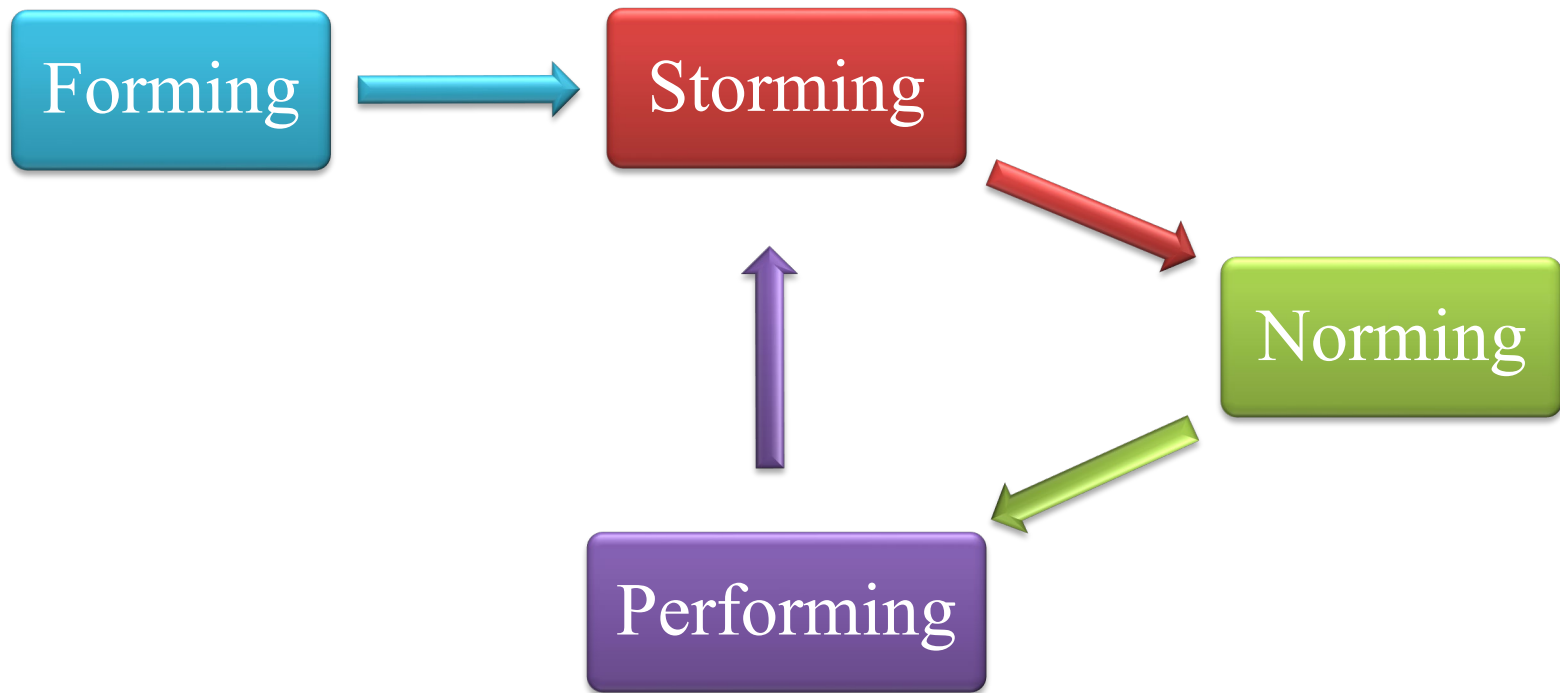
The team works in an open and trusting atmosphere where flexibility is the key and hierarchy is of little importance.





Extension to Tuckman's Models

- ❑ Iterations among stages
- ❑ Task shift may trigger stage shift





Top 10 Clues To Improve Team Performance (1-5)

1. Practice active listening techniques.
2. Be open and honest, and do not agree just to avoid conflict.
3. Keep promises and commitments and do not agree to do something you cannot or will not be able to do.
4. Ask for ideas and suggestions regarding the tasks that you are assigned.
5. Ask for feedback and suggestions regarding the effectiveness of your behavior as a team member.

-- Patricia L. Philips and Philips Consulting, *Chemical Engineering Progress*, 1997



Top 10 Clues To Improve Team Performance (6-10)

6. Offer help, and do not wait to be asked.
7. Recognize the value of others' viewpoints & ideas even though you may not agree with them.
8. Share your knowledge and experience with team members.
9. Have a “we attitude” and think of what is good for the team, not just what is good for yourself.
10. Maintain a sense of humor even during stressful periods.

-- Patricia L. Philips and Philips Consulting, *Chemical Engineering Progress*, 1997



Final Takeaways

- ☐ Treat each other with respect
- ☐ Address issues as early as possible
- ☐ If you do not know, ASK