



OTTO VON GUERICKE
UNIVERSITÄT
MAGDEBURG

EIT

FAKULTÄT FÜR
ELEKTROTECHNIK UND
INFORMATIONSTECHNIK

WORKSHOP

Long Night of Scientific Working

Effective communication in student team projects

Dr.-Ing. Melanie Fachet¹

¹Otto von Guericke University, Faculty of Electrical Engineering and Information Technology,
Institute for Medical Technology, Chair of Medical Systems Technology

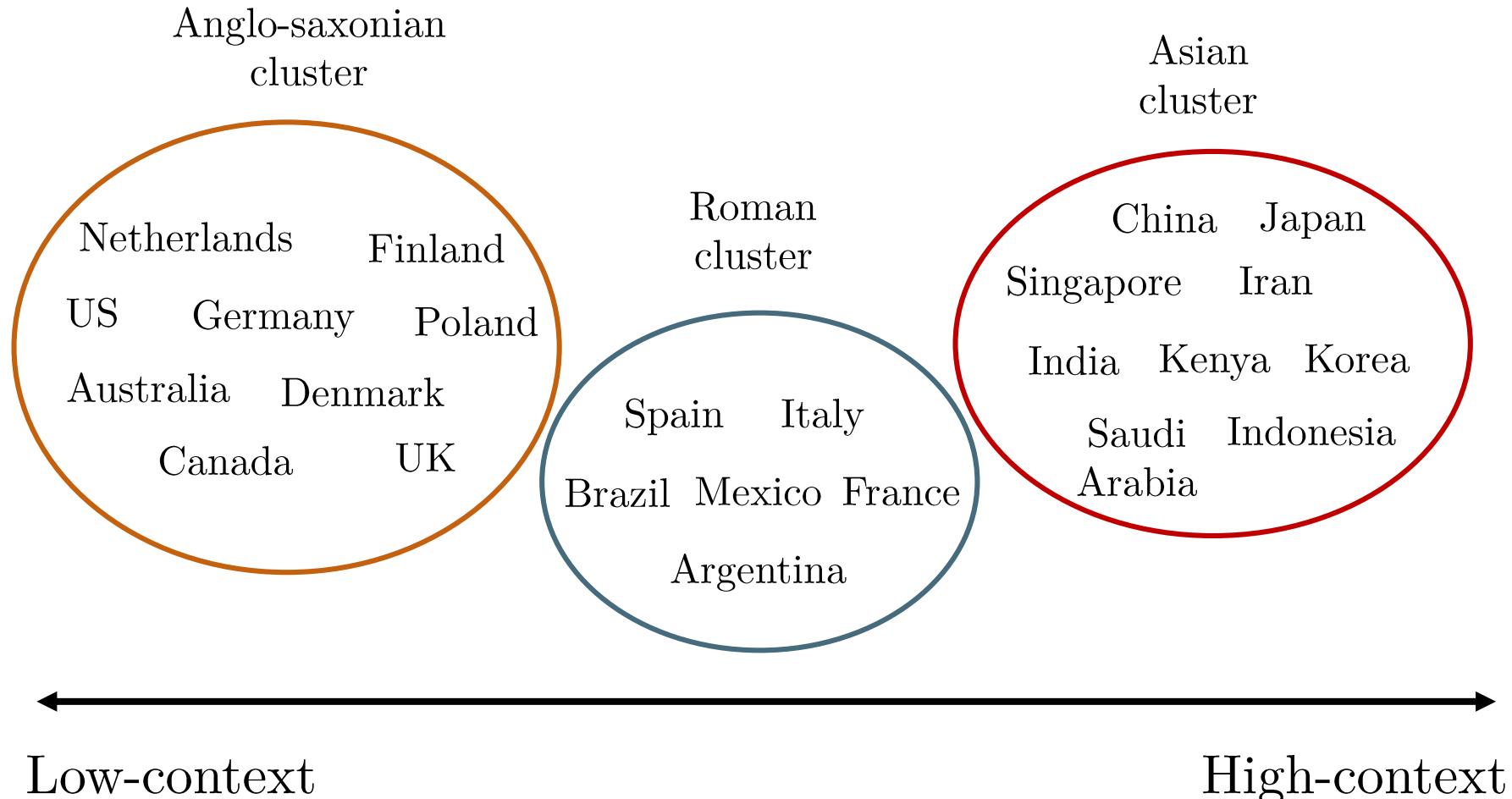


Objectives

- Describe the importance of communication
- Define and discuss the standards of effective communication
- Describe strategies for information exchange
- Identify barriers, tools, strategies and outcome of communication



Communication styles





Seminar outline

I. Standards of effective communication

II. Essentials for teamwork





Why do errors in communication occur – some challenges?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- ...





Communication challenges

- 1) Language barrier
- 2) Distractions
- 3) Personalities
- 4) Workload
- 5) Different communication styles
- 6) Conflict
- 7) Lack of information



What are key aspects of good communication?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- ...





Standards of effective communication

- **Complete**

- Communicate all relevant information

- **Clear**

- Convey information that is plainly understood

- **Brief**

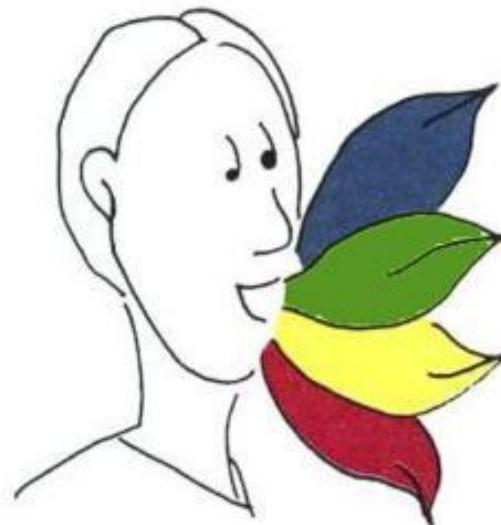
- Communicate the information in a concise manner

- **Timely**

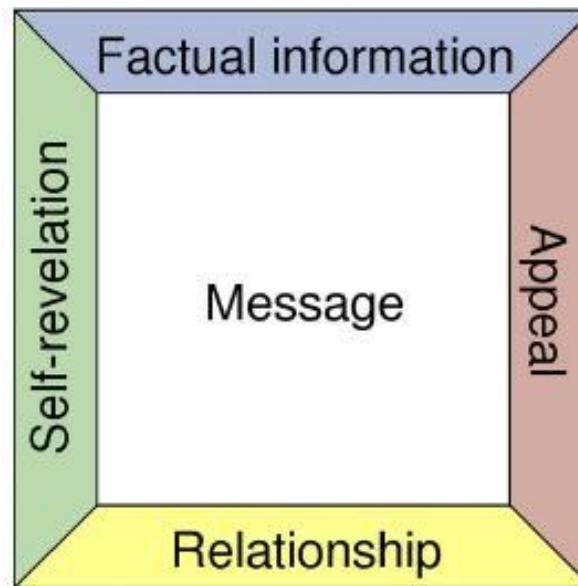
- Offer and request information in an appropriate timeframe
 - Verify authenticity
 - Validate and acknowledge information



Four-side model of a message

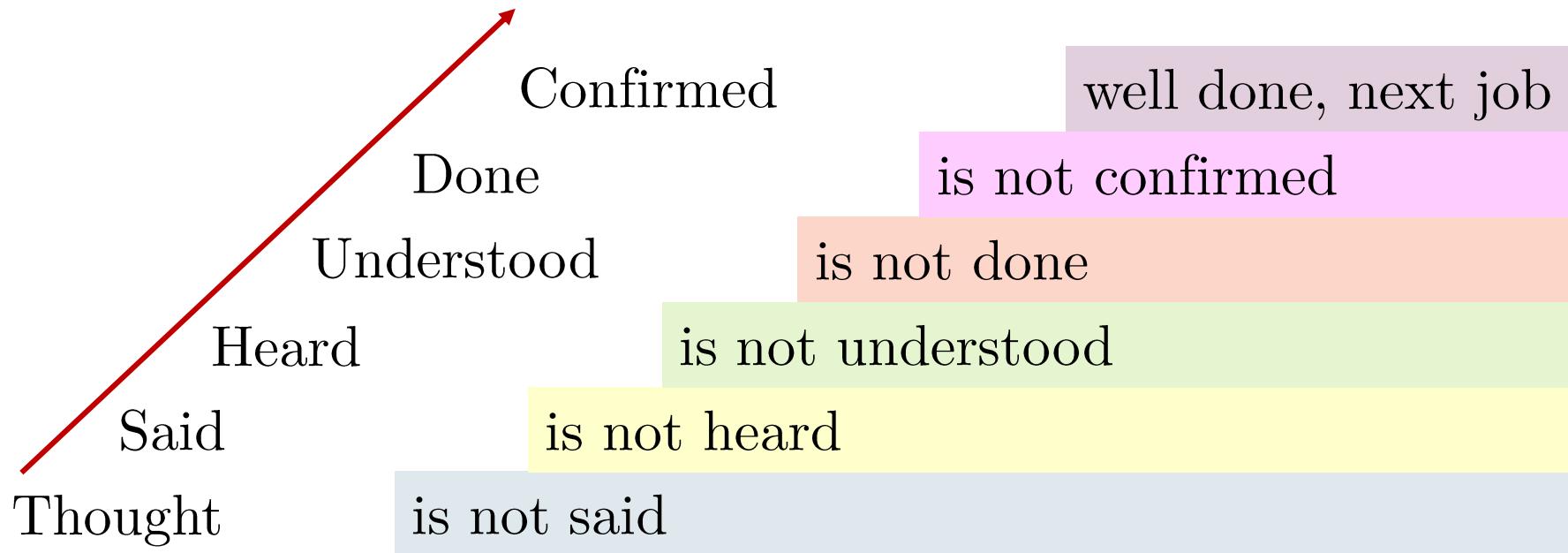


Sender



Receiver

The communication staircase





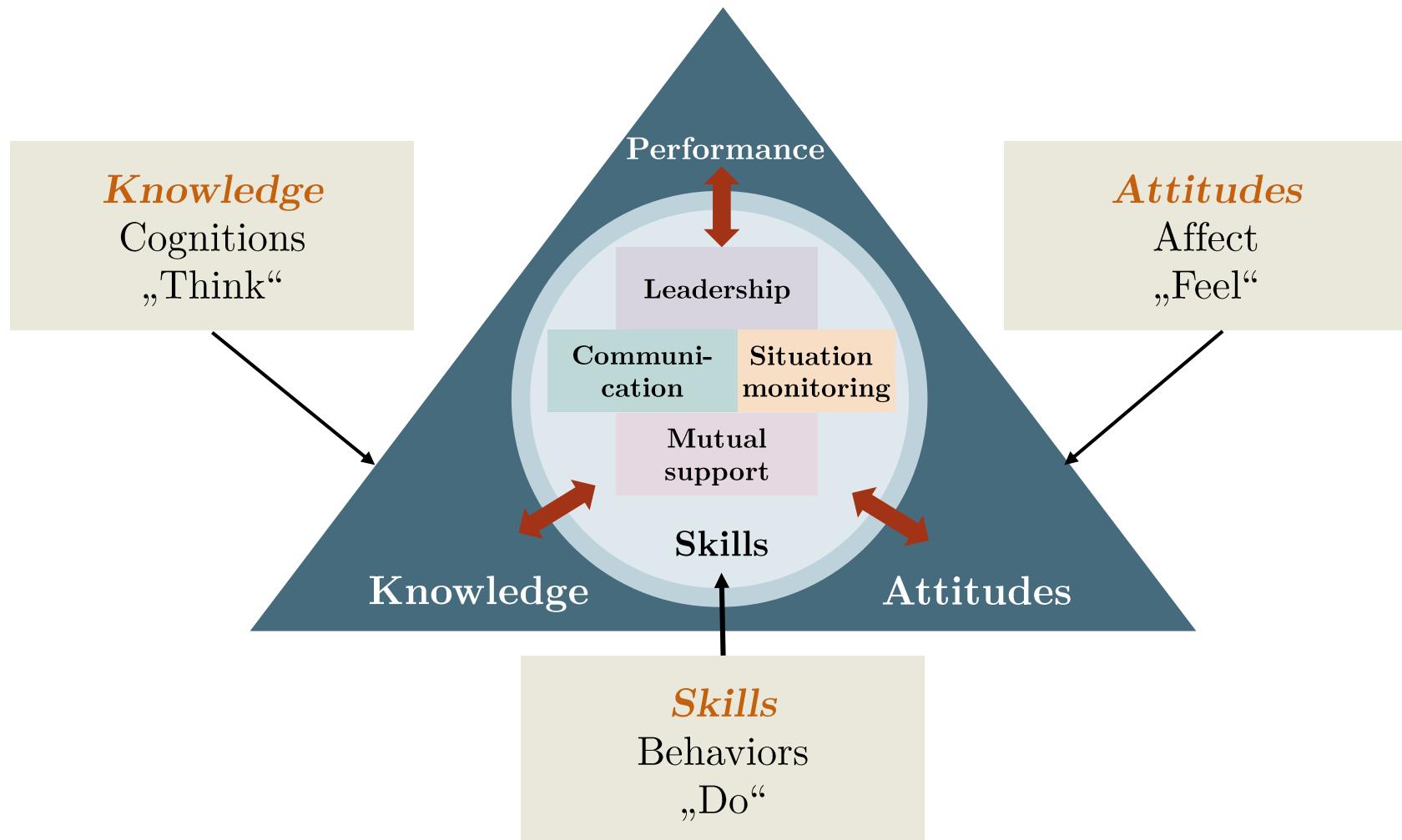
Seminar outline

I. Standards of effective communication

II. Essentials for teamwork



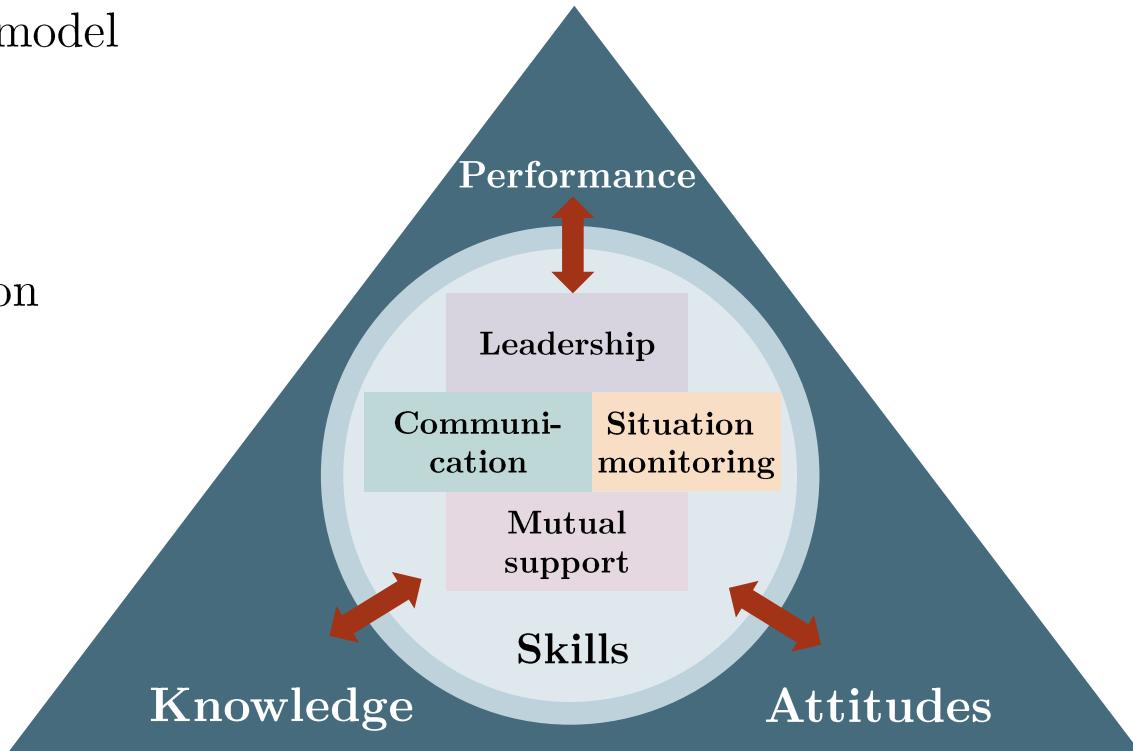
What comprises team performance



„Good team performance is a science and consequences of errors are great.“

Outcomes of team competencies

- ❖ Knowledge
 - Shared mental model
- ❖ Attitudes
 - Mutual trust
 - Team orientation
- ❖ Performance
 - Adaptability
 - Accuracy
 - Productivity
 - Efficiency





What comprises team performance

Task	Description
Contributes to team projects	Completed all assignments to the level of quality expected by the group
	Contribution to the group goals in an equal manner
	Completed all assignments in a timely manner
	Came prepared to meetings
Facilitates contributions of others	Encourages all perspectives to be considered and acknowledges contributions of others
	Constructively builds on contributions of others and integrates own work with work of others
Planning and management	Clarifies goals and plans the project
	Reports to team on progress
Team skills	Communicate effectively with team members
	Took initiative when needed
	Gives timely and constructive feedback to team members
Overall	Generally, how would you rate your team members on effort they put into team tasks, their manner to interacting with others and quantity and quality of contribution they make to the team success



Planning essentials for teams

- Leader/supervisor usually initiates the planning process
- Team members are included in the planning process
- Team members have a common understanding of the problem and their roles

- Concept:
 - (1) Brief
 - (2) Huddle
 - (3) Debrief

TOPIC	
Who is on core team?	<input checked="" type="checkbox"/>
All members understand and agree upon goals?	<input checked="" type="checkbox"/>
Roles and responsibilities understood?	<input checked="" type="checkbox"/>
Plan of care?	<input checked="" type="checkbox"/>
Staff availability?	<input checked="" type="checkbox"/>
Workload?	<input checked="" type="checkbox"/>
Available resources?	<input checked="" type="checkbox"/>

Step 1: Brief

Planning

- Form the team
- Designate team roles and responsibilities
- Establish climate and goals
- Engage team in short and long-term planning



Fig. top: jebgroup.com/news/2020/1/four-ways-to-promote-team-collaboration, access December 03, 2021

Fig. bottom: edsnidercenter.org/teamwork/, access December 03, 2021

Step 2: Huddle

Problem solving

- Hold *ad hoc* meetings to regain situation awareness
- Discuss critical issues and **emerging events**
- Anticipate **outcomes** and likely contingencies
- Assign **resources**
- Express **concerns**

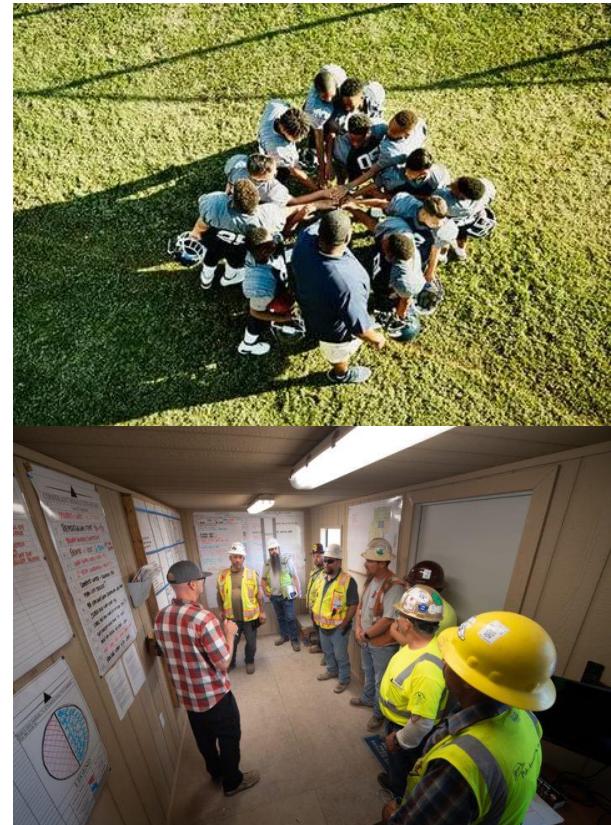


Fig. top: impulse.de/management/personalfuehrung/daily-huddle/7397602.html, access December 03, 2021

Fig. bottom: theleanbuilder.com/why-huddle/, access December 03, 2021

Step 3: Debrief

Process improvement

- Brief, informal information exchange and feedback
- Occur after an event or shift
- Designed to improve teamwork skills
- Designed to improve outcomes:
 - (1) Accurate reconstruction of key events
 - (2) Analysis of why the event occurred
 - (3) What should be done differently the next time



TOPIC	
Communication clear?	<input checked="" type="checkbox"/>
Roles and responsibilities understood?	<input checked="" type="checkbox"/>
Situation awareness maintained?	<input checked="" type="checkbox"/>
Workload distribution?	<input checked="" type="checkbox"/>
Did we ask for or offer assistance?	<input checked="" type="checkbox"/>
Were errors made or avoided?	<input checked="" type="checkbox"/>
What went well, what should change, what can improve?	<input checked="" type="checkbox"/>



Teamwork actions

- Empower team members to speak freely and ask questions
- Utilize resources efficiently to maximize the team performance
- Balance workload within the team
- Delegate tasks or assignments
- Conduct briefs, huddles and debriefs
- Utilize conflict resolution techniques



WE ARE NOT
A TEAM
BECAUSE WE
WORK TOGETHER.
WE ARE
a team because
WE RESPECT,
trust, and care
for each other.
...

@ValaAfshar



I WANT YOUR FEEDBACK



THANK YOU FOR YOUR ATTENTION