

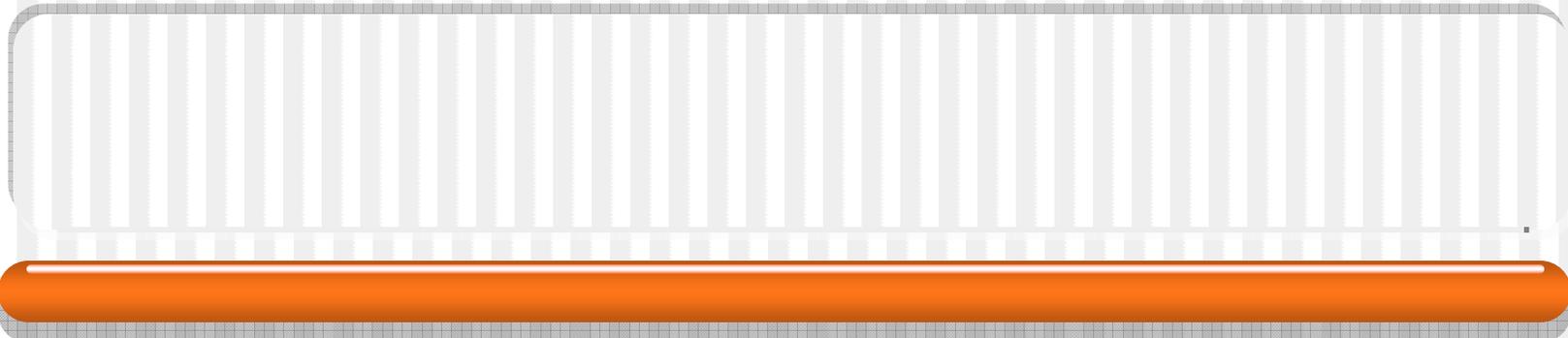
Developing Motivated Research Teams

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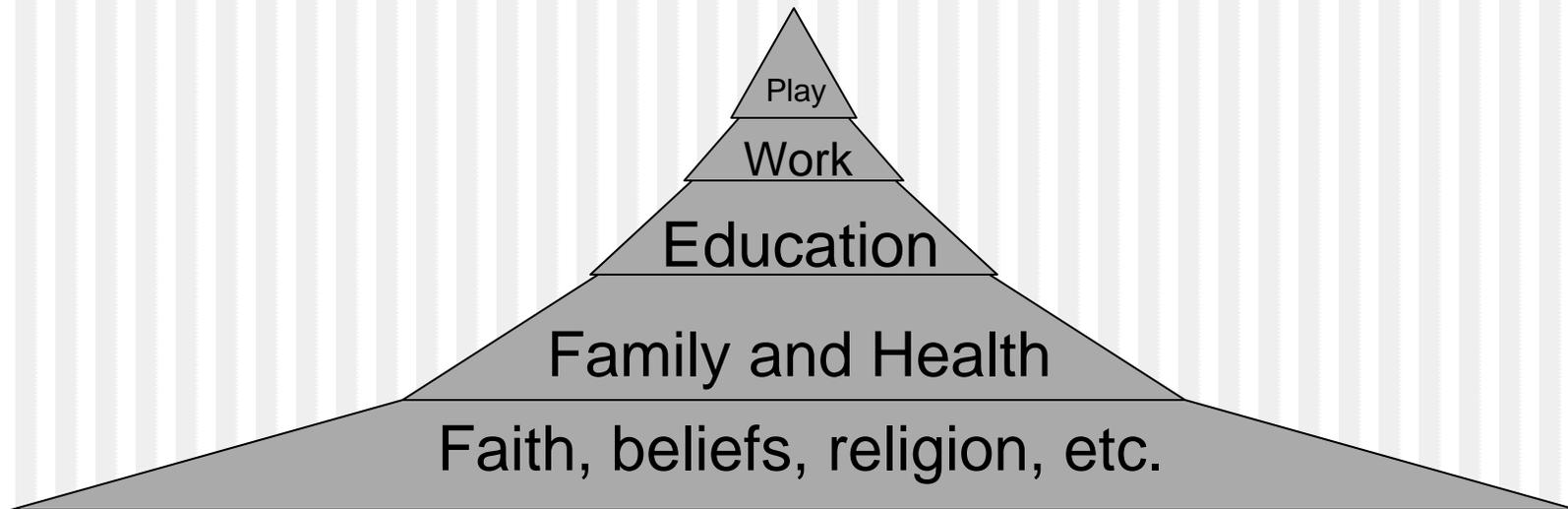
Team

- A team comprises a group of people linked in a common purpose. A group of people does not necessarily comprise a team.
- A team is a collection of people that compete against another team. A team is not a collection of people that compete against each other.

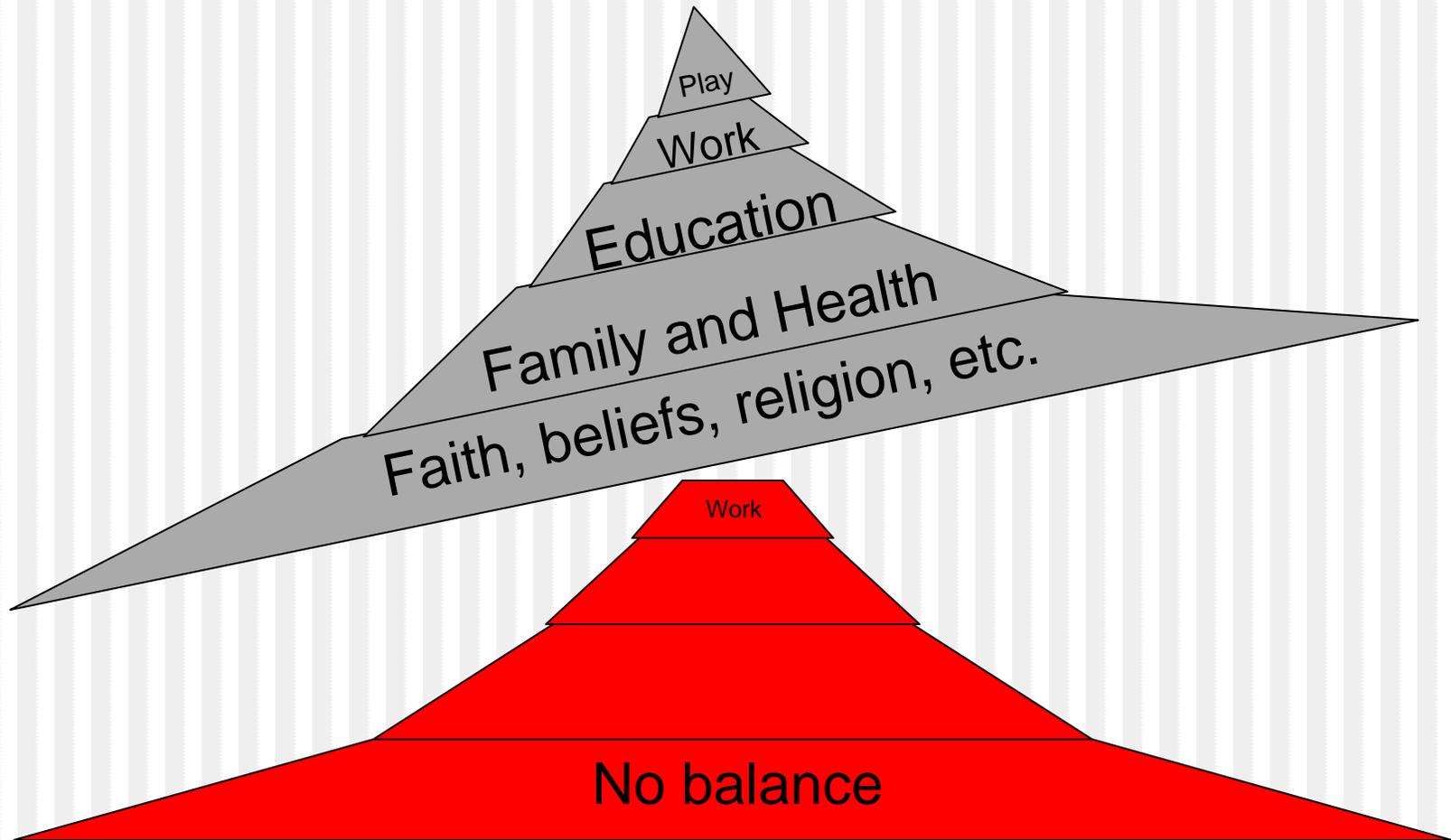


Ask audience deep probing questions to
test basic knowledge

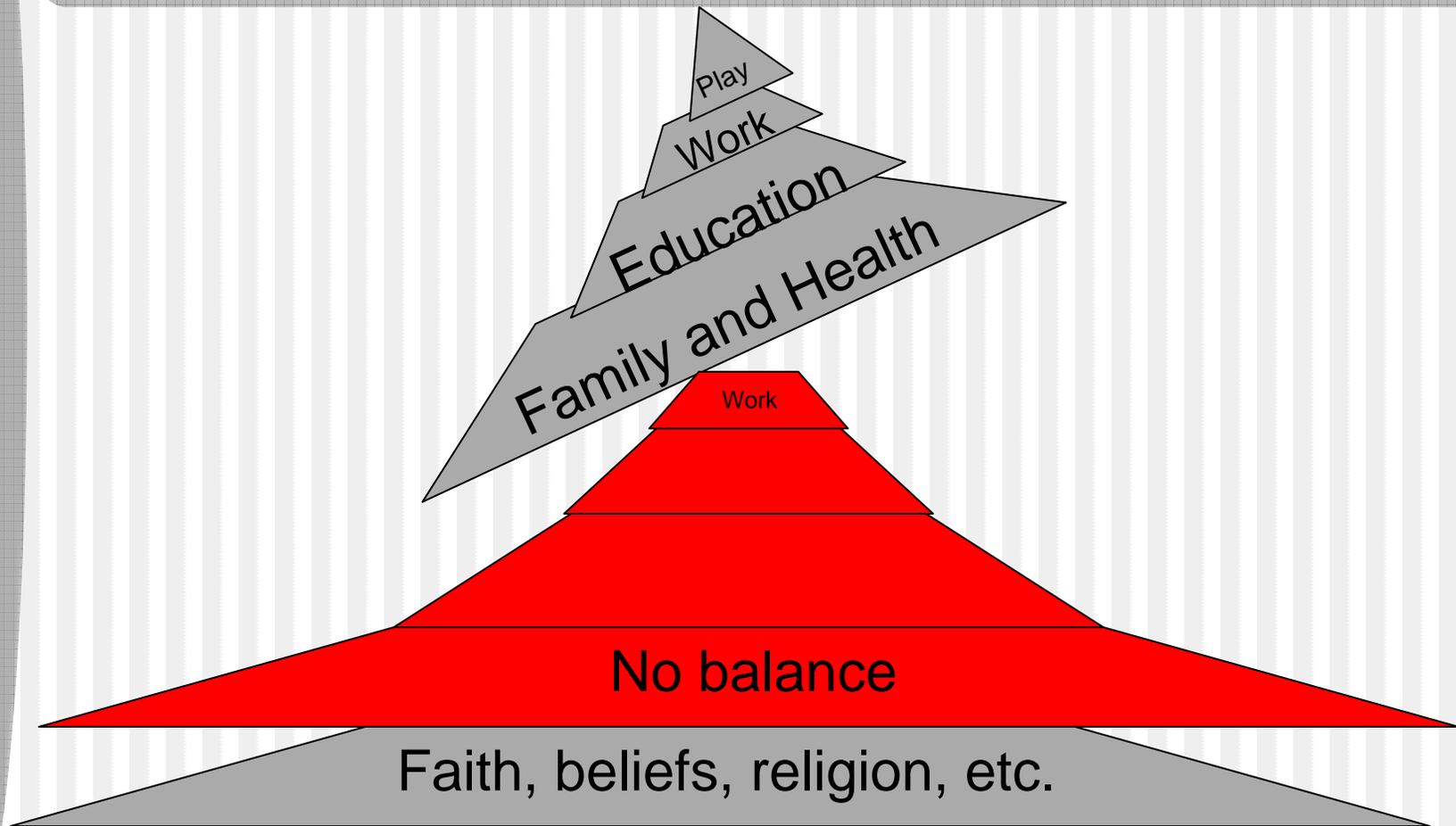
Personal Pyramid



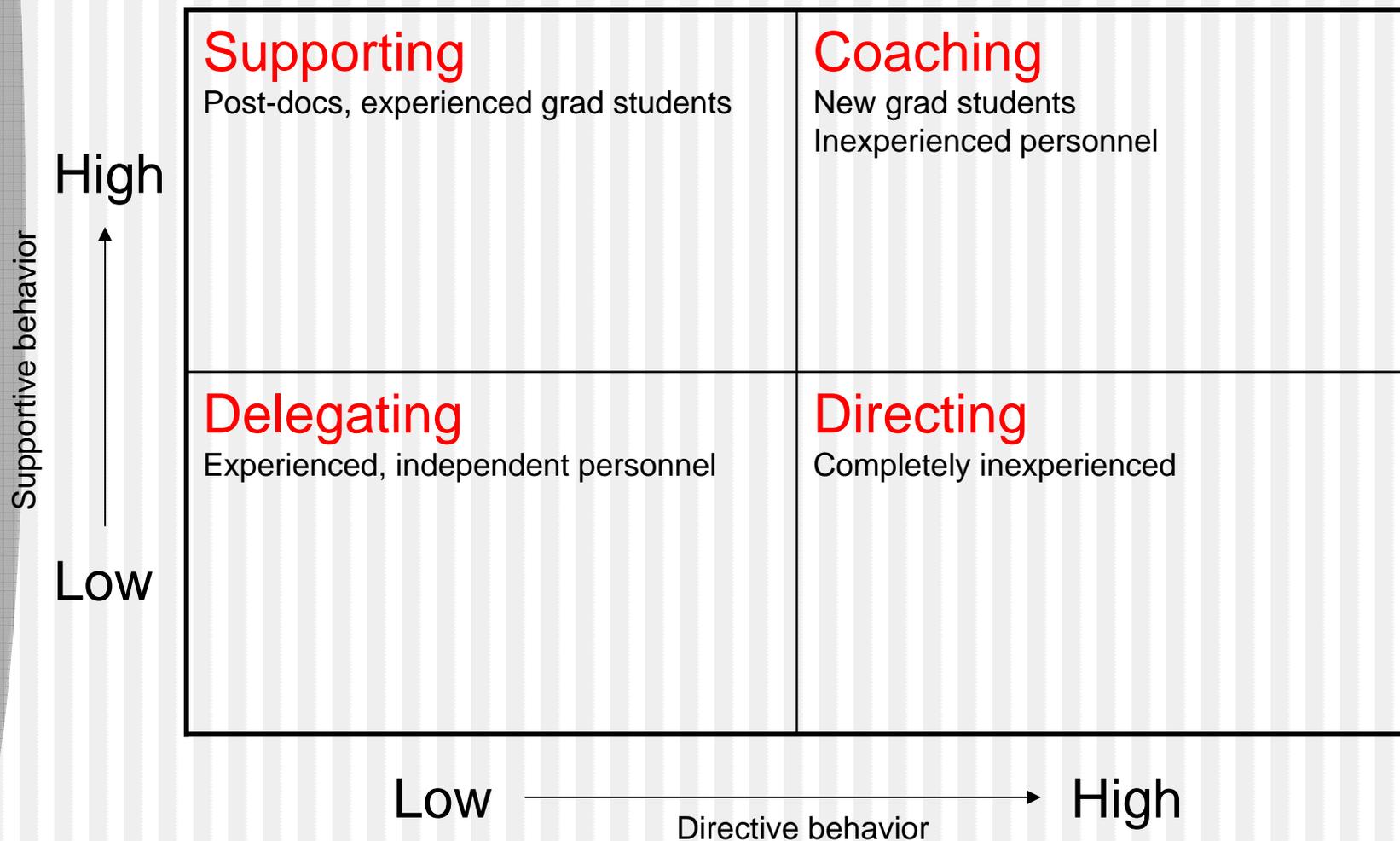
Personal Pyramid



Personal Pyramid



Leadership Styles



Scientific Leadership

A scientific leader influences the opinions and attitudes of others to accomplish shared goals

A leader leads by example

A leader must provide

- Scientific Vision
- Education
- Direction
- Values

Scientific Manager

An administrator who makes sure that funds, people and processes are in place to achieve desired goals

- Managers need to plan, budget, organize and solve problems

A Principle Investigator

Is

A Leader

&

A Manager

A PI Must

- Communicate
- Educate
- Define goals (PI & Personnel)
- Develop independence (PI & Personnel)
- Identify Strengths and weaknesses (PI & Personnel)
- Make decisions
- Manage conflict

(Repeat above process)ⁿ

A PI Must

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(Repeat above process)ⁿ

Communication

- In order to achieve goals as a team some form of communication must occur between the PI and members of the team.

Communication

Be aware

- People are not mind readers.
- Misunderstandings are common.
- Ambiguous statements can be interpreted many ways.

To Communicate Clearly

- Monitor communications verbally (through the spoken word), visually (through body language) or through questions and answers. *This can take a lot of time; but things will get done correctly, sooner rather than later.*

Questions for the audience

- If people follow instructions accurately and precisely, and bad results follow, who's to blame? The followers or the leader?

Remember

- Do not hold others accountable because you cannot communicate your thoughts completely and succinctly. It's your problem, not theirs. Accept blame for your incompetence, correct the mistakes and let everyone get on with life.

Forms of Laboratory Communication

- Open door policy
- Daily informal meetings
- Weekly meetings
- Research group meetings
- Journal club meetings
- Inter-group meetings with collaborators
- *The size and age of the lab will often determine type of meeting*

Communicating:

Giving feedback

when things are not going well for lab personnel

- It's not always what you say, it's how and when you say it.
- **Timing:** Give feedback when times are not stressful. Grant deadlines are not good times to give feedback.
- **Specificity and objectivity:** Focus comments on data, actions and behavior - not on intentions.
- **Reinforce expectations:** Example - *The last time we discussed this subject we decided upon a course of action that had to be carried out.*
- **Avoid subjective statements:** Example - *I do not like that you are late. Rather say - If you arrive at unpredictable times, then it will be difficult for others to work with you.*
- **Present constructive feedback:** Find out why someone is behaving as they are, then develop a course of action to correct the problem.
- **Make sure feedback registers:** Ask the person to rephrase what you said. They may have thought you said something entirely different.
- ***Do not give someone the silent treatment or exclude them from the team no matter how much you want to. If you do, you will destroy any lines for communication.***

Be patient and understanding

Communicating:

*Getting feedback from personnel on
your performance*

Ray's #1 Rule (R1R)

Tell me what you think whether you think I
will like it or not.

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Importance of Education

- If people do not know and understand what they are doing, then they are at the mercy of ignorance.
- Knowing how something is done is not the same as understanding why something is done.
- When you know and understand how and why something is done, you can control for experimental direction and *variation*.
- If you do not control experimental direction and *variation*, they will control you.

Informal Education

- More can be learned from mistakes than from successes.

However, mistakes can be quite painful and can best be avoided through knowledge and understanding.

- Seek understanding. Look, listen and learn.
- Learn from other's mistakes. It's a better, faster and cheaper way to learn.

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Define Goals

- PI's professional goals
 - The lab will be structured around the PI's goals.
- Personnel's professional goals
 - Personnel goal's may or may not coincide with the PI's goals.
 - The PI should not expect personnel to sacrifice their goals for the PI unless personnel want to, and not have to, for fear of losing jobs. Don't rock the personal pyramid.

Note: To avoid such problems , check references.

Ask deep probing questions before hiring.

- Need open proactive (not retroactive) communication.

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Develop Independence

- PIs need to become independently funded investigators.
- PIs need to write publications and grants.
- PIs know more about their field of research than their personnel do.
- PIs do not have time to do all the lab work and, at the same time, write publications and grants. Personnel must do the lab work.
- PIs must provide personnel with sufficient technical expertise through verbal, visual and written instruction and hands-on experience in order to carry out day-day lab work in a timely and efficient manner. *This can take a lot of time and patience on the part of PIs and personnel.*
- The faster PIs get personnel acclimated to lab work, the more time PIs will have for publications and grants.

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Identify Strengths and Weaknesses

- Everyone has strengths and weaknesses.
- Look, listen and learn.
- Identify and utilize human potential and talents.
- Enable human potential.
- Acknowledge good contributions, publicly.
- Work on weaknesses - in private, at the beginning of the week.

Decide upon corrective actions and a time when corrective actions must be fully implemented.

Keep such meetings private.

Do not advertise that the meetings were held.

- Follow through on actions once strengths and weaknesses have been identified and acted upon.

Setting and communicating rules of behavior for your lab members

Focus on lab productivity rather than on hours

Thing to be aware of - Intellectual Comfort Zone (ICZ):

- Some people are meticulous and methodical (let them optimize protocols or organize the lab)
- Some people are articulate (let them write lab protocols)
- Some people are less secure (let them do finishing work)
- Some people can multi-task (let them carry out high throughput assays)
- Some people are creative (let them troubleshoot, develop new techniques or protocols)
- Some people take risks (challenge them to develop new technologies or make new discoveries) - but be ready to pay the price - potential high failure rate

Delegate authority; but do not show favoritism.

Support your people even when they make mistakes. No one is perfect.

Let lab members teach each other to become better, more efficient scientists.

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Making decisions

- Prioritize decisions from most to least important
- Determine when to make decisions
- Gather enough information before making decisions
- Determine how critical decisions are
- Determine who needs to be involved in the decision making process (e.g. you, the lab, colleagues, chairman, etc.)

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Managing Conflict

Turf Wars

Two individuals are interested in the same project.

If the project is not too important or demanding,

Solution = Give the project to the least creative individual.

Reason = A creative confident individual will find something better to do.

If the project is important and demanding,

Give the project to the most qualified.

Types of people

Individuals

Assertive: Individuals who want to satisfy their own concerns at other people's expense

Avoiding: Individuals who do not want to pursue their own concerns or concerns of others

Team players

Cooperative: People who want to satisfy the concerns of others

Collaborating: People who attempt to work with others to satisfy the concerns of both parties

Individuals/team players?

Compromising: Individual who tries to find an expedient, mutually acceptable solution that satisfies both parties. This is a good team approach if done for the right reasons.

Risk: If the individual responsible for initiating a compromise is unfamiliar with the project and sides with one of the parties solely for personal or political gain, then the compromise could damage one of the parties or the team.

Resolving Conflict

- Foster an environment that accepts conflict.
- Time a meeting between conflicting parties when tempers have cooled.
- Make sure that each person understands the other's point of view.
- Address concerns, issues and limits to which each party can go.
- Remember who the PI/boss is. Control the conflicts.
- Get outside advice on resolving conflicts, if needed.

Daryl Smith - BRET Office

Keeping Lab Members Motivated

- **Recognize and acknowledge contributions to the lab.** This generates respect among lab members. List them as authors on papers if they made contributions.
- **Choice:** Give people opportunities to make decisions and listen to their ideas. This generates individual self-respect and confidence.
- **Purpose:** People need to know why the work they are doing is important. This generates enthusiasm.
- **Progress:** Set goals and deadlines, plan future experiments. This gives people a feeling of structure, direction, vision and a sense of control.
- **Competence:** People need technical skills to correctly do the work in a timely and efficient manner. Show them or have someone competent show them what to do. If people cannot master a needed technique, then you and they can become frustrated with progress made, or lack thereof.

After all that, are teams worth
the time and effort to develop?

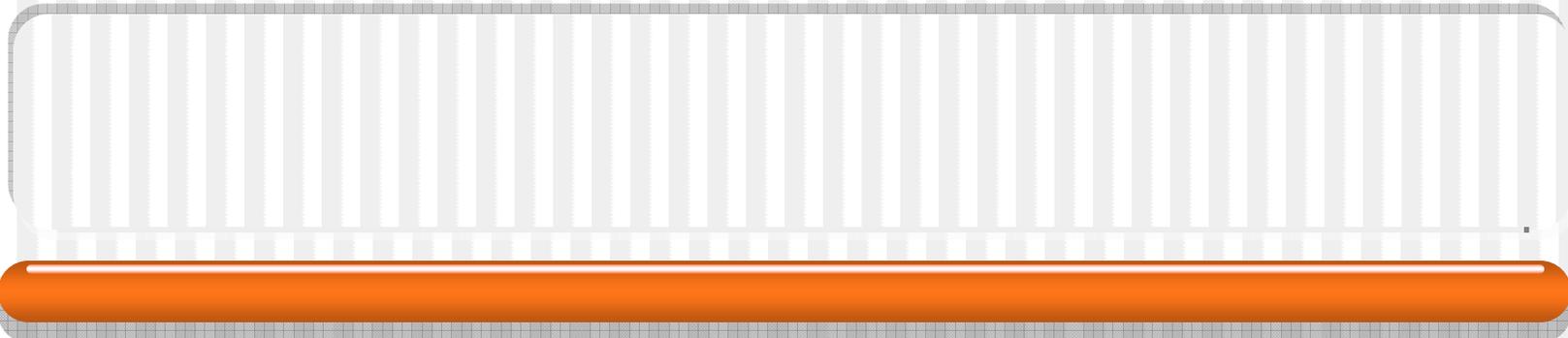
Probably

A good team will outperform a group of individuals any day

QuickTime™ and a
TIFF (LZW) decompressor
are needed to see this picture.

Even when they are enjoying
what they are doing as a team





THE END

Acknowledgements

Teammates

Dr. David Blum

Nancy Glover

Dipti Parekh

Dr. Larry Marnett

Director of the Vanderbilt Institute for Chemical Biology

Acknowledgements



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