

# **Leadership – Opportunities, Pitfalls, Rewards**

**Wayne Kimura**

Interlake High School  
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# Outline

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- Introduction to leadership
- Focusing on Robotics Club needs
- Building a winning team
- Working with all kinds of people
- Developing an effective plan of action to enhance leadership
- Self-evaluation to adapt and improve
- Closing remarks

# What is “good” leadership?

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- What qualities of leadership do you like to see in a leader?
- People respond well to good leadership
  - They expect to be told what needs to be done
  - Strong team spirit can develop, often leading to a willingness to work extra hard
- People respond poorly to weak leadership
  - Difficult to build effective, cohesive team
  - Can prevent reaching your goal or objective
- **Good leadership is when a cohesive team exists that effectively works towards their goal**
  - Cohesive: Where people feel part of a team with every person understanding their role and responsibilities
  - Effective: Where all work is well focused and resources (funds, time, effort) are used efficiently
  - Good leadership does not mean you will always successfully reach your goal; other reasons can prevent you from reaching your goal

# Traits of a Good Leader

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- Number One Rule:
  - Always show respect to your team members**
- Easy to do with good team members; not so easy with “problem” members
- Some ways to maintain respectful attitude
  - Follow Golden Rule: Treat others as you would want to be treated
  - Never yell at, speak condescending of, or belittle someone
  - Be especially careful when you are under stress because it is too easy to say or do something disrespectful
  - Team leaders should help each other maintain respectful attitude – give feedback and watch out for potential problems
- Having respectful attitude affects how you lead, not your leadership decisions
  - You can still tell people what to do; it is how you tell them that is important
  - It also affects how you react to problems – should always focus on the problem and not the person

# Traits of a Good Leader (cont.)

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- Other traits of a good leader are:

- Effective decision-maker
- Sets the standard for others, has high expectations
- Understands each team members' strengths and weaknesses
- Not afraid to delegate responsibilities – does not micromanage
- Communicates well – ensures two-way communication exists
- Has good organizational skills
- Has a clear vision of the goal(s) and the pathway to reach them
- Steadfast in determination, but flexible and receptive to other ideas

- All these traits require time and practice to develop in oneself
  - High school is a great opportunity to learn leadership skills
  - Do not have time to discuss all these traits in detail
  - First four traits probably have greatest impact on club – will discuss more

# Effective Decision-Making

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- Making decisions is often not easy because of lack of knowledge/experience, incomplete information, and uncertainties about the future
  - Knowing how to make decisions under these circumstances is the number one challenge of leadership
  - Fortunately, there is a decision-making process you can follow!
- Step #1: Define clearly what is the needed decision, why it is important and its potential impact, and when it must be made
  - Perform triage to determine importance of decision relative to overall effort
  - Helps define how much time you have to gather information and/or educate yourself before decision must be made
- Step #2: Decide on needed information/knowledge, means to obtain it, and people responsible for getting it
  - Make sure means are well focused so people minimize wasting time getting extraneous information
  - Set a time schedule for meeting again to discuss collected information

# Effective Decision-Making (cont.)

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- Step #3: Evaluate usefulness of collected information
  - Does it provide enough information to make a decision with a reasonably high probability of being a correct decision?
  - If not, then decide on further information needed and repeat Step #2
- Step #4: If the answer to Step #3 is yes, then make your decision!
  - Worse mistake of leadership is not making wrong decisions, it is not making any decisions – don't be wishy-washy!
  - Nevertheless, always adjust your decision depending on the level of confidence you have (see Step #5)
- Step #5: Be flexible and have a back-up option(s) whenever possible
  - Expect your decision may need to be adjusted or even abandoned as you gain more information or your decision does not appear to be working
  - Have back-up options ready – develop in parallel or in series depending on uncertainty of primary decision and available resources/manpower

# Setting the Standard

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- People instinctively look to their leaders as role models
  - Provides a powerful way to influence the “personality” of the team
  - The leadership sets the level of standards and expectations
- Do not be afraid to set high standards and high expectations
  - People want to be proud of their work and the team’s accomplishments
  - Setting high standards and expectations does not mean being a perfectionist
  - Go for “functional quality” – it works, and it works well and reliably, but it is not perfect and it does not need to be perfect
- High expectations also includes expectations on team member behavior and follow through on responsibilities
  - Demand appropriate behavior at all times, e.g., paying attention at meetings, finishing a job when promised (more later about dealing with problem members)
  - Of course, the leaders must always set the good example!



# Understanding Strengths and Weaknesses

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- Strength and weaknesses include
  - Technical knowledge and experience (e.g., electronics, programming)
  - Personality/behavior (e.g., procrastinator, introvert)
  - Special skills (e.g., works well with tools, fast learner)
- “Know thyself first, others second”
  - Assess your own strengths and weaknesses, and those of other leaders
  - Be honest, but not overly harsh – this is not a contest!
  - Find ways to use each other’s strengths to compensate for weaknesses
- Determining strengths and weaknesses of other team members is generally more difficult
  - May not know other team members as well
  - Learn to constantly watch out for strengths and weaknesses as you work with team members – make a mental note, share with other leaders
  - Use members’ strengths to help project, at same time avoid giving tasks that would rely on members’ weaknesses

# The Art of Delegation

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- Delegation of responsibilities can be a dichotomy
  - Sharing work load gets more work done and is usually faster
  - But, people can screw up causing more work and problems
- The steps for delegation:
  - Determine number of people needed to perform task
  - Before delegating task determine strengths and weaknesses of each individual – if you do not know, ask them!
  - As a group decide on how task will be done and time line – leader is responsible for informing group on time constraints
  - Decide on next meeting time with leader – avoid leaving tasks open-ended
- The art of delegation
  - Leader should frequently monitor person's or group's progress – can be through informal or formal meetings
  - Make sure everyone is staying focused on task, help them set priorities
  - Avoid micromanaging by not insisting on how they do something – make suggestions, give feedback, help provide resources

# Robotics Club Special Needs

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- Because of deadline for contest, staying on schedule is imperative
  - Not enough time to do everything you wish, therefore, must prioritize
  - Work on basic requirements first, embellishments second – leaders must decide what are basic needs and what are embellishments
- Team members cover wide range of capabilities, experience, and maturity levels
  - Leaders need to be sensitive and adapt accordingly, i.e., you cannot treat everyone on the team the same
  - However, those same team members are your greatest asset, so treat them well and use their abilities wisely
- The club leadership also has a wide range of experience leading others
  - Process already in place for senior leaders mentoring junior leaders
  - Do not be afraid of making mistakes!
  - Just remember, it is easy to correct a mistake with a thing, it is hard to correct a mistake with someone's feelings

# Strategies for Staying on Schedule

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- Build up schedule in steps working from gross level down to fine level
  - First define major tasks, e.g., decide on basic design approach, design components, fabricate components/systems, assemble robot, test/debug
  - Allocate blocks of times (e.g., number of weeks) for each major task
  - Be sure to add, if possible, buffer time to accommodate delays
  - Within each block of time, allocate smaller blocks of time for subtasks
  - Review schedules with affected team members
- Leaders' job is to maintain schedule and keep other leaders informed on progress
  - Monitor progress regularly, more frequently if problems arise
  - Encourage team members to notify others of problems ASAP because it gives you more time and options to correct the problem
- Expect to rebaseline the master schedule more than once
  - Rebaseline as major tasks are completed and/or serious problems occur
  - Leaders must decide when to forgo something in order to stay on schedule

# Building a Winning Team

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- Typical club consists of highly active members (Type A), semi-active members (Type B), and members with marginal commitment (Type C)
  - Use Type A to manage working groups with Type B providing support
  - Encourage Type C to participate with hope that they will change to Type B
  - Best way to get participation is to ask someone to do something; do not wait for the person to volunteer
- Subgroups consisting of 3 – 5 people is a good size for working groups
  - 1 – 2 people is okay for very small tasks, but on larger tasks there is risk of work overload and/or task failure that holds up everyone else
  - Greater than 5 people can be harder to manage and more difficult getting everyone to meet together when necessary
  - Subgroups should have mixture of Type A, B, and C
- Perforce many will be members of more than one subgroup
  - Use this to help communication between subgroups
  - Nevertheless, all subgroup leaders should meet together regularly

# Working With All Kinds of People

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- Working with “difficult” people requires application of some psychology and a GREAT deal of patience!
  - Everyone likes to feel appreciated – use to encourage change in behavior
  - Everyone likes to feel in control – use to insist on follow through with promises/commitments
- Be patient, but firm with less mature members
  - Insist they act more mature – predicate full involvement with club activities on consistent mature behavior
  - Genuinely interested members will change their behavior to stay in club; those not genuinely interested will drop out
  - Changing meeting format may help, e.g., remove distractions, rearrange seating, working more in small groups
- The fun activities of the club is the “carrot stick” that motivates team members
  - Leaders must make sure avoidable problems, such as chaotic meetings or miscommunication, do not spoil fun for everyone
  - Leaders should help each other in working with difficult people

# Develop an Effective Leadership Plan of Action

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- Leaders should meet to discuss ways to improve leadership of club
  - How can we make the management of the club better?
  - What are things you like; what are things you do not like?
  - How can you reinforce the things you like and correct the things you do not like?
  - Be open to new ideas including reassigning members to different responsibilities and changing procedures
- Lack of procedures can ruin the best leadership plans
  - Procedures ensure everyone is “dancing to the same tune”
  - Procedures help ensure important steps are not forgotten
  - Examples of relevant procedures are:
    - Approval of purchases
    - Communication protocol
    - Design review and approval

# Self-Evaluation and Fine-Tuning

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- Leadership training is an on-going, dynamic, life-long process
  - Expect to develop your own style that fits your personality
  - Learn by looking at others – other club leaders, your teachers, etc.
  - Ask what do you like about their leadership style, what would you do differently?
  - Adjust and fine-tune your own leadership style accordingly
- Club leaders should periodically meet to discuss progress on plan of action to improve club leadership
  - Is the plan being implemented effectively?
  - Make adjustments to the plan as necessary



# Closing Remarks

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- Leading and managing people can be the most rewarding thing you do and the most frustrating thing you do
  - Being a good leader does not require super-intelligence or a thick skin
  - It does require being sensitive to people and learning how to accurately “read” people
  - And, as with any skill, it requires practice and more practice
- The Robotics Club already has the ingredients needed for a successful leadership
  - Dedicated leaders who want to improve themselves and the club
  - An existing pool of team members with potential to do very well
  - A great school environment where you can practice your leadership skills