A New Way to Succeed!

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Introduction

Botball may seem like as if it is all for robotic design and ingenious programming, but another major part of Botball is team organization, time management, team communication, and conflict resolution. It is through these things that a team can truly become successful in Botball. In the beginning of the year, our team, although having very intelligent students, lacked this very important organization, so we had a very tough time having our goals accomplished expediently and on time. The first step we took to become a better team was acknowledging a problem in the way we ran our team. When organization had been added to the equation, the results were amazing.

Team Organization

In the beginning of the year, our team was poorly run due to bad team organization. As the year progressed, we discovered that team organization is the key to success in Botball. Even though intuitive programs and intricate designs are the backbone of a successful team, organization is a minor but a very crucial part. Organization increases production and facilitates accomplishing each goal successfully. By comparison of the team in the beginning of the year to the one in the end, we were far more productive and successful in accomplishing our goals, not because of the better designs or far more complex programs, but because of organization

For organization we decided to have a group leader, a program leader, an engineer leader, and a clean-up officer. The program leader managed all the programs and made sure the other programmers were on task and made the correct programs. The engineer leader decided on what would be the best way to accomplish an engineering goal and gave jobs to other engineers to work on. The clean-up officer is in charge of making sure that at the end of the day all the parts were in their rightful place and the classroom was immaculate. The group leader is the main leader who makes sure everybody is doing their job and everything is running smoothly.

As shown by the chart, there was truly a major difference after we had organization:
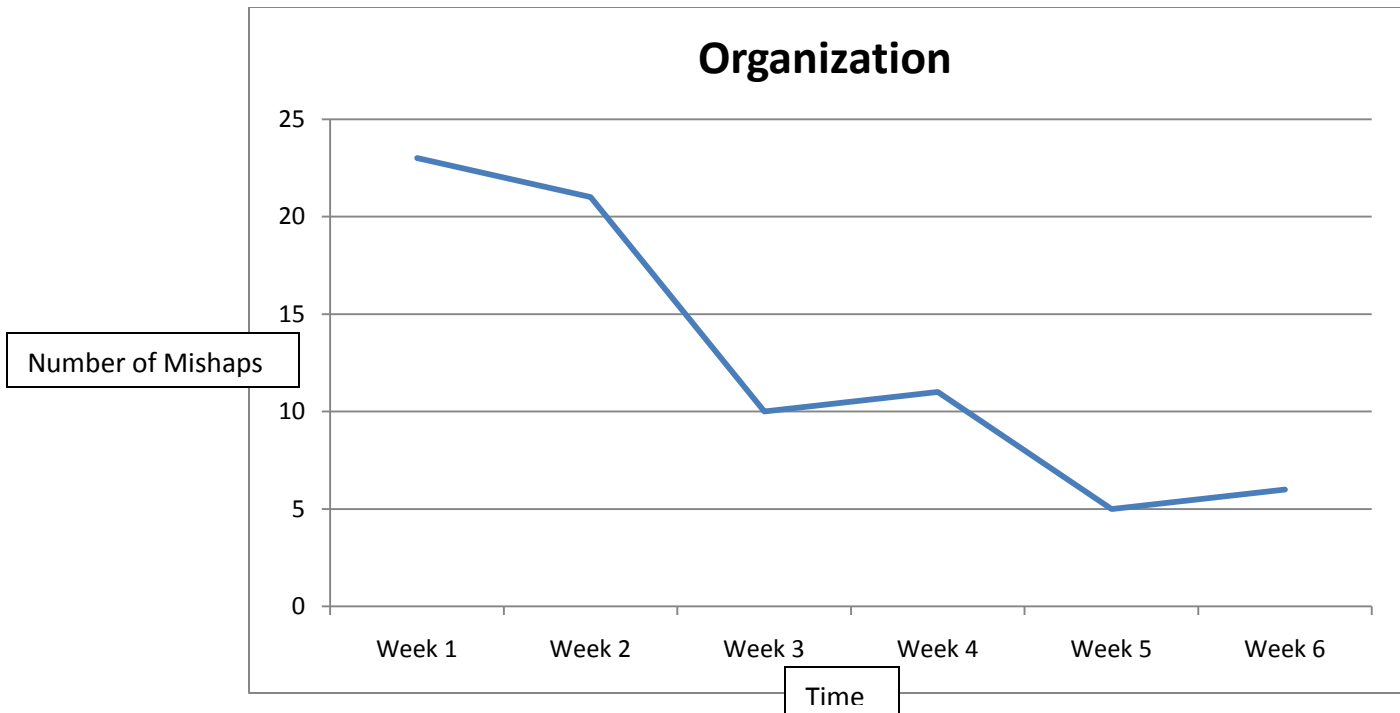
Organization

For the first two weeks we did not have any leaders, which resulted in many mishaps occurring. At the beginning of week three, we decided to create a system of organization that would reduce the number of conflicts. The results were astonishing. At the end of week three, there were far less mishaps than the other two. Week one had 23, while week two had 21; however, week three had a relatively low amount of 10 mishaps, and it only decreased from there. As we became more comfortable with our positions there were even fewer mishaps; week four had 11; week five had 5; week 6 had 6.

It became much easier to find parts for engineering because of the clean-up leader. The programs were produced at a much faster rate due to the leadership of the program leader. Also, better engineering designs were being produced because every engineer's ideas were heard, and the most expedite way of accomplishing the goal was chosen. There were also fewer conflicts because the group leader became the consultant and judged what was better for the group as a whole.

Team Communication

Team communication is another major part of robotics. It not only facilitates time management but it also creates less confusion and frustration. A great idea that we created for communication was having everyone's contact information. Our group leader made a chart with every member's phone numbers, address, and e-mail so we all could communicate with one another. The chart became very important during the week before regional competitions because sometimes not every member was present at every meeting, so the students e-mailed each other

on what had been accomplished and what still needed to be done. Without that kind of communication, there would have been a gargantuan amount of confusion, frustration, and misunderstanding.

Communication is not only being able to talk to other members at home, but it is also about having your ideas heard by everyone else and consulted as whether that is the best way to accomplish a goal. That is why at the end of every week, we held a team meeting where all the members were able to say what was wrong, what else needed to be done, or how to improve on a design/program. These weekly meeting made the whole team very productive in accomplishing its goals.

Documentation

In Botball and in the field of engineering, documentation is a major thing. It allows ideas and designs to be expressed to others, so spreading new ideas and designs to others. That is why documentation is a major part of team 11-0169. Each division (engineering and programming) of our team was responsible of documenting what was being accomplished or what they had failed at. During the week before documentation was due a member was elected, documentation leader, who accumulated all the programming and engineering documentation and combined them. The documentation leader was also responsible for turning it in on time.

Because the two teams already had made their documentation throughout the whole year, the documentation leader did not have the burden of writing the entire documentation but just had to edit and submit it. This organization allows us to have proper documentation that is not only helpful but also turned in on time.

Conflict Solving

One of the major problems our team had was having too many problems that went unnoticed. This ignorance of the problem by other members either created friction between students or it resulted in a later engineering flaws. To prevent more of this from occurring, we decided to have team meeting whenever there was a major problem that involved the whole team. However, when minor conflicts occurred, for example a problem between two members or it became too arduous to accomplish a minor goal, the group leader would assess the problem and figure out what is the best solution. For problems that only involved programmers, the group leader would hold a meeting for only the programmers, and for problems that only involved engineers, the group leader would hold a meeting for only the engineers.

This system of problem solving really came into hand when a major engineering problem had occurred. When a group of engineers could not accomplish a goal, they consulted the

engineering leader who realized that an engineering miscalculation had occurred. The engineering leader then consulted the group leader, who held a meeting for the engineers. The problem was figured out during the meeting and a new design was created to counterattack the problem that had occurred. Through the problem solving system that the group created, the conflict became relatively easy to resolve.