Building a District-Wide Robotics Program

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2012 - 2013 School Year

High School and Junior High School

- BEST Robotics
- FIRST Robotics

Intermediate and Elementary School

- FIRST Lego League

2017 - 2018 School Year (Projected)

High School and Junior High School

- BEST Robotics
- FIRST Robotics
- FIRST Lego League
- VEX Robotics
- FIRST Tech Challenge

Intermediate and Elementary School

- FIRST Lego League
- FLL Jr

What Changed?

Conroe ISD created the position of Robotics Instructional Coach

Purchased Mindstorms Robotics Kits to loan to rookie campuses

Loaned laptops (donated from Lockheed Martin) to rookie campuses

Encouraged teachers to sponsor teams

Offered introductory sessions at District Wide Staff Development

Offered training sessions

Conducted Summer Robotics Camp

Robotics Instructional Coach

New position

Part-time, 18 hours per week (because I’m retired)

Reports to Science Coordinator, but works with CTE also

Paid hourly

Mileage

Also help with physics, microscopes, and balances

Weekly meeting with other science coaches

FLL Paradigm Shift

Built teams around teachers, not student/parent

- Student/parent-created teams “graduate”
- Teacher-centered teams never “graduate,” just move or retire

Student/parent teams require a district employee, usually a teacher, to act as the official sponsor. Parents can still help with teacher-centered teams.

Financial support for team from PTO, campus principal, or community sponsor

Resources in FLL Shared on my Google drive

Why does a campus start a team?

Superintendent encourages principal

Parents or students pressure principal

Teacher decides to form a team, seeks permission from principal

Typical start-up

RIC sends FAQ to principal and/or teacher

RIC meets with principal and/or teacher

Identify students

Register team(s)

Deliver practice field and EV3 kit with laptop

Schedule first meeting, with RIC attending

Schedule additional sessions

Spring FLLing

- Off-season tournament
  - Robot missions
  - Robot design interview
  - Two divisions: veteran and novice
- Private scoring
- Free, free, free
- Second or third saturday morning in May

Summer Robotics Camp

Five days, part of summer enrichment program

Camp lesson plans

$150 per camper

Session I - students that just finished 3rd or 4th grade

Session II - students that just finished 5th or 6th grade

Two students per EV3 kit, sorted by gender and next campus

Chromebooks for programming

FRC Team 1477 Texas Torque

Catalyst

Hosted early FLL qualifying tournaments

Raised awareness about robotics through demonstrations

Provides aides to help teachers with FLL teams after school

Provides referees, judges, and volunteers for robotics tournaments

Offers grants for team registration

Offers scholarships for summer camp

BEST Robotics

UIL

No fees

Low cost

- Transportation
- Meals
- Replacement parts

My role

FIRST Tech Challenge

UIL

At least one team starting this fall

More expensive than BEST

- Registration
- Additional parts

More technical than BEST

Game elements available for purchase

VEX Robotics

Not UIL

Four teams this fall

Very similar to FTC

Can only use items from VEX

My role

- Help with bureaucracy
- Game strategy