

Project Title: STEM 7 VEX IQ Robotics Start-up

Author: Sarah Kahoiwai Kawaa

School: Molokai Middle School

Date: 6/5/14

Final Grant Report

Project Overview

The goal of this project was a “start-up” effort aimed at expanding the year-long 8th grade STEM VEX IQ Robotics program downward into the 7th grade quarter-long STEM program. As part of the grant request for \$1,000.00, (4) VEX IQ Start-up Kits costing \$249.99 each would be purchased and given to all of the 7th graders in each respective class-quarter to learn about, build, and compete in VEX IQ Robotics throughout the 2014-2015 school year.

Grant Outcomes

As a result of being awarded the grant, (4) VEX IQ Start-up Kits were indeed purchased and given to the 7th grade STEM program, and all 7th grade students in each of the four quarters of 2014-2015 were able to learn about, build and compete in VEX IQ Robotics tournaments as planned.

Student Outcomes

Enclosed with this report are pictures documenting the efforts of 7th grade STEM students in building their VEX IQ “claw-bots” or basic robots for competition. 7th grade students were coached and assisted by the more experienced 8th grade STEM students as part of the STEM 8 Service Learning efforts in giving service back to the school and community. STEM 8 students also officiated in STEM 7 grade-level tournaments and taught 7th graders how to strategize their teamwork efforts among claw-bots to obtain the highest possible scores during matches. Scores and results were kept manually on score-sheets, and 7th graders showed noticeable improvement with added practice and tournament opportunities.

Outcome Measures

Towards the ending of the 2014-2015 school year, the top ranking teams in STEM 7 from each quarter were invited back in fourth quarter to participate in a culminating activity--the inaugural **2015 STEM Day @ MMS** event. **STEM Day @ MMS** was a showcase featuring all STEM-related programs and efforts at Molokai Middle School including STEM, STEMWorks, VEX IQ Robotics, Science Fair, Science Olympiad, Engineering In The Middle, and Jr. Engineering Expo. At the center of the event was the first-ever island-wide VEX IQ Robotics tournament featuring teams from all elementary and middle schools on-island, including STEM 8 and STEM 7 teams. The tournament was operated as a State-level qualifying VEX IQ Robotics tournament, along with computer-assisted score-keeping by STEM 8 Robotics Team members, as well as officiating by State VEX IQ Officials. Among the top award winners in **STEM Day @ MMS** was one STEM 7 team, named “Destroyer XXX” that took the tournament overall “Judges Award” for being the highest-scoring STEM 7 team in the tournament, as well as showing good sportsmanship among fellow competitors.

Conclusion

We are thankful for having been awarded this grant from HaSTA/Chevron that made this start-up effort possible in our STEM 7 program. We consider this project a great success, and will continue this effort in our STEM 7 and STEM 8 programs. We will continue to use the purchased robotics kits in the future as an ongoing-effort to expand STEM opportunities to all 7th graders at Molokai Middle School.

Enclosures

Accompanying this report are pictures documenting the efforts of 7th graders in building VEX IQ claw-bots, in being assisted and coached by 8th grade STEM Robotics students, in learning to operate claw-bots, in participating in grade-level tournaments, and of course, in competing in the first island-wide VEX IQ Robotics tournament at our inaugural **STEM Day @ MMS** on May 23, 2015 at Molokai Middle School.

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Captions: 1-4) STEM 7 students, assisted by STEM 8 students, in building and competing in grade-level tournaments; 5-7) STEM Day @ MMS VEX IQ Tournament featuring STEM 8 and STEM 7 Robotics teams during competition and awards ceremony; 8) STEM 7 top award winner "Destroyer XXX" with Judges Award Trophy.

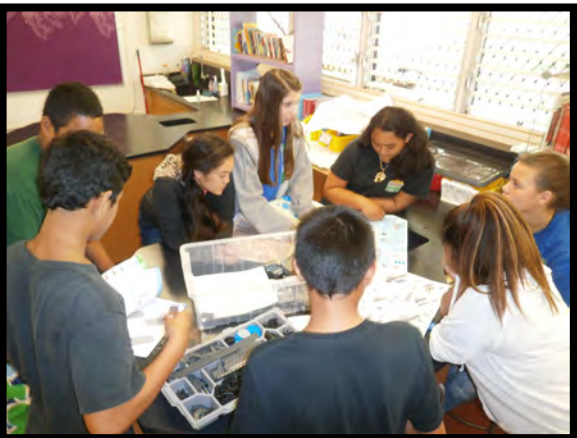
1)



2)



3)



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5)



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7)



8)

