LEGISLATIVE EDUCATION STUDY COMMITTEE
BILL ANALYSIS
54th Legislature, 1st Session, 2019

Bill Number HB148 **Sponsor** Trujillo, Ch.

Tracking Number .211400.1 **Committee Referrals** HEC/HAFC

Short Title Robot Playshops & Competition

Analyst Bedeaux **Original Date** 1/23/19
Last Updated

BILL SUMMARY

Synopsis of Bill

House Bill 148 (HB148) appropriates $300 thousand from the general fund to Eastern New Mexico University (ENMU) to support statewide playshops for students and teachers in third through 12th grade. The playshops will include lessons for students to learn, design, build, and program autonomous robots. The program is intended to culminate in an international robot competition held annually in New Mexico.

FISCAL IMPACT

HB148 appropriates $300 thousand from the general fund to ENMU for expenditure in FY20. Any unexpended or unencumbered balance remaining at the end of FY20 shall revert to the general fund.

SUBSTANTIVE ISSUES

The appropriation is intended to support the nonprofit Inquiry Facilitators, Inc. in offering RoboRAVE "playshops" in New Mexico public schools. ENMU will act as the fiscal agent for Inquiry Facilitators Inc. ENMU has received appropriations for this purpose in previous years. In the General Appropriations Act (GAA) for FY15, ENMU received $100 thousand to support a "youth robotic competition." In FY16, ENMU received $225 thousand. While the FY17 GAA and FY18 GAA did not include this line item, ENMU received $50 thousand for the program in FY19.

RoboRAVE playshops blend robotics with the public school curriculum, offering children hands-on experience with designing, building, programming, and testing a simple autonomous robot. Students are tasked with creating a robot that can complete a task, like firefighting, carrying cargo, or completing a maze.

Student involvement in extracurricular activities can improve student engagement and help students begin down a career pathway. According to a 2013 study by Brandies University, students who participate in high quality science, technology, engineering, and math (STEM) extracurricular

activities are more likely than similar peers who do not participate to attend college, major in a STEM field, participate in internships or apprenticeships, and work in high-skill STEM careers. As an example, one such extracurricular activity, Systems Go New Mexico, a rocketry program administered by the Pecos Valley Regional Education Cooperative, engages students from several school districts in a comprehensive program where students design, build, and launch a rocket. In a 2017 presentation to LESC, students in Systems Go reported learning about project management, designing a rocket, building simulations of their rocket's launch, and having to deal with day-of-launch troubleshooting. Many of the students reported learning leadership skills, developed an interest in applied math and science, and intended to study a STEM field in college.

ADMINISTRATIVE IMPLICATIONS

ENMU would act as the fiscal agent for RoboRAVE International to support the latter in coordinating and conducting playshops in third through 12th grade classrooms statewide and holding an international robotics competition.

OTHER SIGNIFICANT ISSUES

It is unclear how many students, schools, and school districts in the state were impacted by the appropriations, but the May 2018 RoboRAVE international competition was attended by over 1,400 students from 20 different countries.

The $300 thousand appropriation will contribute to funds raised by the nonprofit Inquiry Facilitators, Inc. through partnerships with Intel, Sandia National Laboratories, Los Alamos National Security, the City of Albuquerque, and many other groups. Individual events during the May 2018 RoboRAVE international competition in Albuquerque included a fire-fighting robot challenge hosted by New Mexico Tech and a RoboEthics debate hosted by the University of New Mexico School of Law.

SOURCES OF INFORMATION

- LESC Files

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