Middle School Underwater Robotics: 2011 MATE Program Highlights

The Marine Advanced Technology Education (MATE) Center uses underwater robots (remotely operated vehicles or ROVs) as a way to get middle school students excited about learning science, technology, engineering, and math (STEM). The program also exposes students to STEM career opportunities and helps them to see the pathways to those careers.

2011 marked the second year of MATE’s concerted effort to reach and engage middle school students. Here’s what resulted, and what the project participants had to say.

An independent evaluation* found that after participating in the ROV program…

Students are more interested in math and science

- 92% were more excited to study math, science, computer science, and/or engineering
- 80% knew more about careers in marine STEM
- 64% were more interested in a marine STEM career

<table>
<thead>
<tr>
<th>Students were more interested in taking STEM courses</th>
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<tbody>
<tr>
<td>Engineering</td>
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<tr>
<td>54%</td>
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</table>

Teachers saw improvements in student learning

- 91% observed improvements in their students’ STEM knowledge and skills
- 95% also saw improvements in team building, critical thinking, and problem solving

*For additional details regarding the evaluation methodologies, please contact the MATE Center.
Parents provided positive feedback

- 91% said that their children were more interested in science, technology, engineering, or math
- 60% reported that their children were better able to work with others and that their child’s self confidence had improved
- 30% marked that their children were better organized

Parents saw their children’s grades improve

<table>
<thead>
<tr>
<th>Subject</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Engineering/robotics</td>
<td>54%</td>
</tr>
<tr>
<td>Science</td>
<td>40%</td>
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<tr>
<td>Math</td>
<td>32%</td>
</tr>
<tr>
<td>Computers</td>
<td>24%</td>
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What participants had to say:

Students

I really liked it. It helped me learn how to work as a team and try something new.

I love ROV. It has inspired me to learn.

Teachers

Wow what amazing experience for all my students. Phenomenal benefits for them included skill building in every aspect of their education.

I’ve been so happy to see my students excited to spend more time at school.

Parents

More patience, improved problem solving skills.

Taking more responsibility. Developing leadership skills.

Thinking more about future careers.

For more information about the MATE Center and its ROV program, contact:

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