



o'neill sea odyssey

2009-2010 survey results
december 2010



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Executive Summary

Demographics

- During the 2009-10 program cycle, 193 groups participated in the O'Neill Sea Odyssey (OSO) program, representing 5,166 students. The average group size was 27.
- Most of the groups (95%) came from the Santa Cruz, Santa Clara, and Monterey Counties.
- The majority of groups (95%) were comprised of students in the 4th through 6th grades.
- Approximately 5% percent of students were repeat visitors.
- Based on population estimates, 46% of the students were Hispanic or Latino, 26% were White, and 28% were of other races/ethnicities.
- Approximately 52% of students did not have English as their primary language.
- Half of the students (50%) were receiving free or reduced price meals.
- Approximately 31% of participating groups came from "lower income" communities.

Website Use

- A large majority of teachers/group leaders (79%) had visited the OSO website before their trip.
- Almost two-thirds (59%) of teachers/group leaders had used the teaching materials provided on the website before their trip, and 97% indicated that the materials had enhanced the students' learning of the topics.
- Approximately 91% of teachers/group leaders intended to use the teaching materials in the classroom after the trip.

Program Ratings

- In every topic area, the vast majority of teachers/group leaders (from 94% to 100%) indicated that the students had "learned a lot."
- Of the three topics taught on the boat, 97% of teachers/group leaders thought that the students had "learned a lot" in the "Ecology station," followed closely by the "Marine Science station" (96%) and the "Sailing and Navigation station" (94%).
- Of the four topics taught in the classroom, most teachers/group leaders said that students had "learned a lot" in both the "Marine Science station" (100%) and the "Follow-up and Discussion" (98%), followed closely by the "Ecology station" (96%) and the "Sailing and Navigation station" (95%).
- All (100%) of the teachers/group leaders reported that the presentations were presented at an age-appropriate level, and almost all (99%) reported that their students had "learned a lot" from the "overall learning experience."

Student Environmental Awareness

- The Student Survey showed that the OSO program was effective in promoting substantial increases in students' environmental awareness. An average of 76% of students agreed with the survey questions regarding environmental knowledge and responsible behavior *before* participating in the program, compared to 97% *after* attending the program.
- When student surveys were divided into "lower income" and "higher income" groups, results indicated that although both groups of students substantially increased their environmental knowledge after attending the program, the "lower income" students showed a greater change (71% to 96%) and *caught up* with the "higher income" students by the end (81% to 97%), with virtually all of the students agreeing with the survey questions.

About O'Neill Sea Odyssey

O'Neill Sea Odyssey (OSO) was incorporated in 1996 by wetsuit innovator and surfer Jack O'Neill as a nonprofit organization to provide unique ecology, navigation, and marine sciences learning experiences to regional students in grades 4 through 6. Since this time, more than 50,000 students have participated in the three-hour, hands-on, learning event aboard the program's 65-foot catamaran in the Monterey Bay National Marine Sanctuary, with follow-up lessons in the Education Center at the Santa Cruz Harbor. After participating in the program, students are required to perform a community service project.

The primary purpose of the program is to foster awareness of environmental stewardship and personal responsibility among program participants. This is done by delivering an interactive curriculum that emphasizes the connections between land and sea through a multi-disciplinary approach including ecology, biology, and mathematics.

The OSO website (<http://www.oneillseaodyssey.org/>) provides extensive curriculum and learning materials that are designed to introduce students to the topics they will be learning in the program. Teachers and group leaders are encouraged to use these materials with their students before attending the program, and afterwards as follow-up activities.

Student groups are required to complete a community service project to earn a trip on the OSO. A community service project encompasses a broad range of activities such as native plant restoration, beach or creek cleanup, homeless garden projects, community environmental awareness projects, school recycling programs, and letter-writing campaigns for environmental causes. Teachers and group leaders are required to submit proof of completion of a community service project, which can be done via the OSO website.

During the July 2009 - June 2010 program cycle, two surveys were administered to the groups participating in the program. Teachers and group leaders were asked to fill out a survey after participating in the program, to get their feedback on the organization and effectiveness of the program, program materials, and the OSO website. A second survey was read aloud to the students that asked them (by a show of hands) about their knowledge of, and attitudes toward, the environment. This survey was administered to the students before and after the program, and thereby measured the amount of change in their environmental awareness.

OSO has undertaken the analyses of these two 2009-10 surveys and other program data for use in evaluating the program, further planning, and developing funds for program expansion or replication.



Research Methodology

Survey Design and Methodology

In previous years, separate surveys were designed to be distributed to different groups of program participants: group leaders, teachers and parents, students, and the OSO crew. For the last four years, two surveys have been utilized: one was distributed to the teachers/group leaders, and another was administered to the students. Each survey is described below, and copies are provided in Appendix II: Survey Instruments.

Teacher/Group Leader Survey

Teachers and group leaders were asked to fill out a short survey after attending the O'Neill Sea Odyssey (OSO) program. Earlier versions of the Teacher/Group Leader Survey were administered in previous years and were refined to reflect the significant topics of interest. The current version has been used since the spring of 2006.

In this survey, teachers/group leaders were asked to evaluate the program based on how much they thought the students learned from each of the program areas, including three topics taught on the boat portion of the program, four topics covered in the classroom portion, and one question asking them to rate the students' overall learning experience.

Teachers/Group leaders rated these program areas using a scale ranging from "Learned a lot," "Learned somewhat," to "Did not learn at all." In a "Yes/No" question, they were then asked if the presentations were presented at an age-appropriate level.



In a combination of "Yes/No" and open-ended questions, teachers/group leaders were then asked several questions about the OSO website and program materials available from it. They answered whether they had visited the OSO website before the trip, if they had used the teaching materials provided there before taking the trip, how they used the website Learning Center or Teacher Packet materials in the classroom *before* the trip, which teaching materials were most helpful in the classroom, and whether they intended to use any of the online Learning Center or Teacher Packet materials in the classroom *after* the trip.

They were asked if the teaching materials enhanced the students' learning of the topics, and if they had any suggestions for improving these teaching materials. Finally, they were asked if they had any additional comments.

Student Survey

The current version of the Student Survey was first used in the 2006-07 program cycle, and was modified only slightly so that most of the questions were in the present tense ("Do you..." vs. "Will you..."). This survey was designed to be read aloud to the students, and was administered to them *before and after* attending the program. Students were asked to raise their hands if they agreed with the questions (indicating a "yes" response), and the number of raised hands for each question were

tallied. During 2009-10, students were asked to put their heads down on the desk before raising their hand. This allowed the students to have anonymity when responding.

The Student Survey included six “Yes/No” questions. Two questions asked about their general knowledge: if the students knew a lot about plants and animals in the ocean, and if they knew a lot about things that are bad for rivers, oceans, and the environment. Four questions asked about their behavior: do they not pour oil and chemicals down storm drains or onto the ground, do they not throw garbage on the ground, do they recycle, and will they share their knowledge with friends and family.

Demographic Data Collection

In addition to filling out the survey, teachers/group leaders were asked to provide the name of their school or group, the number of students in their group, and the grade level(s) of their students. To determine the number of repeat participants, when students first arrived they were asked by a show of hands if they had previously participated in the OSO program.

Data Analysis

In this report, most of the data in the analyses came from the OSO Teacher/Group Leader and Student Surveys. However, student ethnicity, level of English fluency, and enrollment in free or reduced price meal programs were estimated using percentages obtained from the DataQuest database of the

California Basic Educational Data System (CBEDS). Using DataQuest, OSO

obtained the percentages of each of these demographics for each school participating in this program. For each school group, these percentages were applied to the total number of students in that group to estimate the number of students with these demographics.



Some of the questions in the Teacher/Group Leader Survey were open-ended. Participants were asked to provide comments, suggestions, and to describe their experiences with the OSO website’s educational materials.

Although these open-ended questions are not evaluated in this report, all of the responses are provided in Appendix I: Open-Ended Survey Responses.

A “census” approach was used for both the Teacher/Group Leader and Student Surveys. In this type of survey approach, every teacher and student who participated in the program also answered the surveys (as opposed to giving the surveys to only a sample of the participants). When a census approach is used, statistical testing is unnecessary since, by default, any difference by itself is already significant.

For this reason, targeted statistical analyses were not necessary for evaluating the significance of the Student Survey results. Since this survey used a census approach, all differences between pre- and post-program survey results were significant by default, and differed only in magnitude.

Note that demographic data were not available for every group, and not every group answered all survey questions. For this reason the number of groups or students reported in some analyses may differ from the total number of groups and students that participated.

Results

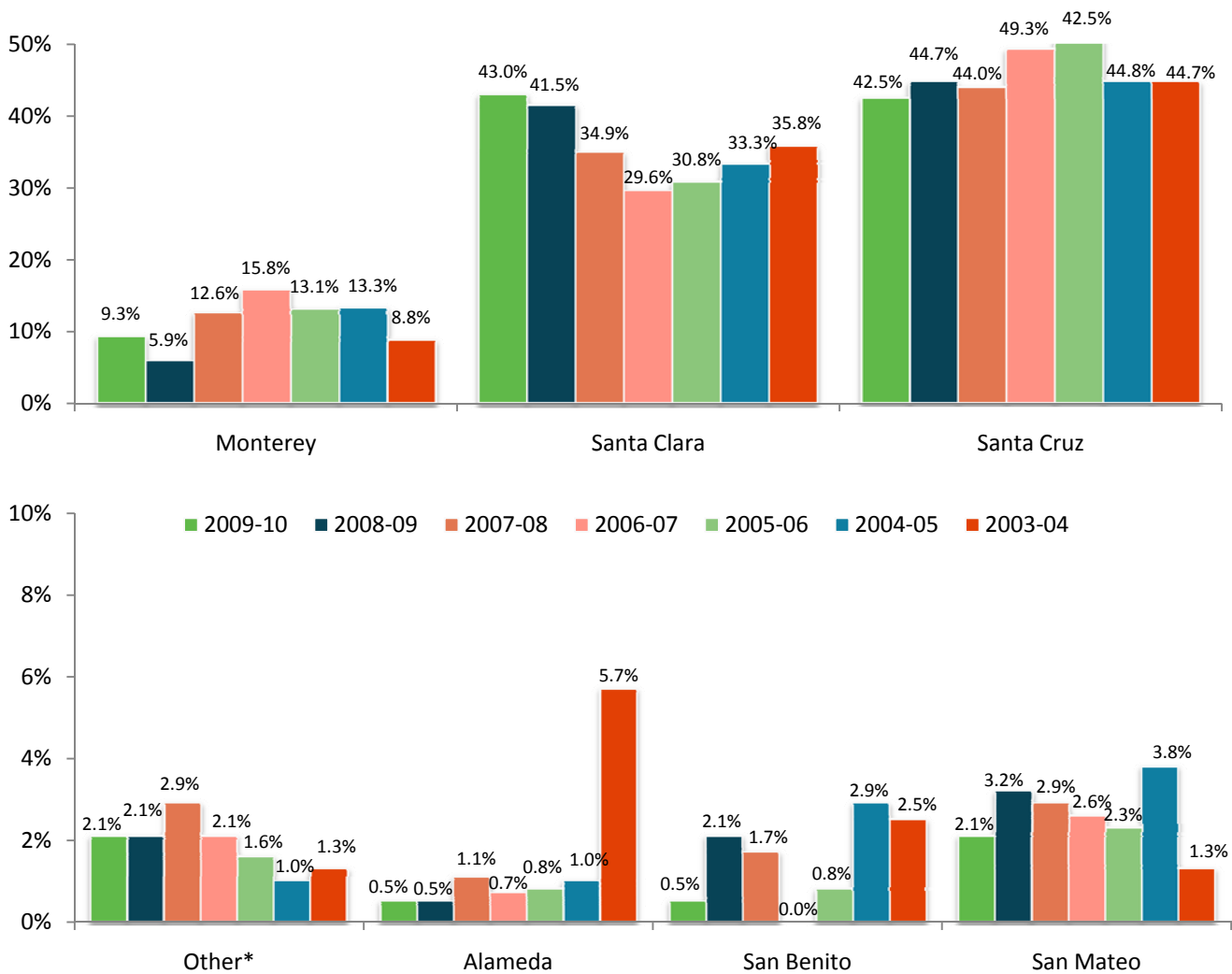
Student Participation and Demographics

Between July 2009 and June 2010, 193 groups participated in the O'Neill Sea Odyssey program, representing 5,166 students. Group sizes ranged from 6 to 35 students, with an average group size of 27.

Counties of Origin

Some groups came from as far away as Contra Costa County, but most came from Santa Cruz County (43%), Santa Clara County (43%), and Monterey County (9%). Between 2003-04 and 2009-10, these three counties have continued to be the most frequent origins of groups.

Figure 1: Group Counties of Origin



Source: 2003-04: Crew Recap Surveys (N=160 groups). 2004-06: Teacher/Group Leader Surveys (2004-05 N=105 groups, 2005-06 N=130 groups). 2006-09: Data provided by O'Neill Sea Odyssey (2006-07 N=152 groups, 2007-08 N=175 groups, 2008-09 N=188 groups, 2009-10 N=193).

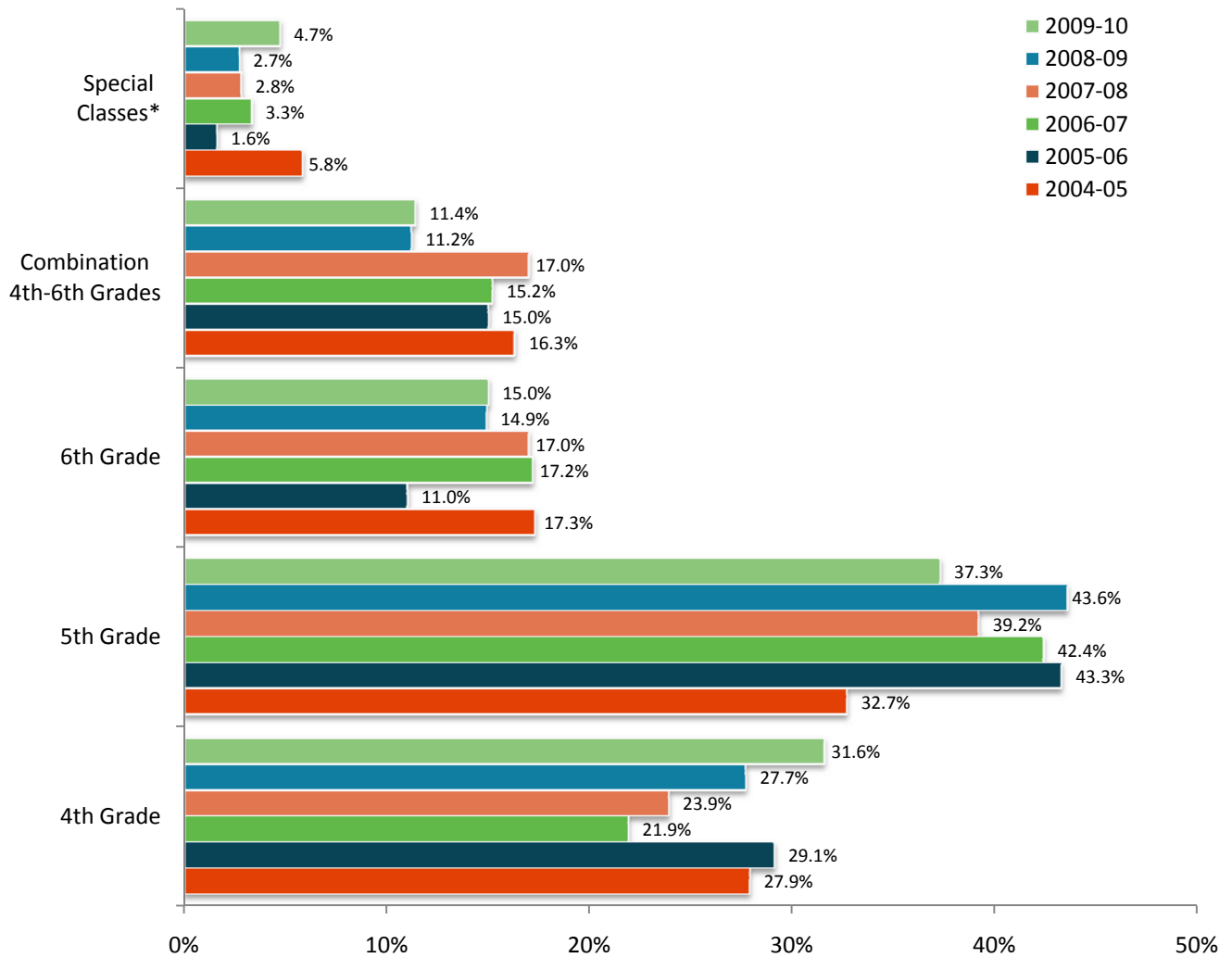
* "Other" includes the counties of Contra Costa, Sacramento, San Francisco, San Joaquin, Stanislaus, and Yolo.

Grade Levels

OSO's target population is students in the 4th through 6th grades, and in 2009-10, the vast majority of groups were in this grade range (95%). In 2009-10, the highest percentage of groups were from the 5th grade (37%), followed by 4th grade groups (32%), 6th grade groups (15%), and combination 4th-6th grade groups (11%). This general pattern of grade level participation has been repeated every year since 2004-05.

Most groups of students participated through schools, although a few came from community centers and children's organizations such as the Boys and Girls Club and the Junior Volunteers.

Figure 2: Grade Levels of Groups



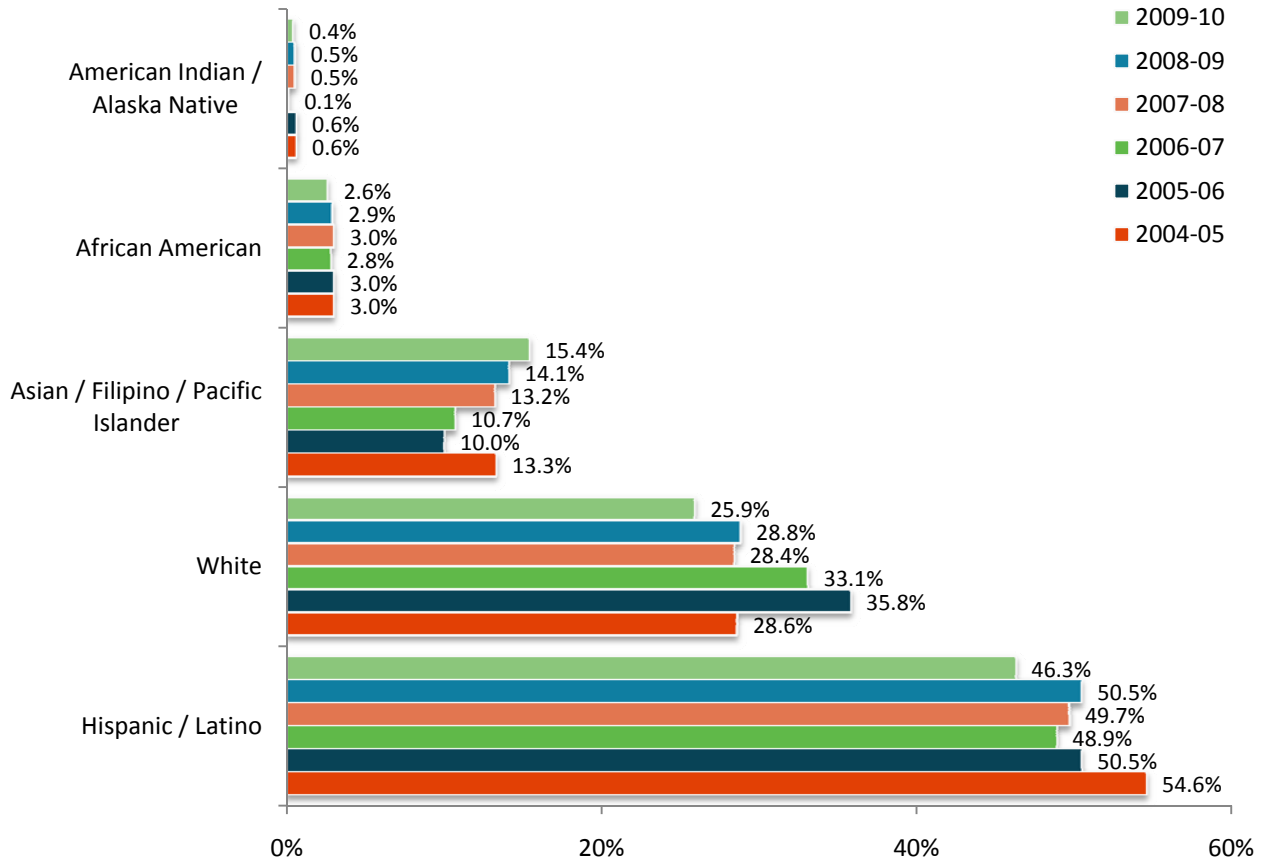
Source: 2004-06: Teacher/Group Leader Surveys (2004-05 N=104 groups, 2005-06 N=127 groups). 2006-09: Data provided by O'Neill Sea Odyssey (2006-07 N=151 groups, 2007-08 N=176 groups, 2008-09 N=188 groups, 2009-10 N=193 groups).

* "Special Classes" refers to groups comprised of students in grades other than 4th through 6th.

Race/Ethnicity

The race/ethnicity of participants was estimated using percentages obtained from the DataQuest database of the California Basic Educational Data System (CBEDS), based on the year, school locations, and grade levels of the students. In 2009-10, it was estimated that 46% of the students were Hispanic or Latino, 26% were White, 15% were Asian, Filipino, or Pacific Islander, 3% were African American, less than 1% were American Indian or Alaska Native, and 9% were of another race/ethnicity. These percentages have stayed relatively the same since 2004-05.

Figure 3: Race/Ethnicity of Students



Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2004-05 N=3,612 students, 2005-06 N=2,926 students, 2006-07 N=3,586 students, 2007-08 N=4,210 students, 2008-09 N=4,731 students, 2009-10 N=5,166 students).

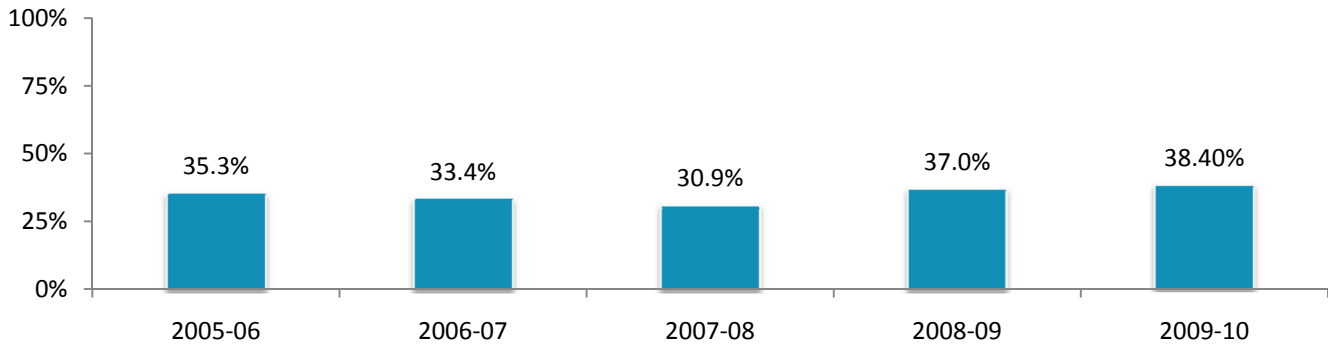
Note: The "Other" and "Multiple or No Response" categories are not shown in this figure. Percentages may not total 100% for this reason or due to rounding.

English as a Second Language

Two categories of English proficiency were examined using percentages obtained from the DataQuest database. One category was English Learner (EL), which described students whose primary language was not English, and who had been determined to lack the English language skills necessary to succeed in the school's regular instructional programs. The other category was Fluent-English-Proficient (FEP), which described students whose primary language was not English, but who had met the district criteria for determining proficiency in English.

In 2009-10, it was estimated that 38% of students attending the OSO program were English Learners (EL), and 14% of student participants were Fluent-English-Proficient (FEP), which were both increases since 2005-06. When these two groups were combined (EL + FEP), the result showed that in 2009-10, 52% of the students attending the OSO program did not have English as their primary language, a slight increase since 2005-06 (47%).

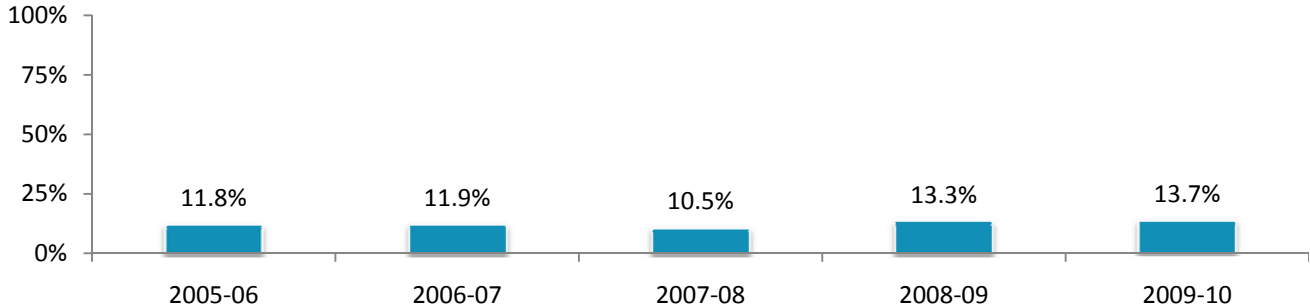
Figure 4: Percentage of English Learner (EL)¹ Students



Source: 2002-04: Applied Survey Research, *O'Neill Sea Odyssey: 2003-2004 Program Data*, 2005 (2003-04 N=1,605 students). July-Dec. 2004: Teacher/Group Leader Surveys (N=27 groups). 2005-09: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2005-06 N=2,838 students, 2006-07 N=3,239 students, 2007-08 N=4,210 students, 2008-09 N=4,678 students, 2009-10 N=4,817 students).

¹ "English Learner" includes students for whom there is a report of a primary language other than English on the state-approved Home Language Survey *and* who, on the basis of the state approved oral language (grades K-12) assessment procedures and including literacy (grades 3-12 only), have been determined to lack the clearly defined English language skills of listening comprehension, speaking, reading, and writing necessary to succeed in the school's regular instructional programs.

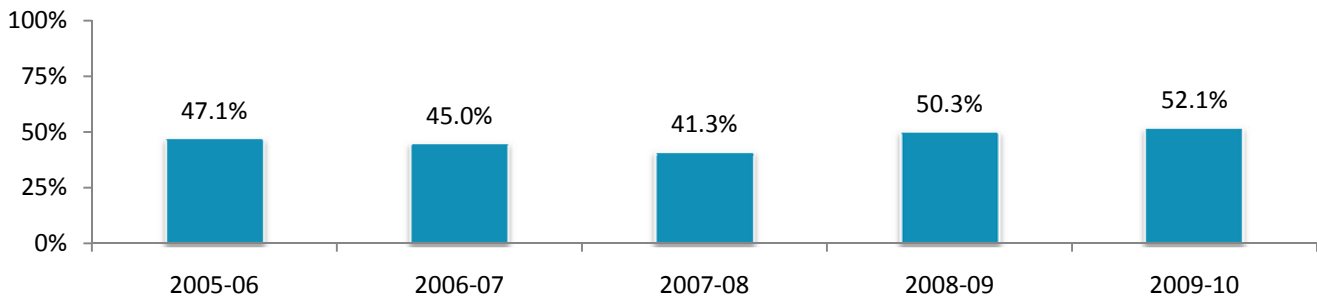
Figure 5: Percentage of Fluent-English-Proficient (FEP)¹ Students



Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2005-06 N=2,838 students, 2006-07 N=3,156 students, 2007-08 N=4,210 students, 2008-09 N=4,678 students, 2009-10 N=4,817 students).

¹ "Fluent-English-Proficient" includes students whose primary language is other than English and who have met the district criteria for determining proficiency in English (i.e., those students who were identified as FEP on initial identification and students re-designated from Limited-English-Proficient (LEP) or English learner (EL) to FEP).

Figure 6: Percentage of Students Whose Primary Language is Not English



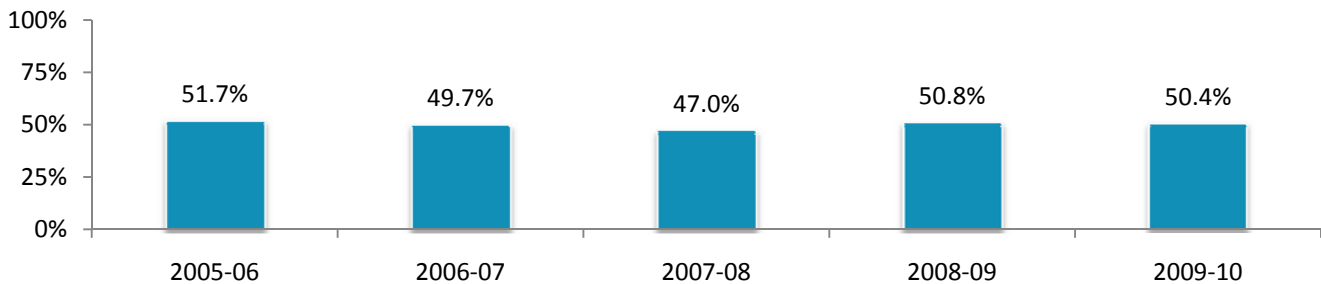
Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2005-06 N=2,838 students, 2006-07 N=3,239 students, 2007-08 N=4,210, 2008-09 N=4,678, 2009-10 N=4,817 students).

Note: This analysis combines both English Learner (EL) and Fluent-English-Proficient (FEP) students.

Free and Reduced Price Meals

Enrollment in federal programs that offer free and reduced price meals to students was used to estimate the percentage of students whose families meet the income eligibility guidelines for these programs. Based on the percentages obtained from the DataQuest database, in 2009-10, 51% of the students who attended the OSO program were receiving free or reduced price meals, which has varied little since 2005-06 (52%).

Figure 7: Percentage of Students Receiving Free or Reduced Price Meals

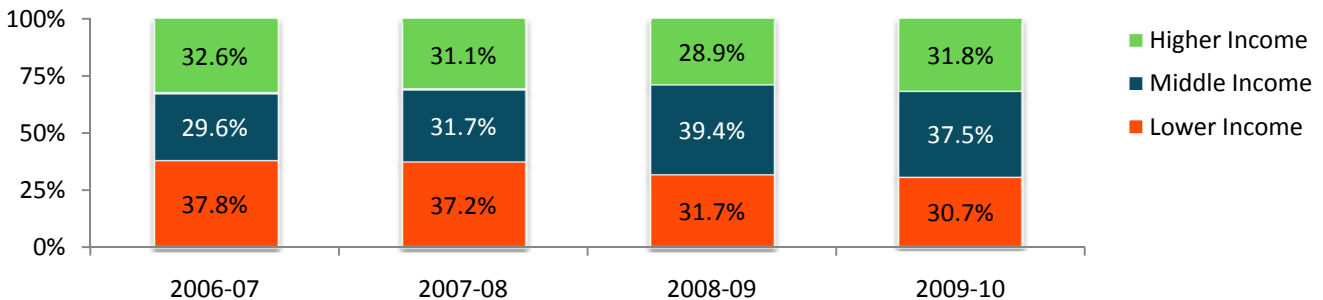


Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2005-06 N=2,838 students, 2006-07 N=3,583 students, 2007-08 N=4,210 students, 2008-09 N=4,776, 2009-10 N=4,866 students).

The OSO program aims to make its learning experiences available to students from all economic backgrounds. The economic levels of the communities from which participating groups came were estimated using the percentage of students receiving free or reduced price meals.¹ Groups with less than 1/3 of their students receiving this benefit were considered “higher income,” and groups with more than 2/3 of their students receiving this benefit were considered “lower income.” Groups that fell between these extremes were considered “middle income.”

Using this method of analysis, approximately 31% of participating groups came from “lower income” communities, 38% came from “middle income” communities, and 32% came from “higher income” communities. During the last four years, the percentage of groups from “middle income” communities has increased slightly, with corresponding slight decreases in the percentages of groups from “lower” and “higher income” communities.

Figure 8: Percentage of Groups Participating, by Income Level¹



Source: Data provided by O'Neill Sea Odyssey, collected from State of California Department of Education, California Basic Education Data System, DataQuest database (2006-07 N=135 groups, 2007-08 N=164 groups, 2008-09 N=180 groups, 2009-10 N=192 groups).

Note: Only groups that had data regarding the percentage of students receiving free or reduced price meals were included in this analysis.

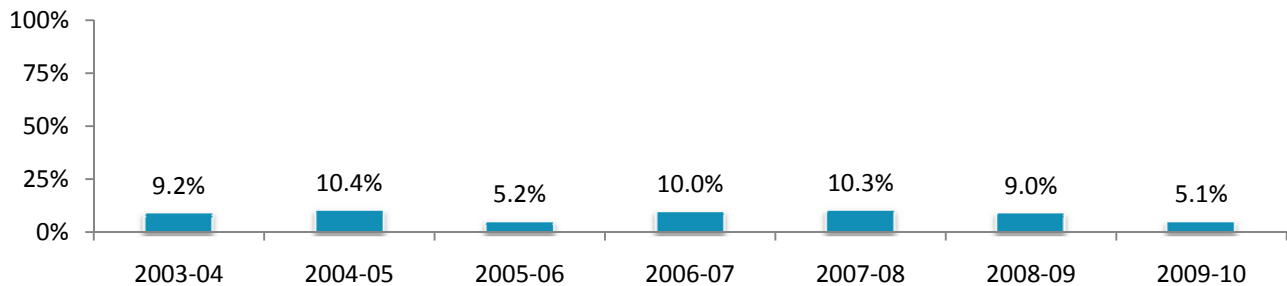
¹ Income levels of the groups were estimated using the percentage of students receiving free or reduced price meals in each group: In Higher Income groups, less than 33% of their students received this benefit; Middle Income groups had between 1/3 and 2/3 of their students receiving this benefit, and Lower Income groups had more than 2/3 of their students receiving this benefit.

¹ Only groups that had data regarding the percentage of students receiving free or reduced price lunches were included in this analysis.

Repeat Students

In 2009-10, 5% of students had previously participated in the OSO program. The percentage of students repeating the program has stayed relatively level since 2003-04, with a slight decrease in 2005-06, as well as this year in 2009-10.

Figure 9: Percentage of Students Repeating the Program



Source: 2003-05: Crew Recap data provided by O'Neill Sea Odyssey (2003-04 N=3,939 students, 2004-05 N=4,267 students). 2005-09: Data provided by O'Neill Sea Odyssey (2005-06 N=3,519 students, 2006-07 N=3,969 students, 2007-08 N=4,210 students, 2008-09 N=3,777 students, 2009-10 N=4,767).

Website and Teaching Materials Use

In 2002, OSO launched an extensive website to inform potential visitors about the program, cultivate volunteers, and encourage sponsorships. Once a trip is planned, teachers can log in to the website to get pre-trip information and documents such as a program overview, discussion of learning goals, and a teacher packet. The 52-page teacher packet includes information and activities to help prepare students for the trip, including topics on marine biology, ecology, and navigation. The “View Data from Past Trips” function on the site allows teachers and students to see, and learn, what other classes have done for their community service project.

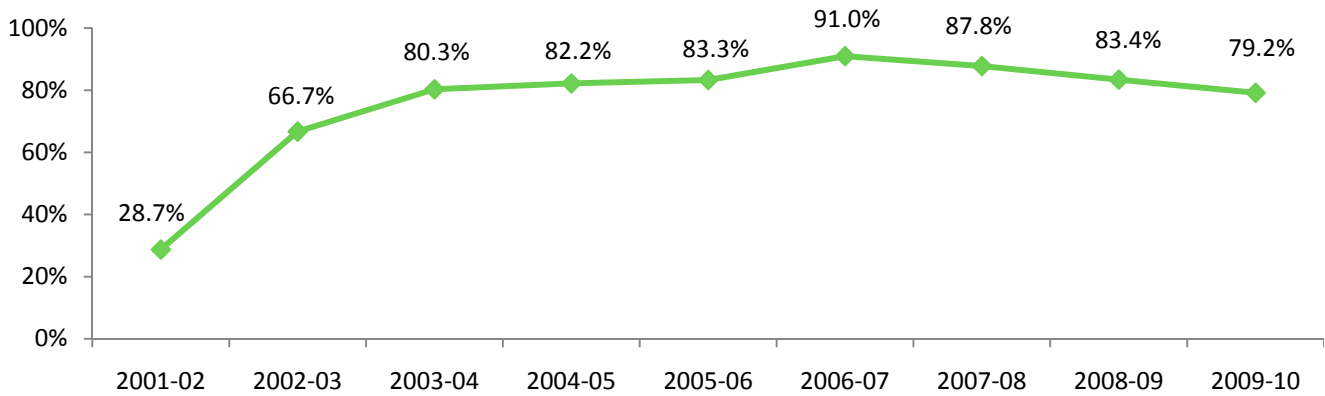
In their program material, OSO states that:

“...students who have been given an overview of their subjects before participating in the program benefit from a more in-depth educational experience.”

OSO therefore encourages teachers and group leaders to use the materials provided through the website with their students before participating in the program.

In the Teacher/Group Leader Surveys, 79% of teachers/group leaders in 2009-10 reported that they had visited the Sea Odyssey website before their trip. Data from previous years' surveys showed that there was a marked increase in this percentage between 2001-02 (29%) and 2003-04 (80%), and it has stayed relatively level since then, with a slight decrease in 2009-10 (79%) from 2008-09 (83%).

Figure 10: “Did You Visit the Sea Odyssey Website Before this Trip?” (Teachers/Group Leaders Who Answered “Yes”)



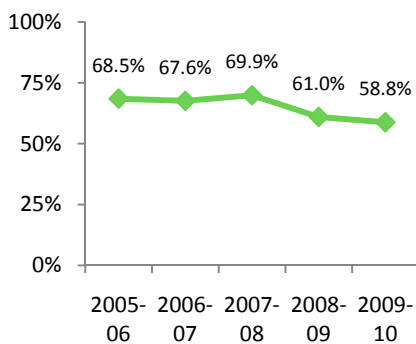
Source: 2001-04: Applied Survey Research, *O'Neill Sea Odyssey: 2003-2004 Program Data*, February, 2005 (2003-04 N=132). 2004-09: Teacher/Group Leader Surveys (2004-05 N=101, 2005-06 N=108, 2006-07 N=144, 2007-08 N=156, 2008-09 N=163, 2009-10 N=178).

Teachers/group leaders were asked additional questions about the teaching materials available on the website.

- In 2009-10, 59% of all teachers/group leaders reported that they had used the online teaching materials provided on the website *before* their trip, which has decreased slightly over the last four years.
- Almost all teachers/group leaders (97%) felt that the teaching materials enhanced the students' learning of the topics, similar to the previous years.
- The vast majority (91%) reported that they intended to use the online teaching materials in the classroom *after* the trip. This result has stayed relatively level over the past five years.

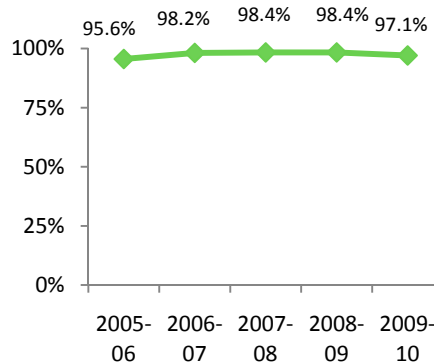
Figure 11: Use of Website Teaching Materials (Teachers/Group Leaders Who Answered “Yes”)

“Did You Use the Teaching Materials Provided On the Website Before the Trip?”



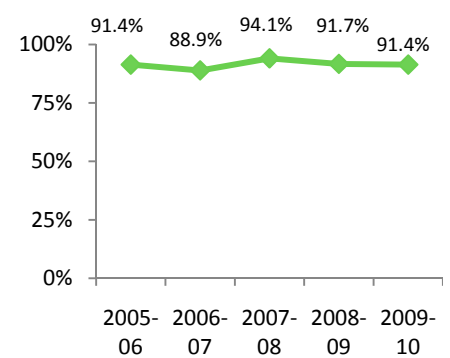
Source: Teacher/Group Leader Surveys (2005-06 N=108, 2006-07 N=142, 2007-08 N=153, 2008-09 N=159, 2009-10 N=177).

“Did the Teaching Materials Enhance the Children’s Learning of Topics?”



Source: Teacher/Group Leader Surveys (2005-06 N=91, 2006-07 N=111, 2007-08 N=127, 2008-09 N=122, 2009-10 N=140).

“Do You Intend to Use the Online Learning Center or Teacher Packet Materials in the Classroom After the Trip?”



Source: Teacher/Group Leader Surveys (2005-06 N=105, 2006-07 N=135, 2007-08 N=153, 2008-09 N=157, 2009-10 N=162).

Program Ratings

Teachers/group leaders were asked to give their feedback on the quality and effectiveness of several topics that were covered in the program. Teachers/Group leaders were asked, "thinking about the children in the group, and what was presented to them today, how much do you think the children learned from the following?" and respondents could answer "learned a lot," "learned somewhat," or "did not learn at all."

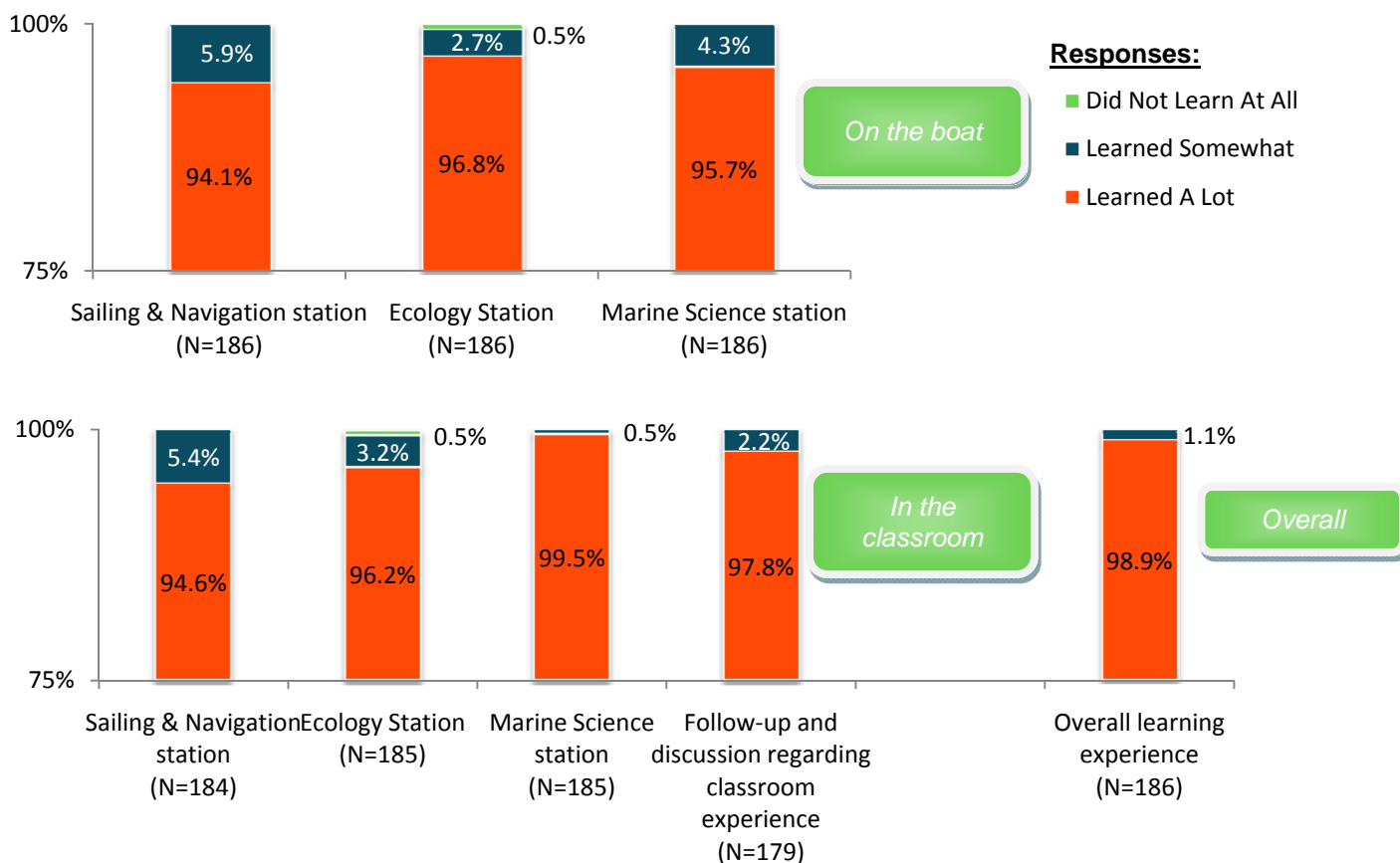
In every topic area, the vast majority of teachers/group leaders indicated that the students had "learned a lot." The percentage of teachers/group leaders who responded this way ranged from 94% to 100% across all topics.

- Of the three topics learned on the boat, most of teachers/group leaders thought that the students had "learned a lot" in the "Ecology station" (97%), closely followed by the "Marine Science station (96%)" and the "Sailing and Navigation station" (94%).
- Of the four topics learned in the classroom, nearly 100% of teachers/group leaders said that students had "learned a lot" in the "Marine Science station" and the "Follow-up and Discussion" (98%), closely followed by the "Ecology station" (96%) and the "Sailing and Navigation station" (95%).

Almost all teachers/group leaders (99%) reported that their students had "learned a lot" from the "overall learning experience," and all (100%) agreed that the presentations were presented at an age-appropriate level.

During the past six years (2004-05 to 2009-10), the percentage of teachers/group leaders who reported that the students had "learned a lot" increased in almost all topic areas. The topics that showed the greatest increases were the "in the classroom Follow-up and Discussion" (net increase of 6.8%), and the "in the classroom Marine Science station" (net increase of 5.2%). It is important to note that due to the already high ratings of these topic areas every year, it was extremely difficult to demonstrate any further improvement across years.

Figure 12: “How Much Do You Think The Children Learned From the Following [Topic Areas]?” (Percentage of Teachers/Group Leaders Who Gave These Responses), 2009-10



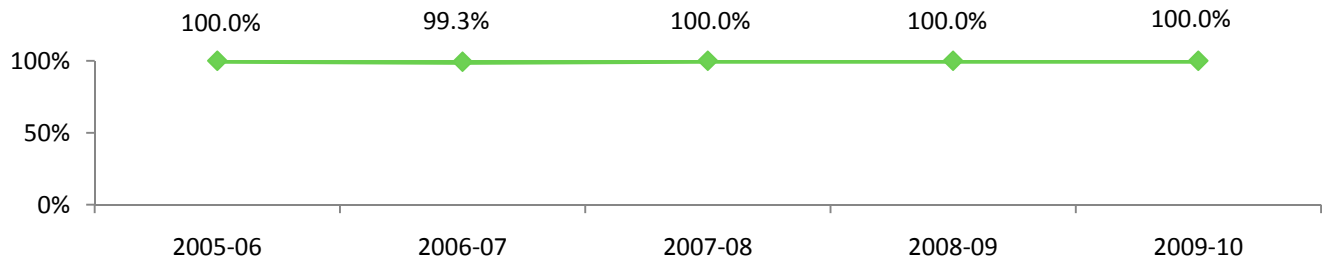
Source: Teacher/Group Leader Surveys, 2009-10.

Figure 13: Comparison of Topic Areas (Teachers/Group Leaders Who Said the Children “Learned A Lot”)

	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
On the boat						
Sailing and Navigation station	95.6%	88.9%	97.2%	92.4%	93.4%	94.1%
Ecology station	88.4%	90.6%	95.8%	97.5%	96.4%	96.8%
Marine science station	94.2%	92.7%	92.9%	99.4%	97.0%	95.7%
In the classroom						
Sailing and Navigation station	91.3%	94.4%	93.7%	91.8%	93.5%	94.6%
Ecology station	95.7%	95.4%	98.6%	97.5%	97.6%	96.2%
Marine science station	94.3%	97.2%	97.9%	95.6%	97.6%	99.5%
Follow-up and discussion	91.0%	96.1%	97.8%	98.7%	95.7%	97.8%
Overall						
Overall learning experience	100%	97.2%	98.6%	100%	99.4%	98.9%

Source: Teacher/Group Leader Surveys, 2004-10.

**Figure 14: “Were the Presentations Presented at an Age-Appropriate Level?”
(Teachers/Group Leaders Who Answered “Yes”)**



Source: Teacher/Group Leader Surveys (2005-06 N=108, 2006-07 N=144, 2007-08 N=156, 2008-09 N=163, 2009-10 N=180).

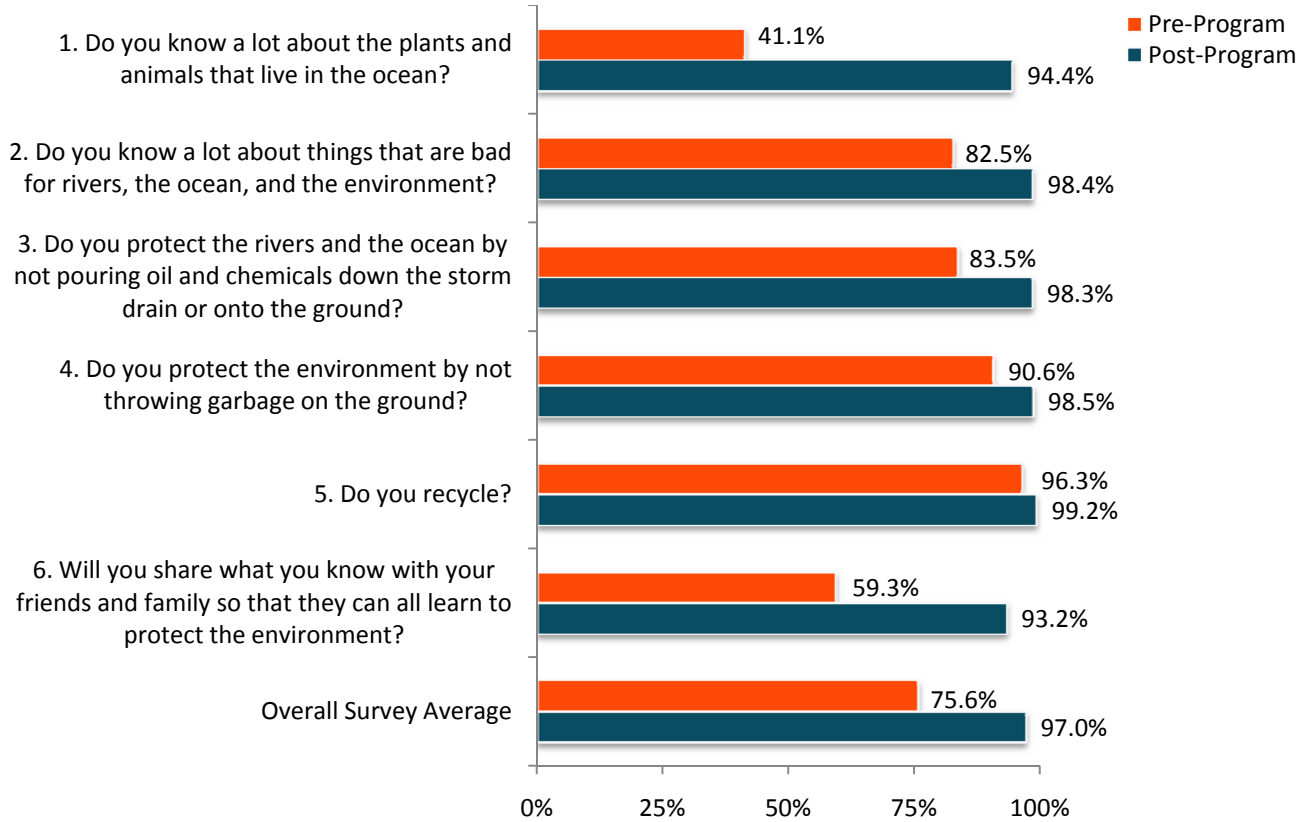
Student Environmental Awareness

The Student Survey was read aloud to the students, and was administered to them before *and* after the program. The Student Survey included six “Yes/No” questions regarding their general knowledge about the ocean, and their future behavior regarding protection of the environment, recycling, and intention to share their knowledge about how to protect the environment with others. Students were asked to raise their hands if they agreed with the questions, and the number of raised hands for each question was tallied.

The results showed that there were considerable changes in students’ attitudes toward the environment after participating in the OSO program. Before participating in the OSO program, an average of 76% of students agreed with the survey questions overall. After attending the program, this percentage increased to 97%. This improvement has been demonstrated each of the four years that this Student Survey has been administered.

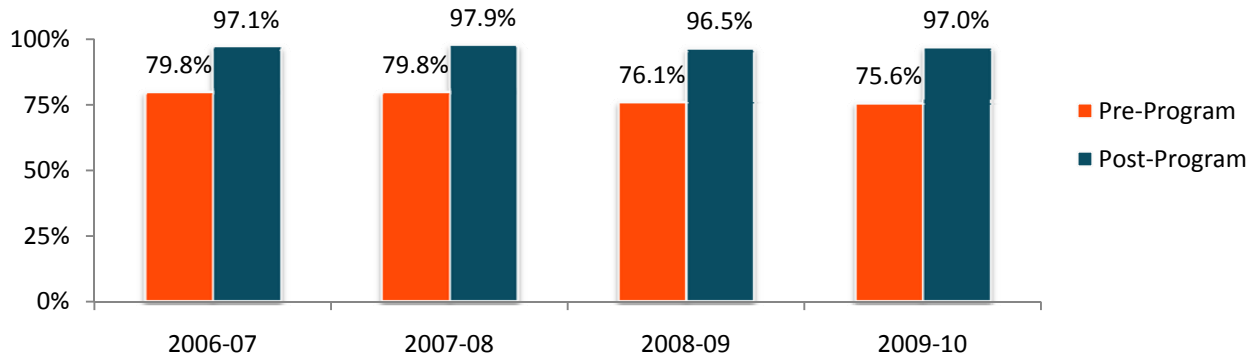
For each of the six individual survey questions, there were also substantial increases in the percentage of students who agreed with them after participating in the program. The largest increases occurred with Question 1, “Do you know a lot about the plants and animals that live in the ocean?” (net increase of 53%), and Question 6, “Will you share what you know with your friends and family so that they can all learn to protect the environment?” (net increase of 34%). Again, these findings mirror the results from the previous three years.

Figure 15: Percentage of All Students Who Agreed with Survey Questions, Pre- and Post-Program, 2009-10



Source: Student Surveys, 2009-10 (N=5,001 students).

Figure 16: Students' Overall Survey Averages, Pre- and Post-Program



Source: Student Surveys (2006-07 N=3,851 students, 2007-08 N=4,435 students, 2008-09 N=4,756 students, 2009-10 N=5,001 students).

Effects of Economic Background

The Student Survey results were also analyzed to see whether the economic background of students had any effect on their environmental awareness, both before and after participating in the program.

The first step was to determine how to identify students' economic backgrounds. As only limited information was collected about the groups attending the program, it was decided to use the percentage of students receiving free or reduced price meals as an estimate of the group's economic level. This percentage was then used to divide the groups into three "income categories." Groups with less than 1/3 of their students receiving free or reduced price meals were considered "higher income," and groups with more than 2/3 of their students receiving this benefit were considered "lower income." Groups that fell between these extremes were considered "middle income."

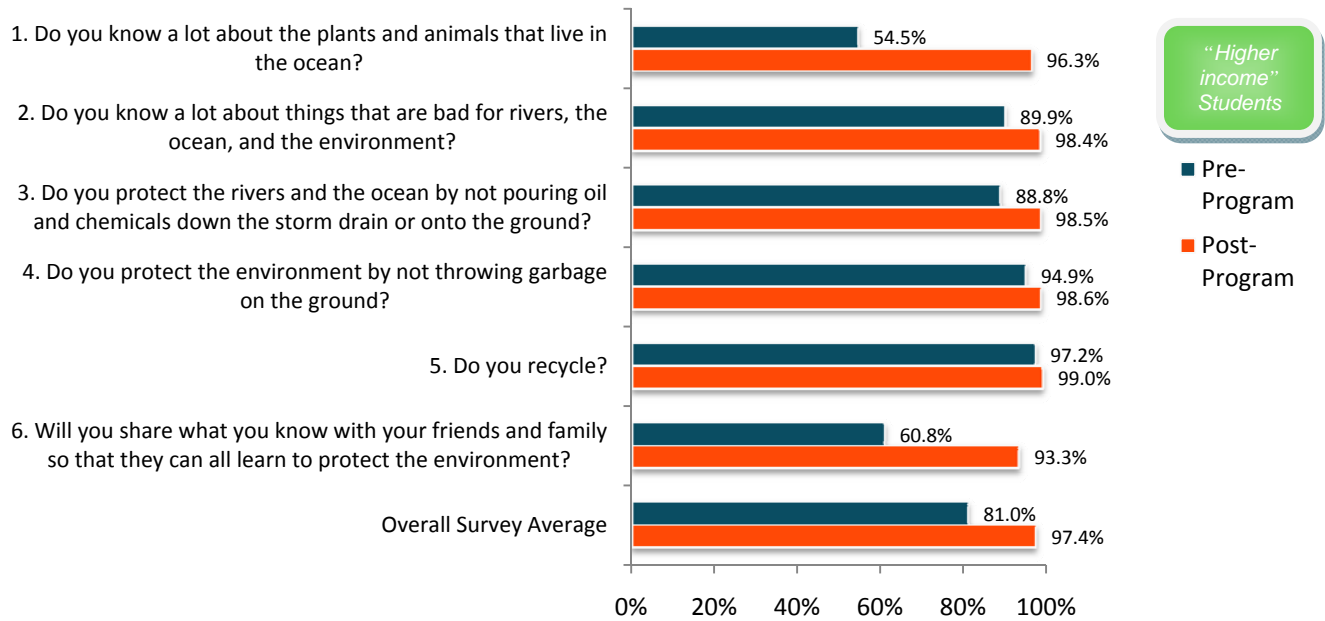
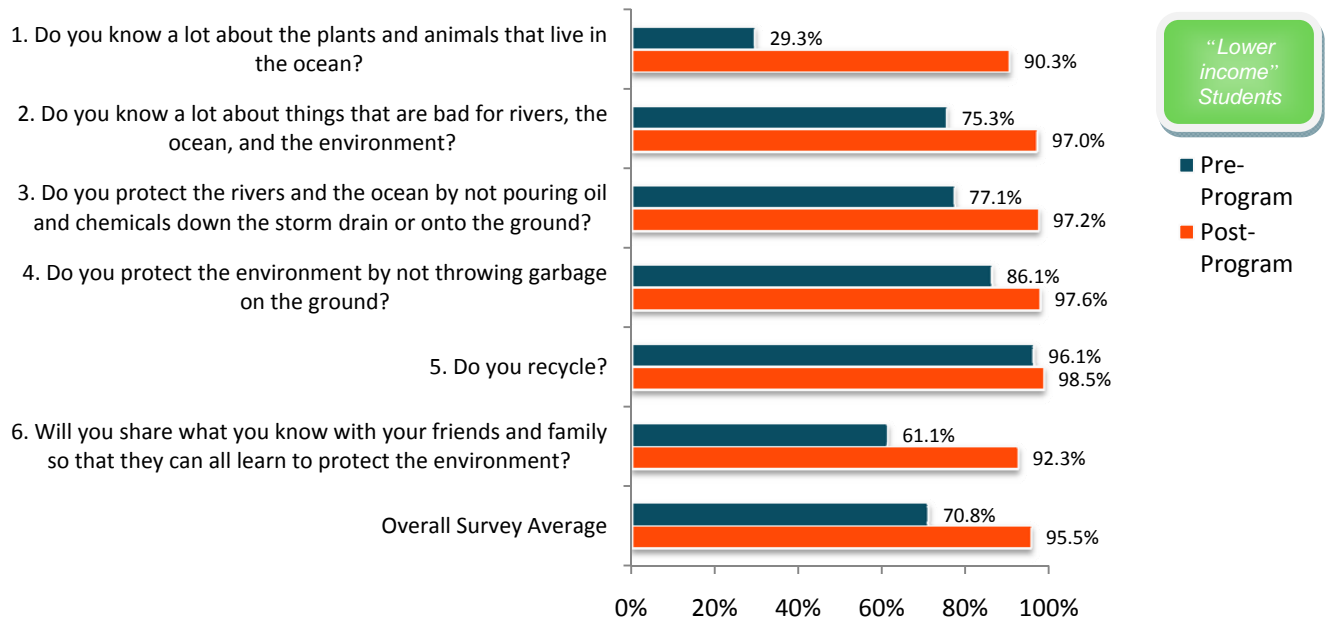
The following figures present the survey results for the "lower" and "higher income" students. When these two "income categories" were analyzed separately, both groups showed considerable increases in the percentages of students who agreed with the survey questions after participating in the program, similar to the previous analysis.

The most interesting findings, though, were the *amount of change* and *effectiveness* of the OSO program in teaching and encouraging environmentally-conscious behavior, relative to the students' economic background. Before the program began, a smaller percentage of "lower income" students agreed with the survey questions overall (71%), compared to "higher income" students (81%). However, after participating in the program, these "lower income" students *caught up* with the "higher income" students, and in both groups virtually all of the students agreed with the survey questions overall (96% and 97%, respectively).

When specific survey questions were examined, the question that showed the largest difference related to economic background was Question 1, "Do you know a lot about the plants and animals that live in the ocean?" For this question, "lower income" students demonstrated a greater amount of change between Pre- and Post-Program surveys (net change of 61%) than "higher income" students (net change of 42%).

These results indicated that both groups of students considerably increased their environmental knowledge after attending the program, with the "lower income" students showing the greatest amount of change. This year's results were almost exactly the same as the previous three years' findings, demonstrating that the OSO program is consistent in its ability to provide this environmental education in a manner that is accessible to all students. By the end of the program, virtually all of the students were reporting that they had knowledge about the ocean environment, that they would behave in ways to protect the environment, and that they would share this knowledge.

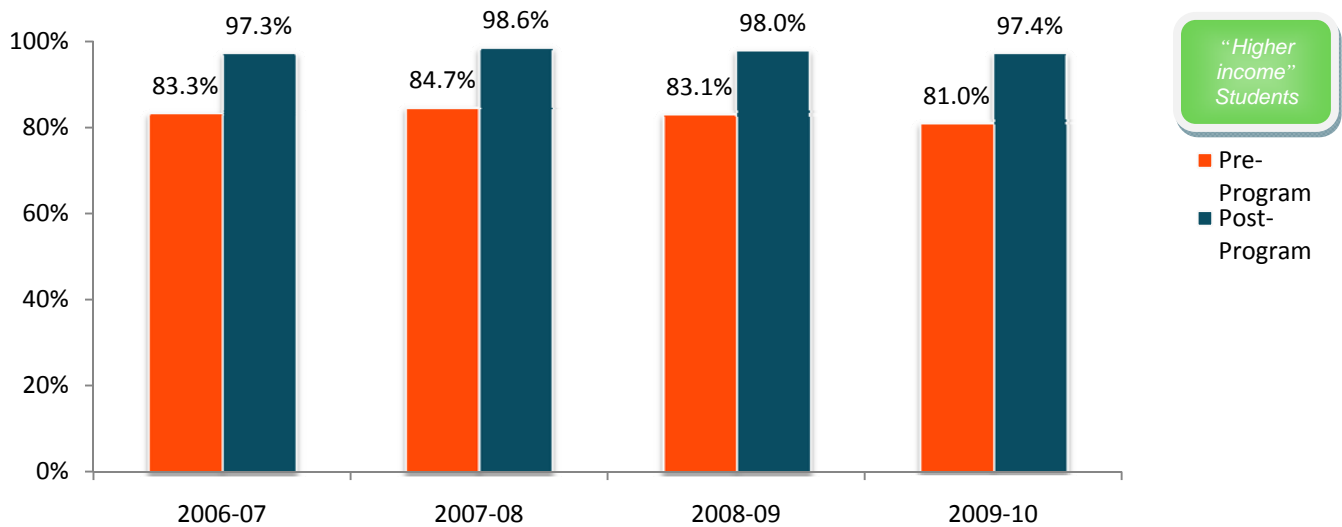
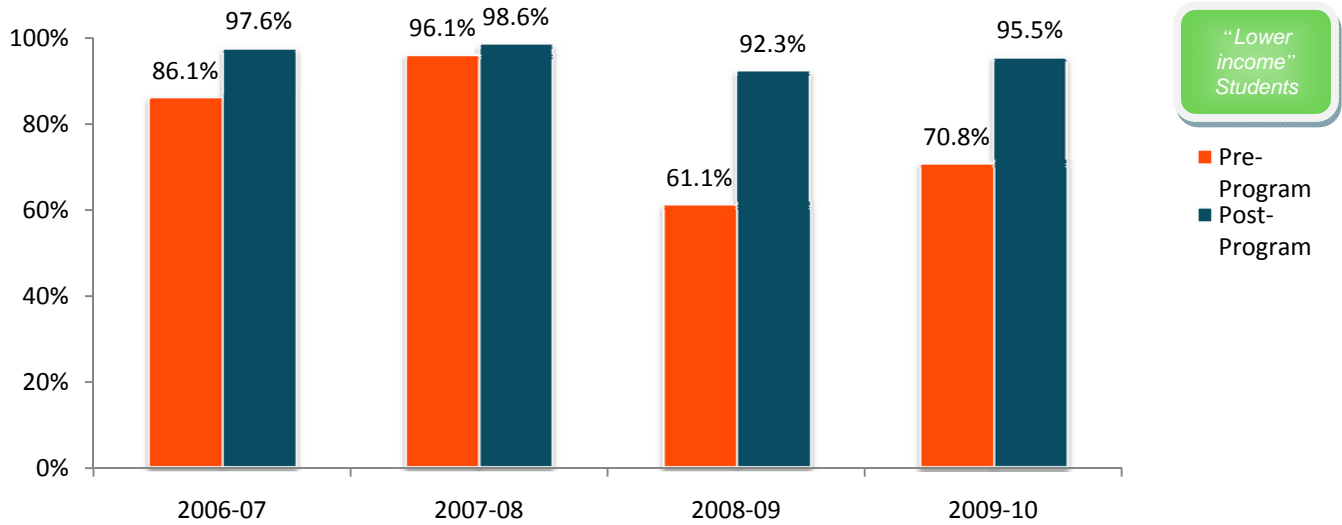
Figure 17: Percentage of Students Who Agreed with Survey Questions, Pre- and Post-Program, by Income Level, 2009-10



Source: Student Surveys, 2009-10. Lower income students: N=1,521 students. Higher income students: N=1,533 students.

Note: Only groups that had data regarding the percentage of students receiving free or reduced price meals were included in this analysis. Middle income students are not displayed in order to focus the analysis on the two extremes of economic background.

Figure 18: Students' Overall Survey Averages, Pre- and Post-Program, by Income Level



Source: Student Surveys (2006-07 Lower income students: N=1,323 students. Higher income students: N=1,195 students. 2007-08 Lower income students: N=1,616 students. Higher income students: N=1,364 students. 2008-09 Lower income students: N=1,442 students. Higher income students: N=1,373 students, 2009-10 Lower income students: N=1,521 students. Higher income students: N=1,533 students).

Note: Only groups that had data regarding the percentage of students receiving free or reduced price meals were included in this analysis. Middle income students are not displayed in order to focus the analysis on the two extremes of economic background.

Conclusions

Student Participation and Demographics

During the 2009-10 program cycle, 193 groups participated in the O'Neill Sea Odyssey (OSO) program, representing 5,166 students. The average group size was 27.

The demographics of the groups and students who participated in the O'Neill Sea Odyssey program stayed relatively the same as previous years. The majority of groups came from Santa Cruz, Santa Clara, and Monterey Counties (95%), and the vast majority of groups (95%) were comprised of students in the 4th through 6th grades. Some students were repeat visitors, with 5% of the students having been on the trip at least once before.

It was estimated that nearly half of the students were Hispanic or Latino (46%), 26% were White, and 28% were of other races/ethnicities. The percentage of English Learners (EL) was 38%, and 14% of students were Fluent-English-Proficient (FEP). When these two groups were combined, the results show that 52% of the participating students did not have English as their primary language.

Half of the students (50%) were receiving free or reduced price meals. By using the percentage of students receiving free or reduced price meals in each group as an estimate of the group's economic level, it was calculated that approximately 31% of participating groups came from "lower income" communities. Please refer to page 9 for more information.



Website and Teaching Materials Use

Most teachers and group leaders indicated that they used the website materials with their students before participating in the program, and intended to continue using them back in the classroom. Approximately 79% of teachers/group leaders had visited the Sea Odyssey website before the trip, and 59% of all teachers/group leaders reported that they had used the online teaching materials provided on the website *before* their trip. Virtually all of the teachers/group leaders (97%) felt that the teaching materials enhanced the students' learning of the topics, and the vast majority of teachers/group leaders (91%) reported that they intended to use the online teaching materials in the classroom *after* the trip.

Open-ended questions in the survey asked how teachers/group leaders used these online materials before the trip, which materials were most helpful in the classroom, if they had any suggestions for improving the teaching materials, and if they had any additional comments. The responses to these questions are available in Appendix I: Open-Ended Survey Responses.

Program Ratings

Based on the Teacher/Group Leader Survey results, the O'Neill Sea Odyssey program was evaluated extremely positively. In every topic area, the majority of teachers/group leaders (94% to 100%) indicated that the students had “learned a lot,” and all teachers/group leaders (100%) felt the presentations were presented at an age-appropriate level. Almost all of teachers/group leaders (99%) reported that their students had “learned a lot” from the “overall learning experience.”

Student Environmental Awareness

The Student Survey showed that there were substantial changes in students' environmental knowledge and behavior after participating in the program. Before participating in the OSO program, an average of 76% of students agreed with the survey questions (indicating that they knew a lot about ocean plants and animals and behaved in environmentally responsible ways), which increased to 97% after attending the program.



The Student Survey results were also analyzed to see whether economic background had any effect on students' survey responses. Student groups were divided into three income levels (lower, middle, and higher) and the “lower income” and “higher income” groups' survey responses were analyzed.

There was a considerable difference between these two groups in the *amount* of change that occurred between Pre- and Post-Program surveys. Before the program began, a lower percentage of “lower income” students agreed with the survey questions overall (71%), compared to “higher income” students (81%). However, after participating in the program, these “lower income” students *caught up* with the “higher income” students, and in both groups the vast majority of the students agreed with the survey questions (96% and 97%, respectively).

These results indicate that both groups of students substantially increased their environmental knowledge after attending the program, with the “lower income” students showing a greater amount of change.

Summary

Overall, the program was very well-attended by the target population of students, the program materials were frequently used, and the program was very highly regarded by teachers/group leaders. In addition, Student Survey results suggest that the OSO program succeeded in bringing all students to a higher level of environmentally-conscious behavior and knowledge despite some factors (such as economic background) that may have limited how much environmental awareness a student had before attending the program.

Appendix I: Open-Ended Survey Responses

12. How did you use the web site Learning Center or teacher packet materials in the classroom before the trip?

- 4 days science class completed packet
- As orientation
- Assigned as classwork and homework, connected with other online activities I found, ocean jeopardy
- Assigned research to kids before the trip
- Background knowledge for students
- Background reading, crossword puzzles
- Boat picture—parts of a ship; food chain wordsearch. Crosswords as vocabulary development
- Brief prep
- Build background information, learn to identify boat parts
- Coordinated our study of maps, etc with your curriculum
- Covered vocab, discussed ecology and biology we studied on land to compare it to trip
- Created PowerPoint presentation for our class from former trips and the website
- Didn't have password to get access
- Discussed plankton, phyto vs. zoo, discussed food web and read about Monterey Bay animals to create food web
- Discussed vocab from each content area/word searches/interpretive walk questions
- Discussion—we talked about our beach cleanup day, how to responsibly take care of recycling and littering
- Discussion of what to expect-3 areas of focus
- Discussions in class and homework/classwork materials. Discussed vocab and key terms
- Downloaded the PDF file. Excellent materials!
- Downloaded worksheets and lessons
- Each week I focused on one of the 3 areas with a homework packet and in-class activities
- Excellent! There were many great resources and activities
- Explored each segment of the teacher materials and watched related videos
- Familiarize students with main ideas, vocabulary, illustrations
- Follow up activities and writings for literature read in class. Enrichment activities
- For classroom materials and glossary
- For vocabulary, reinforce ecology unit and to show students what we would be doing
- Front loading the basics of marine food chain. Water shed lesson
- Fun trivia, passed out some handouts
- Gave parents web address to check it out
- Gave students packets from site and had them work in groups. Reviewed as class.
- General info
- Go over the stations, brief intro and use in Oceanography class
- Go over vocabulary—We will use the rest as follows
- Guided learning, discussion, group/partner work, spelling lessons

- I'm not their science teacher, so didn't use them
- I actually connected it with a hyperlink to my website: www.vinehill5th.com
- I am a sub for the actual teacher and not sure what he did/didn't cover
- I chose a few of the worksheets as an overview/pre-trip activity
- I didn't get to it this year
- I front loaded with vocabulary and I will follow up with worksheets to check understanding
- I handed students a 4 page packet that included the debris in the sea, seaweeds, watersheds and sailing terms prior to the trip— we discussed marine biology as well
- I integrated some materials into lessons and others we preformed as is
- I presented basic info on the 3 topics- this is a GATE Enrichment after-school class
- I projected some of the materials directly from the teacher packet on my computer.
- I showed them what they'd be doing and we talked some about pollution
- I talked to students about what they needed to prepare for the trip and what they would learn
- I used it to build background knowledge before the trip
- I used the website to frontload vocabulary and material before they come
- I used them to create a PowerPoint and students did many of the activities to introduce concepts and vocabulary
- I went over the different things that they could learn
- Information re: plankton
- Just for background information
- Just to get the rules
- My class was able to use the packets for enjoyment and homework info
- n/a- I teach language Arts/Social Students
- No but I plan to use them after. We are behind in our science curriculum this year
- None- used fieldtrips as frontloading
- Not as a classroom, we do not have computer lab time.
- Not as much as I should, pretty much let the science teacher teach about plankton and ecology
- On the smartboat whole class lessons
- One teacher used the information to create a PowerPoint presentation
- Our science teacher planned her lessons around them
- Our science teacher reviewed and discussed this trip and the materials. She's been on this trip before
- Our science teacher used them
- Our trip was at the very end of the year which made it hard to use the materials-but we did similar things learning activities earlier in the year. I will be planning ahead if we repeat the trip and make better use of the materials
- Overhead of boat, whole class instruction on pollution and ecology, independent packets, vocab
- Packet: plankton, seaweed; website: stations pages and questions
- Partner reading, individual reading, group recap
- Plankton activity, food chain
- Plankton worksheets—to discuss vocab
- Previewed some vocabulary with students prior to trip
- Printed out teacher's packet and worked it with kids

- Quick intro
- Review of habitats and animals
- Review vocab and boat terms. Review on plankton, ecosystems
- Reviewed expectations with class, taught food webs, interdependence, and environment stewardship. Participation in 3 beach clean-ups and taught about pollution
- Reviewed the material as a class and had them work individually and in groups for activities
- Reviewed vocabulary, did some worksheets in order to prepare
- Saw what was in text book and movies we have at school and use that material that relates
- Science lessons
- Shared pictures to the class
- Showed the video of plankton
- Showed video and pictures of the boat and trip
- Some background information lessons
- Some of the worksheets are incorporated into our study of open ocean
- Some students looked at the web site pictures before we came
- Some were discussed with their science teacher to present some topics
- Some worksheets were used
- Sorry, got busy
- Sorry, I didn't get to this
- Talked about ecology, latitude, longitude, compass, sea chart and food chain
- Talked about in class. From other trips
- Talked about kelp and food chains and the Monterey Bay in general, Used handouts on these from website
- Talked about key terms for each station, did fun learning activities such as crosswords, food chain sheet, word searches to reinforce learning from discussions.
- The packet was used in an Earth Science class over a three day period
- The school science teacher used some of the materials in her instruction
- The science teacher used it
- The students do have background knowledge learned in science lan and Biosite experiences
- The students used the packet to learn about plankton and marine ecology
- This year we really didn't have time to work with the materials before the trip but usually we do
- To build excitement, to introduce key vocabulary
- To pre-load the kids
- To prepare for the trip
- To prepare myself
- To review marine biology concepts
- To show pictures, virtual tour, explain classes
- Unsure, the science teacher prepared them
- Used the labeled picture of the boat and longitude and latitude worksheets
- Used vocabulary words for spelling and definitions
- Visited the website but didn't use the materials
- Vocab and rules

- Vocab, spelling list, discussions, worksheets
- Vocabulary development
- We colored the kelp forest picture and talked about our bay's ecosystem used vocab sheets
- We did a unit on Marine Biology and kelp forest ecosystems
- We did not get much of a chance...too many other things for CA testing
- We discussed kelp, sea otters and plankton. I showed them short clips on each and then we wrote an essay
- We discussed the vocabulary and drew pictures and diagrams. Still have more to do.
- We explored the website so the kids would have an idea of what they were doing. I used it to plan. We used the packet to review vocabulary
- We had discussions about Earth conservation, the ocean and ocean life
- We have a dedicated "Ocean Week" program in April that prepares and educated our students before arrival
- We have a smartboard and used the materials whole group and as an interactive set of activities
- We have an oceanography class for 8 weeks—2 hrs per week. This teacher works to bring in your material
- We learned about some of the marine animals that we anticipated to see. We also discussed environmental concerns.
- We studied plankton, kelp and ecology using your packet and will follow up with the rest in the coming weeks
- We studied the ocean using the MARE curriculum
- We studied the water cycle/ocean/conservation before coming
- We talked a lot about food chains/webs in the ocean. Producers/consumers/decomposers. We went over sea animals and their roles in the coastal ecosystems
- We use them after our trip to refresh our memory
- We used copies of the creatures from food chain to show primary producers, primary consumers, etc. We also classified phytoplankton and zooplankton
- We used many activities in class (and background information, too)
- We used the early matching activities/food chain, etc
- We used the navigation packet
- We viewed a plankton video, studied marine mammals, read aloud about the ocean giants, completed all your handouts
- We went over the 3 packets: Navigation, Ecology and Biology
- We went over vocabulary and main concepts of Marine Biology; did activity pages
- We wrote about different animals found on the Pacific shores
- Went over ideas in class throughout the year
- Went over info from previous years as well
- Went over vocabulary, food chain activity and nautical terms
- Whole class teaching and discussion

13. Please describe which materials were the most helpful in the classroom.

- All—vocabulary terms were very useful, food webs/chains also.
- Activities-plankton (phyto vs. zoo), latitude/longitude, food
- All internet worksheets
- All materials in the packet gave valuable information
- All of it was educational and interesting. The kids seemed very involved
- All of the above
- All of them
- All the above
- All were very helpful. My students will use the concepts throughout life. Thank you!
- All!
- Allowing students to see some of what they will experience and why
- Appreciated some of the ready to go lessons
- Basic info, parts of the boat
- Charts, printable resources
- Definitions crossword, plankton matching
- Definitions of words
- Diagram of the catamaran, zooplankton/phytoplankton watch kelp word search
- Diagrams/puzzles
- Each of the packets was fantastic
- Ecology and Marine Biology terms
- Ecology and Marine Biology: Both more familiar with students prior knowledge
- Ecology website, food chain
- Ecosystems, and pollution and solutions
- Every piece of material that was hands on and visual, which means just about everything!
- Food chain worksheet, handouts
- Food web info
- glossary/terms
- Great lessons
- Hands-on experience
- Haven't used any but we'll do some follow-up on Monday
- I've reviewed the packet and plan to re-enforce your lessons back at school
- I don't teach science, but I know that the kids science teacher is planning follow-up lessons
- I just used a few worksheets/put plan to use more as follow-up
- I used the packet— students gained a lot of valuable information
- I would use the materials to support the curriculum
- Microscope
- Monterey Aquarium video
- More of this to come
- Navigation
- Navigation, Ecology and Biology
- Navigational terms, etc. All very relevant
- Not sure—I am their social science teacher
- Not sure
- Packet—Spanish/English terms
- Packet helped review ecology and introduce nautical terms
- Packet of worksheets
- Packet/website
- Packet
- Pictures and info of O'Neill Sea Odyssey boat/local animals' photos. Info on otters and their value to the local ocean ecosystems
- Pictures/glossary/matching activity/food web
- Plankton match and type worksheet, Navigation Guide
- Plankton worksheets
- Plankton worksheets, definitions, seaweed, ecology
- Plankton worksheets, navigation worksheets
- Plankton/kelp forest/ocean debris
- Puzzles and comprehension sheets
- See #12
- Sorry, I didn't get a chance to discuss with him

- Students able to have hands on made the concepts tangible
- The above described
- The food chain activity, vocabulary, activity pages
- The navigation materials are great because I have absolutely no idea on how to present this to my students
- The navigator biology, and we included a geography unit
- The packet-activities
- The packet telling us what to expect and how to prepare
- The packets were very nice. Really like Spanish/English translations
- The page saying what to bring
- The plankton material. The vocabulary lists are also very helpful.
- The sections giving an overview of the three topics of study with vocabulary was very helpful
- The students like knowing what to expect so the description portion
- The visuals were great
- The web itself was very helpful
- The whole packet
- The worksheet for students
- They are all very helpful
- Unknown—I wasn't the person doing it
- Urban Runoff model is directly related to being a responsible steward of the land
- Videos were useful in showing what it would be like
- Visuals/information and actual data
- Vocab list, worksheet for navigation, lit lists, and website resources
- Vocab navigation grid
- Vocab wordsearch
- Vocab worksheets and flash cards
- Vocab, pictures of plankton and food webs
- Vocabulary
- Vocabulary and wordsearch, video online and crossword
- Vocabulary sheets and food chain cut outs, longitude/latitude paper
- Vocabulary word definitions
- Vocabulary, Activity Pages
- Vocabulary, cut and paste food pyramid
- Vocabulary, food web, navigation
- Vocabulary, overview of program
- Vocabulary, various activity sheets
- We'll use some of the materials to assess what we learned in addition to some poetry
- We've only used the navigation, but it was all great
- We only used the packets, but they were very helpful!
- We use a lot of the plankton activities and sanctuary info
- We enjoyed the phyto/zoo plankton handouts the most
- Website
- Will get back to you on that after we use them
- Word searches, food pyramid
- Word searches, info sheets, cut and paste activity
- Worksheets
- Worksheets, activity ideas

16. Do you have any suggestions for improving the teaching materials?

- A challenge can be the new vocabulary presented. It can be hard for English language learners: No real suggestion, just a comment
- An additional page of latitude/longitude exercises, finding points on land and recording lat/long
- Everything is great
- Everything is outstandingly well-organized and useful for students learning
- Everything was very interesting and appropriate for 5th graders
- Excellent curriculum!
- Give them a fish list (what to eat and not to eat) when leave ecology station
- Great enthusiasm! No improvements needed!
- Great materials, great resources to continue studying
- How about a link to a website that has a "Jeopardy" type game to teach vocabulary/terms/other introduction
- I only wish there was more time. I missed the 2 days before the trip due to a car accident, but I devoted 1 day to preview.
- I think what you do and how you do it has a huge impact on students and hopefully parents etc
- I truly like what you have!
- I was not able to print out the PDF file, but that might be my own software problem
- It is a great program, we are very lucky to have this resource
- It is excellent. We appreciate the experience.
- It would be great to have time for them to share their community projects with you!
- Keep going!
- Keep up the fantastic work!
- Many of the vocab activities were too advanced for English language learners
- Maybe a CD/Video with concepts
- Maybe a diagram of bioaccumulation on the whiteboard
- Maybe some interactive/online resources would be great
- More pictures of the boat and classes so the parents can understand better what this is all about
- More time for questions and answers
- More visuals (chart, kelp, net, etc) perhaps at the deck before for language learners (I have 35% limited English)
- More visuals/manipulations/posters to display in classroom
- No
- No, everything was great
- No, they were great!
- No... everything is wonderful
- No—great day
- No—great!
- None
- None, they are great
- None—more than enough information. Perhaps more photos (illustrative) Suggestion: Download ship's pictures (students as captain) and burn to a CD or send them as a zip file to teachers' email
- Nope
- Not really, they are great
- Not yet.
- No—they are so informative and useful
- Perhaps adding a quick orientation PowerPoint presentation
- Perhaps some more advanced worksheets for the older kids
- Possible to include more educational videos?
- Possibly develop interactive games, instruction, etc
- Scaffolds for triangulation
- Teaching games are always great
- The materials were great for middle school
- They used the teaching materials in science, so I am not sure. Maybe website links or video links?
- This is great

- Turn and talk engages students- having them talk to each other about questions, observations, etc
 - Websites that give similar information
 - Will send later if I think of any. We love this
 - Worksheets with instructions and activities
- You guys are amazing!
 - You guys have a fabulous trip going on for kids
 - Your lessons and teachers were terrific
 - You're doing a fine job

17. Do you have any additional comments?

- A fantastic trip as always and thank you for being accommodating and patient. This trip is one students look forward to and talk about all year
- All of you were really great teachers and explained so clearly! Sometimes, some students got called on to volunteer by the different teachers. Perhaps you could ask, who has not volunteered yet? Just a suggestion. Everything was really awesome.
- Always great and educational
- Amazing experience and the kids loved it and so did the adults!!
- Amazing experience that these kids will never forget. SO educational and fun. Everyone did a fabulous job!
- Amazing experience for the children and adults too!
- Another outstanding visit. The staff is knowledgeable and effective with behavior management. Very motivational presentations
- As always, the guides were instructive, "kid-friendly" and wonderful. Thanks for another great time!
- As usual, the children learned more here in 3 hours than I could teach them in 2 weeks— and they'll remember this!
- Awesome field trip, gets better each time I come
- Being my first experience with Sea Odyssey, I think my students have definitely learned important information that they will be able to utilize in their everyday life. Can't wait to come back.
- Call on the ones who don't/won't always raise their hand too
- Did not receive teaching materials before the trip
- Even though students were not able to go out onto the ocean-it was a nice experience on the boat
- Everything was wonderful and appropriate for this age. Thank you for the time you put into this program—I will recommend this to others.
- Everything was great! Thank you!
- Excellent
- Excellent instructors!!
- Excellent job, thank you!
- Excellent presentations! Thank you!
- Excellent service to our children, a once in a lifetime experience for these low-income kids
- Excellent trip—appreciated the integration and relevance to ecological issues
- Excellent trip and very educational great balance of fun and education
- Excellent!
- Extremely well organized presenters communicated with and handled students very well! Bravo! If it were a movie, I'd give it four stars, the pictures were great! A great program!
- Fabulous trip! Thank you for all you do!
- Fantastic job, thank you!
- Great day/super docents! We loved this!
- Great experience for kids, but some of the instructors do sound like they're bored with repeating the same info over and over
- Great experience! We want to come back!
- Great group leaders
- Great job!
- Great presentation! Thank you for sharing so much important information with us!
- Great Presentation! Your knowledge and presentation of the material was outstanding- very professional. I really appreciate the professionalism of the staff and the way they interacted and related to the children. Their responses to the variety of questions proposed to them by the students were right on and appropriate. This was a very positive experience!
- Great program—excellent classroom lessons
- Great program with knowledgeable and passionate instructors

- Great program!
- Great trip-thanks
- Great trip!
- I'm extremely grateful for this program
- I am always impressed with the instruction, knowledge and professionalism of the staff. This was another super trip students will always remember—thank you!
- I am extremely impressed with your program and presenters!
- I appreciate that you have made the instruction more challenging, makes them think!
- I appreciate the shifts made by Laura and Isaiah as spontaneous moments occurred (buoy and sea otter) in the middle of their lesson
- I appreciate you making all the work the students do in math and science alive and practical
- Instructors were very knowledgeable and had a great management. Thank you!
- It was a wonderful learning experience for the students
- Just a huge thank you! The staff was great with the kids. The hands-on classroom learning was awesome!
- Just still an extraordinary experience. Don't change it!
- Just wonderful!
- Keep doing this it's so great for inner city kids
- Keep up the great work!
- Love it here! Stuff is wonderful!
- Love this program! Well structured, friendly staff, valuable information—very worthwhile! Thanks!
- Loved it! I can't wait to sign up again next year, the staff was amazing!
- Loved it! Thanks so much for being so patient and positive with all types of learners
- My students had a blast
- No—wonderful time
- No! Great trip! Thanks!
- O'Neill Sea Odyssey should become part of school curriculum—it makes a huge impact; students have fun while learning science and learning how their behavior impacts our surroundings. Thank you for making such a great trip available to students, it was enlightening and students learned new information.
- On the THE BEST fieldtrips I have been on in my 10 years teaching. The first hand experience totally connects with what they learned in class. All three O'Neill teachers very knowledgeable of subject area and worked great with kids.
- Outstanding as always! Thank you!
- Perfect as always!
- So Great!
- Students love the experience
- Talking at a class with 95% ELLs doesn't help them learn. The instructors who asked questions of the students got more participation and prior knowledge to build on than the one who lectured them on habitats
- Teachers were excellent! They were knowledgeable about their subject area, but also very well versed in the art of teaching sixth graders! Thank you for this amazing opportunity, my students and I will be better people because of your program!
- Thank you
- Thank you for a great trip! Next time, hopefully, the waves will be smaller
- Thank you for a well-organized and informative trip. All leaders were well prepared, friendly and did a great job at all stations
- Thank you for all the important information to help our community and world
- Thank you for all your hard work! You're helping our future generations understand the world!
- Thank you for an amazing experience. My students gained so much from this rich life experience
- Thank you for another great experience

- Thank you for another great learning experience
- Thank you for continuing to educate, support and engage our youth about their "backyard"
- Thank you for everything! Our students will probably never get this opportunity again! It is priceless!
- Thank you for everything!!
- Thank you for making this outstanding experience available to our students. Hopefully they will take the lessons learned today to their everyday lives. We will incorporate this field trip into our spring time unit raising steelhead trout as part of the MBSTEP program
- Thank you for the best field trip in my entire teaching experience!
- Thank you for the opportunity
- Thank you once again from a landlocked school!
- Thank you so much for providing this experience for our students who generally come from economically challenged families. You guys are so special!
- Thank you so much for this exciting and meaningful opportunity
- Thank you so much!
- Thank you so much!
- Thank you so much! This is the highlight of the year
- Thank you so much! We all enjoyed it immensely!
- Thank you so much! You are all so hardworking and knowledgeable!
- Thank you so much. There was a lot of academic language, "big words". Maybe ask the kids to say them when/after you say them
- Thank you very much this was an exciting and educational trip for my students, I will recommend this field trip to all my colleagues!!
- Thank you!
- Thank you!
- Thank you!
- Thank you!
- Thank you! I know it must be difficult to teach when we don't get to go out of the harbor. Wish the kids were able to be on the net a bit longer before starting the boat lessons
- Thank you! It was a great experience!
- Thank you! The kids talk about this trip even the next year and year after
- Thank you! We had a wonderful time!
- Thank you!! Excellent program
- Thank you!! Your whole team is outstanding! Thank you for working us in! What a great memorable day!
- Thanks again for all you do!
- Thanks again for an amazing experience
- Thanks as always
- Thanks for a great day!
- Thanks for a great experience!
- Thanks for adapting to needs/requests - staying on deck (weather). Kids enjoyed the trip!
- Thanks for adjusting the program for our lateness!
- Thanks for another great experience!
- Thanks for great exposure
- Thanks for taking us out even though the weather was bad
- Thanks for the great day! So much information in so little time.
- Thanks for this opportunity for our students to see up close their investment in their local environment.
- Thanks for your great organization, structure
- Thanks so much—great field trip
- Thanks so much, teachers are great with kids and we all had a blast!

- Thanks! Great day!
- The boat experience was fabulous and all three demos were fun and engaging! And great hands-on activities
- The experience was fantastic—your staff is really knowledgeable about the curriculum. They are also kind and friendly and made the information accessible to all students
- The only reason I put "Learned somewhat" for the navigation stations was because it is complicated but I do feel they have a good general knowledge/familiarity then before
- The Sea Odyssey is a wonderful experience, thank you! The instructors are good at what they do!
- The skills focused on tie directly in with our state standards. This is absolutely amazing experience and a lifetime memory created for our student who might not ever be exposed to such an incredible learning experience! Thank you so much
- The staff are great—so knowledgeable, and so great with the kids
- The watershed model is an excellent visual to reinforce classroom learning. The charts and microscope view are both great follow-ups too
- This chance to be on the ocean and have hands-on experience was invaluable. Many thanks. We had a great time.
- This experience is so powerful and useful. Not only was I educational, it also allowed city students, who do not have access to the ocean to have the chance to see, feel, and learn how to protect the ocean and beach. The teacher delivered the content in an age-appropriate way. We loved it!
- This experience really motivates the students to pick up trash and recycle
- This is a fabulous experience for children and chaperones. Thank the funders and applications for 2010-2011 school year will arrive online immediately!
- This is a wonderful educational experience for our students!
- This is a wonderful program it teaches so many important concepts in a hands on way for the students. Colin, Adam and Lauran did a wonderful job to get hard concepts across to students. Thank you!
- This is an amazing program. Thank you so much! Thank you for rescheduling as well! You are all amazing!
- This is my 6th class participating in the O'Neill Sea Odyssey program. I value the emphasis and focus on plastics education that has developed over the past few years. As always, the trip was very educational, hands-on, interactive, experiential learning for all involved (students and adults alike). For many students, this was their first time ever on a boat!
- This is the best fieldtrip
- This is the most exciting, engaging, hands on field trip ever! Thank you!
- This program is a wonderful learning experience for everyone. I feel so fortunate we were able to participate
- This was a fantastic program and my students learned a lot! In fact, I learned a lot too! Thank you!
- This was a great field trip. The parents and the sub teacher were very impressed with the whole program
- This was a great trip! Thank you!
- This was fun- thanks!
- This was the best experience for these students. They were very happy and engaged the whole time. I will definitely do follow up with their learning on this trip
- Thumbs up!
- Very age appropriate
- Very well-organized. The group leaders worked very well with the students
- We absolutely loved this trip—we have some budding young marine biologists. Thanks for such an amazing opportunity!
- We are grateful for this learning experience; the students are highly motivated and interested in further study. They respond so well to being considered as budding marine scientists. This is by far the best field trip we have ever been part of. Thank you so much for all that you do, and God Bless Jack O'Neill.

- We love this program!! You are all amazing—knowledgeable and great with the kids
- We loved it as usual. We're glad you are still in operation
- We will do many follow up lessons and art lessons
- What a great experience—it was so wonderful to watch the kids and parents find their sea legs. Most of my students have never been on a boat, I think people don't appreciate what they have until they get to experience it!
- What an outstanding program! My students learned a lot and left inspired to learn more and care for the ocean environment. Thank you!
- Wonderful experience, fabulous staff, fact filled fun! Thank you!
- Wonderful program! Thank you!
- Wonderful!
- Wonderful! Thank you so much!
- Wonderful, thank you!
- Wonderful, thanks!
- You're fantastic!
- You are all awesome
- You are all so incredible! Your program is so valuable! Thank you for all that you do to help with the children's future and interaction with the ocean!
- You guys are awesome! Thanks!
- You rock! We are so lucky to have you, thank you so much!
- YouTube is blocked through district

Appendix II: Survey Instruments

Teacher/Group Leader Survey

Teachers and group leaders were asked to fill out a short survey after attending the Sea Odyssey program. Earlier versions of the Teacher/Group Leader Survey were administered in previous years and were refined to reflect the significant topics of interest. The current version has been used since the spring of 2006.

Teacher/Group Leader Survey

School _____ Date: _____

We would appreciate your comments on your Sea Odyssey experience. Please take a few minutes to complete this very important survey.

Thinking about the children in the group, and what was presented to them today, how much do you think the children learned from the following?	Learned a lot	Learned somewhat	Did not learn at all
On the boat:			
1. Sailing & Navigation station: electronic technology and other tools for navigation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Ecology station: Sanctuary characteristics, marine life and habitats.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Marine science station: life cycles, food station, balance that helps maintain life in the sea.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In the classroom:			
4. Sailing & Navigation station: Latitude, longitude, and basic geometry as it relates to navigation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Ecology station: water cycle and watershed, ocean pollutants, solutions to pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Marine science station: plankton identification food web information.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Follow-up and discussion regarding classroom experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Overall learning experience.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please turn page over to complete the survey questions.

9. Were the presentations presented at an age-appropriate level?

(1) Yes (2) No

10. Did you visit the Sea Odyssey website before this trip?

(1) Yes (2) No

11. Did you use the teaching materials provided on the website before the trip?

(1) Yes (2) No

12. How did you use the web site Learning Center or teacher packet materials in the classroom before the trip? _____

13. Please describe which materials were the most helpful in the classroom: _____

14. Do you intend to use the online Learning Center or Teacher Packet materials in the classroom after the trip?

(1) Yes (2) No

15. Did the teaching materials enhance the children's learning of topics?

(1) Yes (2) No

16. Do you have any suggestions for improving the teaching materials? _____

17. Do you have any additional comments? _____

Thank you for taking the time to complete this important survey.

Student Survey

The current version of the Student Survey was first used in the 2006-07 program cycle, and was modified only slightly so that most of the questions were in the present tense (“Do you...” vs. “Will you...”). This survey was designed to be read aloud to the students, and was administered to them before *and* after attending the program. Students were asked to raise their hands if they agreed with the questions (indicating a “yes” response), and the number of raised hands for each question were tallied.

O'NEILL SEA ODYSSEY Student Survey

Group Name _____ Date _____
Number of students _____

Please conduct the survey verbally and count a show of hands for positive responses.

1. Do you know a lot about the plants and animals that live in the ocean?

Pre trip _____ Post Trip _____

2. Do you know a lot about things that are bad for rivers the ocean, and the environment?

Pre trip _____ Post Trip _____

3. Do you protect the rivers and the ocean by not pouring oil and chemicals down the storm drain or onto the ground?

Pre trip _____ Post Trip _____

4. Do you protect the environment by not throwing garbage on the ground?

Pre trip _____ Post Trip _____

5. Do you recycle?

Pre trip _____ Post Trip _____

6. Will you share what you know with your friends and family so that they can all learn to protect the environment?

Pre trip _____ Post Trip _____

About the Researcher



Applied Survey Research is a nonprofit social research firm dedicated to conducting and using community-based research to help people build better communities. Since 1980, ASR has employed best practices for survey research, assessment, and evaluation in order to better serve public and private agencies, health and human service organizations, cities and county offices, school districts, institutions of higher learning, and charitable foundations.

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