

Reusable water bottle education results in behavior change

AT A GLANCE

Reusable water bottles may become contaminated by sharing. Educating youth and sharing a reusable water bottle infographic increased knowledge of correct washing techniques and water intake.

The Situation

Water is needed to maintain life and must be consumed daily. In the school setting, students are encouraged to bring water bottles and most do. During the school day, a water bottle is carried from classroom to classroom and exposed to hundreds of students and surfaces throughout the day and may also be exposed to extracurricular activities.

Our Response

University of Idaho Extension family and consumer sciences educators and specialist developed a reusable water bottle cleaning infographic for to educate middle school students. The desired short-term impact was to increase the use of properly cleaned reusable water bottles and to teach about water consumption through the education materials developed.

A convenience sample was used of sixth through eighth grade classrooms in four different towns/cities in Idaho. There were 28 male and 33 female students, with an average age of 11.86. Surveys were used to assess students' understanding of water bottle use. The researchers provided students new reusable water bottles. Teachers were asked to reinforce retention of the



Reusable water bottle cleaning [infographic](#) developed to teach youth how to properly handle, clean and sanitize.

water bottles by students. All water bottles were collected after at least thirty days of student use to run microbiological testing. The estimated microbiological counts, on the surface of the water bottles, was compared between the control and intervention groups. Water bottle food safety practices were taught at the intervention schools prior to the students using the water bottles. The two control groups received the education after the students had used and returned the water bottles. All students received a new water bottle after returning the water bottle they had used for at least 30 days. A retrospective pre/post survey was given to the intervention group, and a post survey was administered to the control group.

Program Outcomes

The youth and teachers who participated in the study increased their knowledge of food safe practices when reusing water bottles by selecting correct handling and washing techniques. The survey findings show the average intervention post survey ranking for each statement was higher than both intervention pre-survey and the control post-survey ranking, see Table 1. This may suggest that receiving education prior to using a reusable bottle resulted in youth being more likely to clean and sanitize a reusable water bottle and avoid spreading germs. Students in the intervention classrooms who received the water bottle use instruction consumed more water than students in the control classroom. Comparison between the control and intervention classrooms with washing their reusable water bottles was significantly higher among students in the intervention classes. The survey results also suggest that using classroom instruction and educational tools, like an easy-to-read infographic, were successful methods to teach proper cleaning and use of reusable water bottles.

Table 1. Intervention Retrospective Post-Survey Compared to Control Post-Survey One-Tailed T-Test Results (N=61).

Statement	Intervention Post	Control	p-value
I can teach someone how to correctly clean a reusable water bottle	4.08	3.69	0.0472
I can explain to someone how to avoid spreading germs while using a reusable water bottle	4.30	3.92	0.0055
I can demonstrate the practice of correctly cleaning a reusable water bottle	4.17	3.82	0.0112
I can list the ingredients to mix a sanitizing solution for my reusable water bottle	3.23	2.38	0.0078

The Future

An [Extension Bulletin](#) was developed as an additional tool to accompany the [infographic](#). Educators will share project results with teachers and administrators at schools. A reusable water bottle youth curriculum will be developed and made available to teachers and other educators to deliver reusable water bottle education.

FOR MORE INFORMATION

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