

STOP The Cycle: The Impact of Vaping-related Layered Learning on High School Students

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BACKGROUND

- Nearly 40% of Illinois 10th and 12th graders surveyed in 2018 believe there is little to no health risk associated with vaping.
- Youth nicotine exposure can lead to addiction; impaired attention, learning, and memory; and potentially worsen anxiety and impulsivity.
- Vaping has been associated with respiratory illness and lung damage.
- In the “Layered Learning Model,” sharing new ideas from different leveled-learners is welcomed, ownership of educational objectives is encouraged, and learner confidence is built through real-time feedback.
- “STOP The Cycle,” where S.T.O.P stands for Students Teaching Other Peers, is an evidence-based, peer-to-peer learning program on the dangers of electronic cigarette use.

PURPOSE

- Increase awareness to the health-related consequences of e-cigarettes and foster a spirit of mentorship amongst the most vulnerable population
- Measure the change in knowledge and perceived confidence regarding vaping among Illinois and Missouri high school students who completed the “STOP The Cycle” program.

METHODS

- The “STOP The Cycle” program employs the following layered learning model:
 - Study investigators educate SIUE School of Pharmacy PharmD candidates through a series of pre-recorded online modules.
 - Study investigators and select PharmD candidates educate high school students through an interactive, educational symposium.
 - PharmD candidates and high school students work together as peer mentors and “Vaping BINGO” educators to middle school students.
- University IRB approval for this pilot survey study was obtained.
- In light of the COVID-19 pandemic, study investigators wished to prioritize safety and respect local and state guidelines, moving the high school symposium to a live, but remote, learning session held on Zoom.
- A sample size of 30 participants was deemed appropriate to meet power, with a two-sided alpha set at 0.05.

METHODS

“STOP The Cycle” Lectures

1. Defining the landscape of electronic nicotine devices over the years
2. Understanding the components of electronic nicotine delivery systems
3. THC, marijuana, and CBD use in ENDS: A growing problem
4. Addiction and its health-related consequences
5. Become an agent of change: Advocating for healthy practices
6. Legislation regarding vaping in the youth

- The study included survey respondents who were currently Illinois or Missouri-residing 9th - 12th grade students who attended the “STOP The Cycle” virtual high school symposium on November 14, 2020.
- Electronic surveys, created on Qualtrics, were sent to high school symposium attendees prior to the educational presentations and immediately following the conclusion. Participants completed the surveys confidentially using a de-identified code he/she personally created.

RESULTS

- Nine students attended the symposium and completed both surveys. One student did not consent to analysis of his/her post-survey responses.

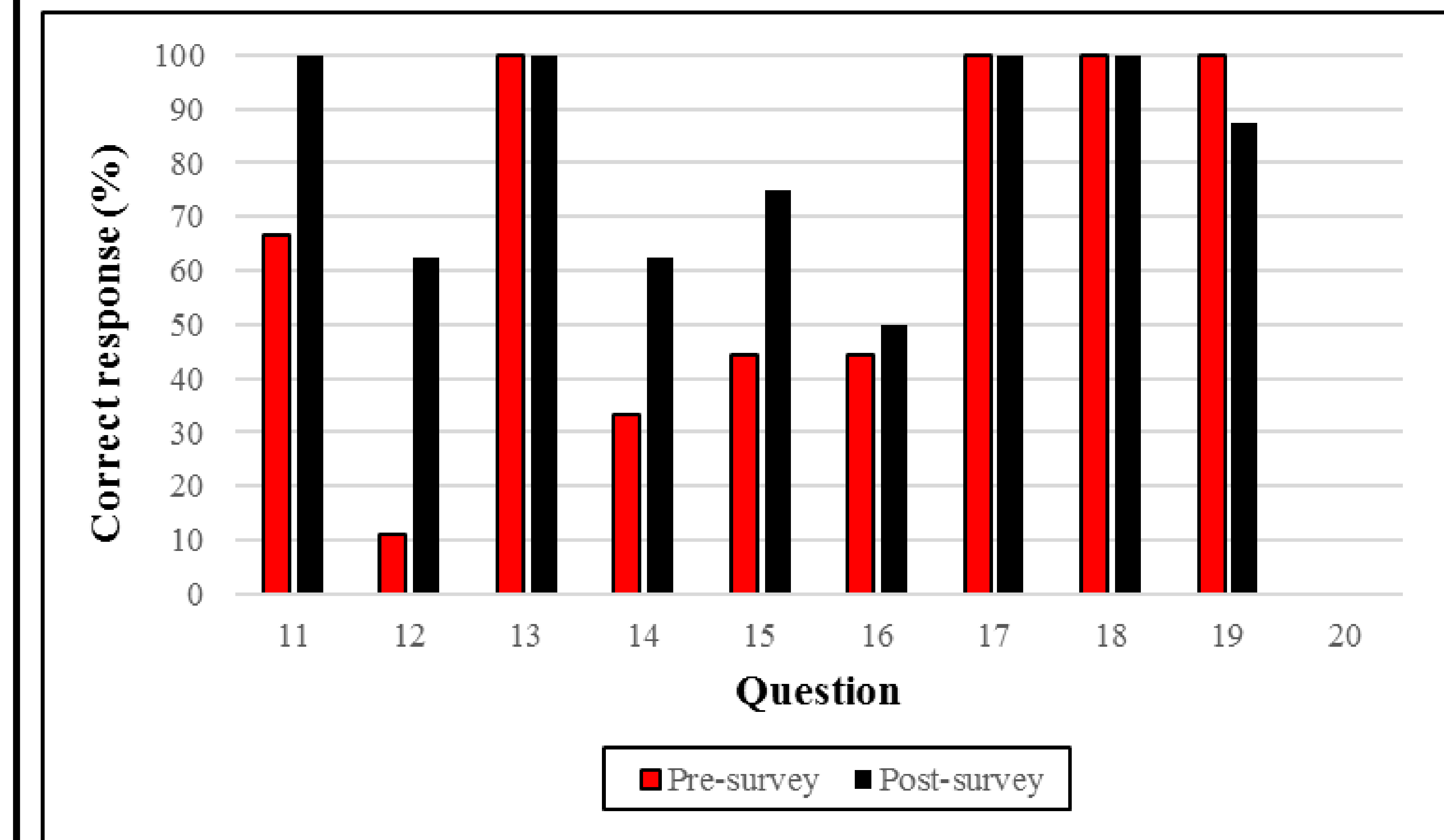
Table 1: Demographics of pre-survey respondents

Characteristic	Overall N = 9 N (%)
Age (years)	
13	0 (0)
14	1 (11.1)
15	5 (55.6)
16	3 (33.3)
17	0 (0)
18	0 (0)
Expected year of graduation	
2021	0 (0)
2022	1 (11.1)
2023	7 (77.8)
2024	1 (11.1)
Previous formal anti-vaping education	
Yes	2 (22.2)
No	7 (77.8)

RESULTS

- At baseline, all attendees self-reported competency in the dangers of e-cigarettes, confidence in ability to speak to their peers about e-cigarettes, and good understanding of his/her school’s vaping policies.

Figure 1: Change in vaping-related knowledge based on survey response



LIMITATIONS

- Attendance was far below what was initially projected.
- Due to scheduling conflicts and a strictly virtual format, PharmD candidates were only minimally incorporated into the symposium.
- PharmD candidates and high school students are presently unable to mentor middle school students in-person due to COVID-19 restrictions.
- The study sample contains only students who actively wished to learn more about the dangers of vaping, limiting generalizability of data.

CONCLUSION

Due to a greatly limited sample size, significance of the changes in vaping-related knowledge levels cannot be determined. Future studies of this program must obtain more participants so the true impact can be measured.