Debate as an Active Learning Pedagogy Among Pharmacy Students in a Public Health Course

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Background

- Active learning has been consistently shown to enhance student performance compared to traditional classroom methods.

- Debates are an effective active learning strategy that promote critical thinking and literature evaluation skills in students. Debates encourage students to defend their positions with evidence, foster higher-order thinking skills aligned with Bloom's Taxonomy, and have been successfully implemented in pharmacy education curricula.

Objective

- To evaluate the impact of a debate activity on pharmacy students' knowledge of public health and health policy topics.

Study Design

- Forty-eight P2 students (randomized into two groups) in a required public health and health policy course debated universal healthcare coverage for Americans using the Lincoln-Douglas oral debate format.

- Four to eight students on each side were assigned to contribute to debate preparation for each component: two minutes for each opening statement, ten minutes for each main argument, four minutes for each rebuttal, and two minutes for each closing argument (totaling 18 minutes). In addition, within each component, one student was selected to serve as the speaker.

- Demographic data were collected, including age and gender. Knowledge (pre/post) of universal healthcare principles was assessed via a 10-item multiple-choice rubric-embedded quiz related to the activity objectives. This quiz used predefined criteria to evaluate students' knowledge of universal healthcare principles before and after the debate.

- Students' perceptions of the educational value of the debate were assessed before and after the debate using an 8-item Likert scale (1-strongly disagree through 5-strongly agree) and open-ended questions.

- Descriptive statistics and thematic analysis were conducted using SPSS v25 and Atlas.ti version 9, respectively. Paired t-tests were conducted to compare pre- and post-knowledge scores. An alpha level of 0.05 was utilized.

Results

- Forty-two students completed the perceptions survey, yielding a 92% response rate. The mean age was 24±4 years, and a majority of the students were female (63%) and non-Hispanic white (48%). Most had no prior experience with debates (81%).

- There was a statistically significant improvement in knowledge following the debate from 66.5% ± 13.4 to 80.7% ± 12 (p < 0.001), a total increase of 14.2%. Approximately 44% of participants acknowledged that the debate activity contributed to enriching their overall learning and skill development (**Figure** below).
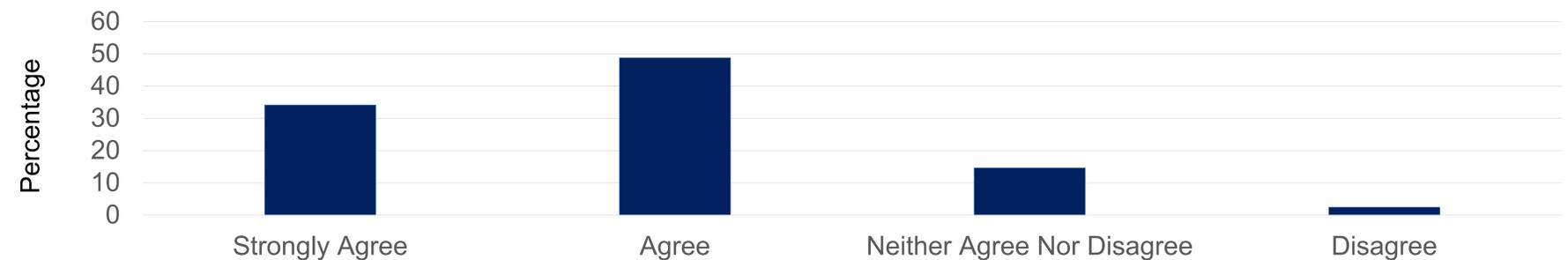

Figure. Overall, the debate helped enrich my learning experience and skill development

- Open responses indicated increased knowledge and the development of critical-thinking, literature review, and communication skills. These findings are consistent with the survey results, which highlighted the skills that students believed were further developed as a result of participating in the debate activity (**Table** below).

Table. Skills that were gained or further developed as a result of the debate activity (N = 48)

Skill	Number of students reporting (N%)
Critical-thinking	65.9%
Teamwork	59.1%
Research (literature)	56.8%
Rebuttal	47.7%
Verbal communication	43.2%
Written communication	25.0%

Discussion

- Our sample was limited to students from a single institution, potentially affecting the generalizability of the findings. Self-reported data and the use of Likert scales may introduce response bias and subjectivity. Long-term outcomes and the transferability of skills were not assessed in this study.

- However, the substantial increase of 14.2% in knowledge scores demonstrates the effectiveness of the debate activity in enhancing students' understanding of public health and health policy topics.

- The majority of students had no prior experience with debates, which highlights the novelty and potential for learning and skill development through this activity.

- Students' open responses indicated a broader knowledge of healthcare systems expanded as a result of the debate, indicating a broader understanding beyond the specific topic of universal healthcare coverage.

Conclusions

- The debate activity enhanced students' knowledge and assessment of controversial public health issues that will be useful during their pharmacy education and careers. Students perceived the debates enriched their learning.

Acknowledgments