Debate in Public Versus Independent Secondary Schools in New York City: Post-COVID-19 Health literacy and Equal Access to Basic Educational Opportunities

Erin T. Jacques1 · Corey H. Basch2 · Joseph Fera3 · Charles E. Basch4

Accepted: 27 April 2022 / Published online: 8 June 2022
© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract
Speech and debate (referred to hereafter as debate) has the potential to play an integral role in increasing the health literacy of secondary school students, yet we did not identify published studies examining the prevalence of debate programs in public and independent secondary schools. The purpose of this study was to describe the presence of debate in a probability sample of public and independent secondary schools in New York City (NYC) and explore whether there were differences in the availability of debate programs when schools were classified based on public versus independent status, school enrollment, borough location, and proportion of non-white students enrolled. The sampling frame was constructed using NYC Open Data for the public schools and the publicly available membership directory of the New York State Association of Independent Schools. This cross-sectional study included a ~30% random sample comprising 255 public and 17 independent secondary schools. To identify whether schools offered debate programs, school websites were reviewed and follow-up calls were conducted to verify the information online. Independent one-tailed t-tests (α=0.05), showed that access to a debate program was associated with public/independent status (p = .0000), larger enrollment (p = .0046), borough location (p = .0392), and proportion of non-white students enrolled (p = .0000). Schools with a higher proportion of non-white students were less likely to offer debate programs. Compared with students in public schools, students attending independent schools were more than three times as likely to have debate opportunities. These findings have implications for health literacy and educational equity.

Keywords Debate · Health literacy · NYC public schools · NYC independent schools · Middle school · High school · Equal access

Background
Paulo Freire advocated pedagogical approaches to encourage students to learn through dialogue between two or more people, listen to opposing ideas, inspect ideas for inconsistencies, and use reasoned arguments to ascertain the truth [1]. Speech and debate (referred to hereafter as debate), a discussion-based training that necessitates students to critically and actively listen to opposing points of view and to support their positions by reasoned argumentation, [2] can be traced back to the Kemetic people of Ancient Africa, [3–4] Ancient Greece, [5–7] and the Mali Empire of West Africa [8]. Those civilizations are among the many that profoundly influenced the pedagogy of the debate we utilize today.

Debate, not only helps students learn to think critically, evaluate the authenticity of information, interrogate findings, collaborate, communicate their contentions, and succeed academically, [9–16] but these same skills improve
health literacy [17]. Health literacy is defined as the ability for people to obtain, understand, translate knowledge, [18] and use health information to make “well-informed” decisions [19]. Health literacy emphasizes personal and organizational responsibility, [20] the importance of which has been highlighted during COVID-19.

During COVID-19, leading health organizations made attempts to decrease vaccine hesitancy and increase uptake [21]. At the same time, the messages that gained traction were replete with inaccuracies, [22–24] defined by the World Health Organization (WHO) as an “infodemic” [25]. The proliferation of misinformation and the public’s subsequent inability to discern fake versus real news is evidence of a need to improve health literacy [26–27].

In the 21st century, a sound basic education requires acquiring health literacy skills [28–29]. Debate instruction is well-positioned to help students learn these skills [13–14]. Indeed, the National Health Education Standards (NHES) provide a framework to improve students’ health literacy throughout their compulsory years of education [30]. Those key health literacy competencies include a combination of cognitive and social-emotional skills that promote the communication of ideas, evaluation of information, interrogation of findings, and identifying and challenging assumptions [30]. This should not be a special program but rather a part of a sound basic school education.

Despite the potential of debate to mitigate the impacts of erroneous health information and misinformed decisions, and anecdotal evidence suggesting that debate programs are more likely to be available within independent versus public schools, we did not identify any published research on the extent to which such programs are available in public versus independent secondary schools. The purpose of this study was, therefore, to describe the presence of debate in a probability sample of public and independent secondary schools in New York City (NYC) and explore whether there were differences in the availability of debate programs when schools were classified based on public versus independent status, school enrollment, borough location, and proportion of non-white students enrolled.

Method

This cross-sectional study was conducted in December of 2021 to describe the availability of debate programs in a probability sample of public and independent middle and high schools in New York City (NYC), the largest school system in the United States (serving over one million students). The data gathered about debate programs was publicly available online. The researchers followed up with phone calls to verify the school’s information.

The reference population for public middle and high schools was based on the NYC Open Data source [31]. Using NYC Open Data, middle (n=474) and high school (n=442) lists were individually exported as a CSV for Excel and aggregated into a single data set (n=916). The school information used from the dataset included name, borough, address, phone number, and website. Once duplicates (n=62) and single sex schools (n=13) were removed, there were 841 public schools. A simple random sample without replacement was drawn, using the randomize function in MS Excel, yielding a sample of 255 public secondary schools (~30% of the reference population).

The reference population for independent schools was gathered from the New York State Association of Independent Schools (NYSAIS) publicly available membership directory. This reference population is delimited in scope in that, with few exceptions, most of the religious-affiliated schools are not included in the NYSAIS directory. There were 86 independent middle and high schools listed in NYSAIS directory, distributed throughout the five boroughs of New York City. In addition to excluding the many religious affiliated schools in NYC, special need schools (n=9) and single-sex schools (n=21) were also removed from the sampling frame. The remaining reference population of 56 independent secondary schools comprised the reference population for independent schools. A simple random sample without replacement was drawn using the same procedure applied above. The sample accounted for ~30% of the referenced population (n=17). The 17 independent schools included 11 middle and high schools combined and six middle schools.

School enrollment and racial-ethnic composition for both public and independent schools was excerpted from the National Center for Education Statistics [32–33]. Each school’s website was reviewed to determine borough location and whether there was any mention of debate programming. For public schools these websites were found through MySchools , [34] while for independent schools a search by school name was used to identify the respective schools’ website. One of the authors (EJ) excerpted the information and called each public school to ask whether there was an active debate program, and responses were coded dichotomously (yes or no).

Descriptive statistics, including frequencies and percentages and, where appropriate, means and standard deviations were calculated. One-tailed t-tests (α=0.05) examined if there was an association between school enrollment and mean proportion of non-white students with access to debate, and one-tailed chi-square tests (α=0.05) examined if there was an association between borough location and public/independent status with access to debate. All analysis was conducted using MS Excel.
The Institutional Review Board (IRB) at William Paterson University determined this study was excluded from review, and it was deemed exempt by the IRB at Teachers College, Columbia University.

Results

A total of 27.94% (76 of 272) schools from the combined public and independent school samples offered a debate program. The strongest association between availability of debate was found for whether the school was public or independent. Despite the fact that only 6.25% (17/272) of the schools were independent, 82.35% (14/17) offered debate to their students. In contrast, only 24.31% (62/255) of the public secondary schools offered a debate program. An independent one-tailed chi-squared test showed that whether a school was public or independent was strongly associated with access to a debate program. Compared with students in public schools, students attending independent schools were more than three times as likely to have debate opportunities.

On average, schools offering debate had a 71% non-white student population. Schools that did not offer debate, however, had an average non-white student population of 89.64%. A one-tailed t-test showed this result to be statistically significant (p = .0000). Thus, schools with a higher proportion of non-white students were less likely to offer debate programs.

Overall, the average student enrollment was 641.3 with a standard deviation of 572.5. The average student enrollment in schools offering debate was 835. Enrollment in schools without debate was 568. This average difference of 267 students was statistically significant (one-tailed \( t = -0.046 \)).

The 272 schools included 132 (48.53%) middle schools and 90 (33.09%) high schools; 50 (18.38%) served as both middle and high schools. The number (and percent) of the schools by borough location was: 63 (23.16%) Bronx, 58 (21.32%) Manhattan, 52 (19.12%) Queens, and 7 (2.57%) Staten Island (see Table 1, second and third column). Borough location was marginally associated with the presence of a debate program (p = .039, independent one-tailed chi-squared).

Of the 76 schools offering debate, 39 (51.32%) were middle schools, 17 (22.37%) were middle and high schools combined, and 20 (26.32%) were high schools. From the 17 secondary schools serving both middle and high school students, 12 (70.59%) provided debate to both populations of students while 5 (29.41%) offered debate to only high school students. A one-chi-squared test (a = 0.05) demonstrated that the grades served (i.e., middle vs. middle/high vs. high), was not statistically associated with whether or not debate was offered (p = .2805).

Discussion

The findings of this study demonstrate that all students do not have equal access to debate instruction. Compared with less than 25% of public secondary schools, over 80% of the independent school sample offered debate. The sample of independent schools for this study was small, yet given that over 80% (14 of 17) offered debate, this provides a reasonably precise estimate of the reference population of independent schools as defined in this study. The sampling design was purposely constructed in a way to juxtapose secondary schools investing considerably more money per pupil with public secondary schools that lack sufficient investment to meet the needs of urban minority youth, who have been systematically deprived of a sound basic education for generations [35].

The average cost for attending (non-parochial) independent schools in NYC has been estimated to be ~ $50,00036. While the value of debate skills can be argued from many perspectives (for example evaluating the credibility of information, listening carefully to opposing points of view, and articulating your own point of view in a clear and articulate way), perhaps the strongest argument for the value of debate as part of a sound basic education is its presence in the large majority of independent schools. Debate skills and the improved health literacy they confer has become especially salient during COVID-19 as a pervasive ‘infodemic’ of misinformation (unintentionally false) and disinformation (intentionally false) has caused public confusion.

This pedagogical approach to education epitomized by Freire (1970) and the rich history that preceded him [2–8] emphasizes student engagement and discussion to explore different points of view and solutions to problems.

Table 1 This table shows characteristics, debate program information, and enrollment averages of the schools sampled

| School Characteristic | Count | % of Sample (n = 272) | Have Debate Program | % of Count | Enrollment Average |
|-----------------------|-------|-----------------------|---------------------|------------|--------------------|
| Bronx                 | 63    | 23.16%                | 13                  | 20.63%     | 510.13             |
| Brooklyn              | 92    | 33.83%                | 23                  | 25.00%     | 574.30             |
| Manhattan             | 58    | 21.32%                | 25                  | 43.10%     | 541.74             |
| Queens                | 52    | 19.12%                | 12                  | 23.08%     | 903.54             |
| Staten Island         | 7     | 2.57%                 | 3                   | 42.86%     | 1579.29            |
| Public                | 255   | 93.75%                | 62                  | 24.31%     | 632.36             |
| Private               | 17    | 6.25%                 | 14                  | 82.35%     | 775.41             |
| Middle School         | 132   | 48.53%                | 39                  | 29.55%     | 571.71             |
| Middle and High School| 50    | 18.38%                | 17                  | 34.00%     | 690.98             |
| High School           | 90    | 33.09%                | 20                  | 22.22%     | 715.77             |
greater agency among students is one of its guiding principles. Different forms of this pedagogical approach have been applied using hip hop culture in science education [37–38] and civic education [39].

Sadly, this study is yet another example of evidence of unequal access to educational resources among schools predominately serving students of color [40]. Debate skills are not a panacea. Urban minority youth require basic human services, including eyeglasses, medical and dental care and associated social services [34]. Debate skills have always been a sensible way to prepare students for critical thinking and now, in a post-COVID-19 era, are even more essential as part of a sound basic education.

We distinguish between helping students learn debate skills and participating in competitive debate as it is traditionally practiced. Students may avoid competitive debate because they are not comfortable speaking in public or are intimidated or disinterested in verbal argumentation. But to the extent that debate skills could be learned in a supportive context, they could help improve students’ health literacy as well as their overall academic prospects. While this study was limited and delimited in several ways (e.g., cross-sectional design, exclusion of a large reference population of religious affiliated schools, reliance on school website and follow-up telephone outreach to document whether a debate program is offered, and data excerpted from the National Center for Education Statistics), it is the first study to document disparity in access to debate programs in the New York City schools, and to make the case for why debate skills can improve students health literacy and thereby help them make more informed decisions in the post COVID-19 era.

Authors’ Contributions ETJ, CHB and CEB conceptualized the study. JF conducted the data analysis. All authors contributed to the manuscript production.

Funding Not applicable.

Availability of Data and Material Not applicable.

Code Availability Not available.

Declarations

Conflict of Interest Not applicable.

Ethics Approval The Institutional Review Board (IRB) at William Paterson University determined this study was excluded from review, and it was deemed exempt by the IRB at Teachers College, Columbia University.

Consent to Participate Not applicable.

Consent of Publication Not applicable.

References

1. Freire, P. (2017). *Pedagogy of the Oppressed*. Penguin Books Ltd
2. Zare, P., & Othman, M. (2013). Classroom debate as a systematic teaching/learning approach. *World Applied Sciences Journal*, 11(11), 1506–1513.
3. Fox, M. V. (1983). Ancient Egyptian rhetoric. *Rhetorica*, 1(1), 9–22. doi:https://doi.org/10.1525/rh.1983.1.1.9
4. Hutto, D. (2002). Ancient Egyptian rhetoric in the old and middle kingdoms. *Rhetorica*, 20(3), 213–233. doi:https://doi.org/10.1525/rh.2002.20.3.213
5. Perelman, C. & Sloane, T. O. (2022). rhetoric. Encyclopedia Britannica. https://www.britannica.com/topic/rhetoric. Accessed March 25, 2022.
6. Benoit, W. (1990). Isocrates and Aristotle on Rhetoric. *Rhetoric Society Quarterly*, 20(3), 251–259. doi:https://doi.org/10.1080/02773949009390888
7. Wagner, R. H. (1922). The rhetorical theory of Isocrates. *Quarterly Journal of Speech*, 8(4), 323–337. doi:https://doi.org/10.1080/00335632209379397
8. Campbell, K. E. (2006). Rhetoric from the ruins of African antiquity. *Rhetorica*, 24(3), 255–274. doi:https://doi.org/10.1525/rh.2006.24.3.255
9. Bellon, J. (2000). A research-based justification for debate across the curriculum. *Argumentation and Advocacy*, 36(3), 161–175. doi:https://doi.org/10.1007/s0008533.2000.11951646
10. Mirra, N., Honoroff, B., Elgendy, S., & Pietrzak, G. (2016). Reading and Writing with a Public Purpose: Fostering Middle School Students’ Academic and Critical Community Literacies through Debate. *Journal of Language and Literacy Education*, 12(1), 1–22.
11. Mezuk, B., Bondarenko, I., Smith, S., & Tucker, E. (2011 Sep). Impact of participating in a policy debate program on academic achievement: Evidence from the Chicago Urban Debate League. *Educational Research and Reviews*, 30(9), 622–635.
12. Shackelford, D. (2019). The bull dust: Examining academic achievement and engagement outcomes of Preadolescent Baltimore Urban Debate League participants. *Educational Researcher*, 48(3), 145–157. doi:https://doi.org/10.3102/0013189x19830998
13. Stanford National Forensic Institute. The Power of Speech & Debate Education: Stanford National Forensic Institute.https://snfi.stanford.edu/skills. Accessed March 25, 2022.
14. Larson, L. C., & Miller, T. N. (2011). 21st century skills: Prepare students for the future. *Kappa Delta Pi Record*, 47(3), 121-123. DOI: 10.1080/00228958.2011.10516575
15. Darby, M.(2007). Debate: A teaching-learning strategy for developing competence in communication and critical thinking. American Dental Hygienists’ Association. Oct 1;81(4):78–80.
16. Lampkin, S. J., Collins, C., Danison, R., & Lewis, M. (2015). Active learning through a debate series in a first-year pharmacy self-care course. *American Journal of Pharmaceutical Education*, 79(2), 25. doi:https://doi.org/10.5688/ajpe79225
17. Jacques, E. T. (2022). Speech and Debate Educators’ Perceptions About the Programs in Primary School. [Doctoral dissertation]. Teacher’s College, Columbia University.
18. Liu, C., Wang, D., Liu, C., Jiang, J., Wang, X., Chen, H., Ju, X. and Zhang, X. (2020). What is the meaning of health literacy? A systematic review and qualitative synthesis. *Family Medicine and Community Health*, 8(2), doi:https://doi.org/10.1136/fmch-2020-00351
19. Schools, & Centers for Disease Control and Prevention. (2021). https://www.cdc.gov/healthliteracy/education-support/schools. html. Published December 13, Accessed March 25, 2022.
20. Health literacy. Health Literacy | Healthy People 2020. https://www.healthypeople.gov/2020/topics-objectives/topic/
social-determinants-health/interventions-resources/health-literacy#:~:text=For%20example%2C%20individuals%20with%20low%20health%20literacy%20and%20thereby%20advance%20patient%20safety. Accessed March 25, 2022
21. Vanderpool, R. C., Gaysynsky, A., & Sylvia Chou, W. Y. (2020). Using a global pandemic as a teachable moment to promote vaccine literacy and build resilience to misinformation. American Journal of Public Health, 110(8), 1439–1441. doi:https://doi.org/10.2105/ajph.2020.305906
22. Basch, C. H., Meleo-Erwin, Z., Fera, J., Jaime, C., & Basch, C. E. (2021). A global pandemic in the time of viral memes: COVID-19 vaccine misinformation and disinformation on TikTok. Human Vaccines & Immunotherapeutics, 17(8), 2373–2377. doi:https://doi.org/10.1080/21645515.2021.1894896
23. Meleo-Erwin, Z. C., Basch, C. H., Fera, J., & Arrowood, M. (2021). How did individuals on Instagram discuss covid-19 in the month following official pandemic status? A examination of User Content. Journal of Prevention & Intervention in the Community, 49(2), 110–118. doi:https://doi.org/10.1080/10852352.2021.1908205
24. Basch, C. E., Basch, C. H., Hillyer, G. C., & Jaime, C. (2020). The role of YouTube and the entertainment industry in saving lives by educating and mobilizing the public to adopt behaviors for community mitigation of COVID-19: Successive sampling design study. JMIR Public Health and Surveillance, 6(2), doi:https://doi.org/10.2196/19145
25. Infodemic (2022). World Health Organization. https://www.who.int/health-topics/infodemic#tab_1. Accessed March 25, 2022.
26. Paakkari, L., & Okan, O. (2020). Covid-19: Health literacy is an underestimated problem. The Lancet Public Health, 5(5), doi:https://doi.org/10.1016/s2468-2667(20)30086-4
27. Wojtowicz, A. (2020). Addressing Health Misinformation with Health Literacy Strategies. Proceedings of a Workshop. Washington, DC: National Academies Press. https://www.ncbi.nlm.nih.gov/books/NBK565935/. Accessed March 25, 2022.
28. Basch, C. E., & Basch, C. H. (2022). Epidemiology, secondary school curricula, and preparing the next generation for global citizenship. JMIR Public Health and Surveillance, 8(3), doi:https://doi.org/10.2196/36006
29. Kickbusch, I. (2008). Health literacy: An essential skill for the twenty-First Century. Health Education, 108(2), 101–104. doi:https://doi.org/10.1108/0965428081085559
30. Health education (2022). Standards. DoDEA. https://www.dodea.edu/curriculum/healtheducation/standards.cfm. Accessed March 25, 2022.
31. Department of Education (2021). DOE Middle School Directory: NYC Open Data. 2021 DOE Middle School Directory | NYC Open Data. https://data.cityofnewyork.us/Education/2021-DOE-Middle-School-Directory/f6s7-vytj. Published September 23, 2020. Accessed March 25, 2022.
32. Private School Universe Survey (PSS) (2022). National Center for Education Statistics (NCES) Home Page, a part of the U.S. Department of Education. https://nces.ed.gov/surveys/pss/. Accessed March 25, 2022.
33. Search for Public Schools (2022). https://nces.ed.gov/ccd/school-search/. Accessed March 25, 2022.
34. Welcome! NYC MySchools. (2022). https://www.myschools.nyc/en/. Accessed March 25, 2022.
35. Basch, C. E. (2011). Healthier students are better learners: A missing link in school reforms to close the Achievement Gap. Journal of School Health, 81(10), 593–598. doi:https://doi.org/10.1111/j.1746-1561.2011.00632.x
36. Dickler, J. (2020). As wealthy families flee, New York City’s private schools brace for an uncertain fall. CNBC. https://www.cnbc.com/2020/06/14/nyc-private-schools-prep-for-enrollment-decline-amid-covid-19.html. Published June 22, Accessed March 25, 2022.
37. Emdin, C. (2013). Pursuing the pedagogical potential of the pillars of hip-hop through urban science education. The International Journal of Critical Pedagogy. Sep 24;4(3)
38. Adjapong, E. S., & Emdin, C. (2015). Rethinking Pedagogy in Urban Spaces: Implementing Hip-Hop Pedagogy in the Urban Science Classroom. Journal of Urban Learning, Teaching, and Research, 11, 66–77
39. Crittenden, J., Levine, P., Civic, & Education (2018). Stanford Encyclopedia of Philosophy. https://plato.stanford.edu/entries/civic-education/. Published August 31, Accessed March 25, 2022.
40. Darling-Hammond, L. (1998). Unequal opportunity: Race and education. The Brookings Review, 16(2), 28. doi:https://doi.org/10.2196/19145
Publisher’s Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.