

# **Draw the Lines**

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## **2018-2019 Program Evaluation**

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# Executive Summary

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## Background

Draw the Lines-PA (“Draw the Lines”, “DTL”) is a Committee of Seventy (C70) initiative. C70 is an independent, non-partisan organization advocating for better, transparent, and effective government in Philadelphia. C70 has been involved in improving the election process and civic engagement for over a century. In February 2018, C70 launched DTL, which is a statewide civic education and engagement initiative. DTL is led by three regional steering committees, which work with C70.

Draw the Lines is designed to build awareness of current gerrymandering practices across Pennsylvania and to advocate for structural changes that support transparency, public input and the creation of fair, non-partisan districts. The DTL competition recruits high school and college students specifically, and the general public at large, to increase public engagement in advocacy efforts, with the belief that, in the long-term, illustrating how easily fair districts can be built will lead to citizen agitation that affects legislative changes. The program centers on implementation of Azavea (“District Builder”) software, and the accompanying civic education modules developed by DTL hosted on a robust website that offers the public varying degrees of engagement with the DTL mission and activities.

Draw the Lines believes that the activities included in the logic model will help increase civic participation and eventually improve outreach to the elected representatives, one of the long-term goals of the initiative. However, DTL needs more data around the strengths and areas for improvement as it relates to current activities (e.g., events, classroom visits, mapping competitions, etc.). **This report will specifically focus on the evaluation of DTL’s Fall 2018 mapping competition.**

The evaluation focused on the following research questions:

- What contributed to the successes of the DTL competition in the Fall 2018 competition?
- What contributed to the challenges of the DTL competition in the Fall 2018 competition?
- Did the competition contribute to the short-term outcomes outlined in the DTL logic model?

## Methodology

The project team utilized a mixed methods approach to conduct the evaluation, collecting and analyzing both quantitative and qualitative data.

- **Quantitative Evaluation:** We assessed the data obtained from DTL in relation to a prior survey conducted by DTL of the 1,418 participants that began a map during the Fall 2018 competition. Furthermore, we administered a new survey to all 250 participants who completed a map for the Fall 2018 competition.
- **Qualitative Evaluation:** As part of the Fall 2018 competition, DTL partnered with certain schools to do workshops about the DTL initiative and about the mapping competition. DTL was assisted by school teachers who implemented the DTL program with their students. We conducted phone interviews with 6 of the teachers who participated in the mapping process.

## Key Findings

Our key findings emerged from our quantitative and qualitative data collection and analysis. The findings are organized by research question and are summarized below.

### Research Question 1: What contributed to DTL successes in the Fall 2018 competition?

- Teachers with autonomy within their schools and departments are able to implement the program with clear guidance and oversight.
- A majority of participants found the online user guide to be the most useful tool. For teachers, the website resources greatly enhanced their existing gerrymander and civics curriculum.

### Research Question 2: What contributed to DTL challenges in the Fall 2018 competition?

- Teachers were unable to create extended classroom time for DTL map-drawing either because the timing was out of sequence with their classroom content on the topics, or because there was not enough flexibility to classroom time to map-drawing beyond the introduction.
- Some participants reported losing map content entered previously or having district builder create maps that did not match the parameters they entered. Participants who did not complete maps found the process confusing, frustrating or too time-consuming.

### Research Question 3: Did the competition contribute to the short-term outcomes in the logic model?

- **Outcome: Increase teacher efficacy and value**
  - Teachers were happy with the Draw the Lines experience. Teachers saw value in the online platform and materials and felt that it was an effective way to teach gerrymandering.
  - Teachers felt hampered by time constraints. Most of the teachers interviewed spoke about limited availability in their curriculum for new projects.
- **Outcome: Increase student and citizen efficacy and engagement**
  - Participants feel more empowered to address issues in their community after completing a map.
  - Completing a map is leading to action. 97 percent of surveyed participants took some action to address the issue of gerrymandering.
  - Participants with less awareness and understanding of gerrymandering prior to engaging with DTL were less likely to agree that DTL increased their knowledge of the topic.
- **Outcome: Increase understanding of gerrymandering, its mechanisms, and its solutions**
  - Drawing a map helps people understand gerrymandering. Surveyed teachers and participants felt that completing a map through Draw the Lines increased understanding of gerrymandering.
  - Drawing a map gets people thinking about solutions. Of surveyed participants, 90 percent agreed that completing a map got them thinking about what makes a district map “fair.”

## Recommendations

The following recommendations for programmatic implementation and future research reflect the key findings from our qualitative and quantitative analysis.

### Recommendations for Program Improvement

- **Scale down the time commitment.** Both interviews and survey responses indicated that time was a challenge. This was especially prevalent in the teacher interviews, as most interviewed teachers stated that it was a struggle to devote class time to mapping.
- **Improve content for users with minimal knowledge of gerrymandering.** Participants who reported less awareness and understanding of gerrymandering prior to engaging with DTL were less likely to agree that DTL increased their knowledge of the topic. DTL should focus on opportunities to tailor content for this population of users.
- **Create a system to track student work.** Some teachers used DTL as a class assignment, and teachers who were interviewed expressed difficulty with managing student progress for the map-making activity.
- **Expand the student experience beyond the classroom.** This recommendation is derived from the findings that participants that had more facilitated support had a better overall experience with DTL, and also that interviewed teachers expressed a lack of in-class time to complete maps.
- **Consider prioritizing outreach to schools where teachers have high levels of autonomy.** From teacher interviews, it was clear that teachers with higher levels of autonomy were more successful implementing DTL in their classrooms. Moving forward, DTL staff may want to tailor recruitment activities with this knowledge in mind.

### Recommendations for Future Research

- **Consider implementing more controlled data collection.** Draw the Lines is currently collecting data through post-participation surveys and interviews. In the next phase of evaluation, Draw the Lines may consider implementing more controlled data collection, which would help them attribute outcomes to specific activities.
- **Conduct research on curriculum standards.** Interviewed teachers were excited that parts of the Draw the Line materials aligned with curriculum standards. At the same time, teachers felt that the rigidity of the curriculum made it difficult to incorporate DTL activities into the classroom. Moving forward, DTL may want to more explicitly mold their activities to fit standards.
- **Seek out pragmatic improvements to the mapping platform.** The majority of survey respondents who started a map but quit before halfway done did so due to frustrations with the mapping platform. It would be wise for Draw the Lines staff to seek out explicit feedback as to exactly what users found challenging with the mapping tool and understand how the platform can be revised.
- **Expand evaluation and include more observational research.** Programmatic analysis has relied heavily upon surveys and interviews. While both of these methods can yield rich insights, they may also fail to yield some insights that observational research would facilitate.

# Program Overview

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## Organizational Background and Program Context

### Background

Draw the Lines PA (“Draw the Lines”, “DTL”) is a Committee of Seventy (C70) initiative. C70 is an independent, non-partisan organization advocating for better, transparent, and effective government in Philadelphia. C70 has been involved in improving the election process and civic engagement for over a century. In February 2018, C70 launched DTL, which is a statewide civic education and engagement initiative. DTL is led by three regional steering committees, which work with C70.

### Context

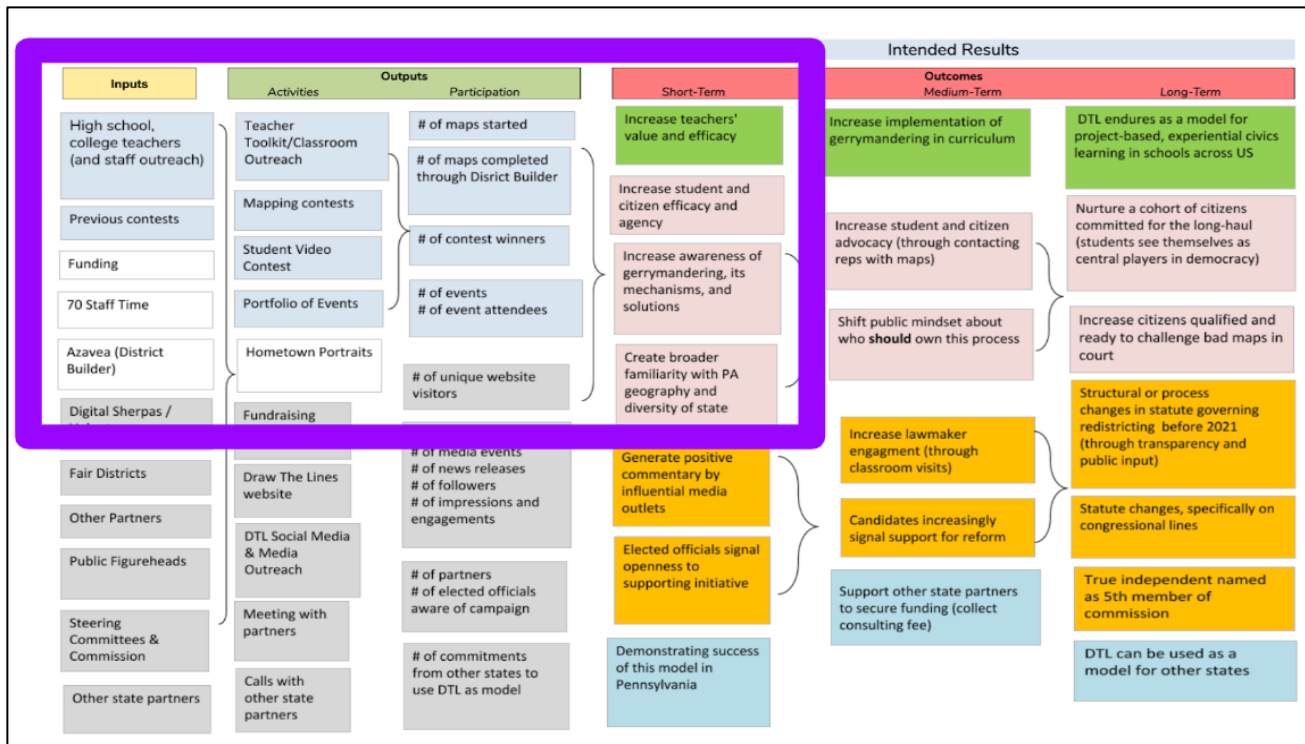
On January 22, 2018, the Pennsylvania Supreme Court [League of Women Voters of Pennsylvania, et. al. v. Commonwealth of Pennsylvania, et. al.] held that the Commonwealth’s 2011 congressional map ‘clearly, plainly, and palpably’ violated the Constitution of the Commonwealth. The Supreme Court provided the Commonwealth’s legislature and Governor Wolf twenty-four days to redraw a map and present it to the court on February 5, 2018. However, in the absence of any consensus, the court implemented its own congressional map. The Commonwealth is scheduled to redraw the maps in 2021. Therefore, DTL PA will help in educating and engaging the general public and help take control of the redistricting process.

### Program Structure and Key Activities

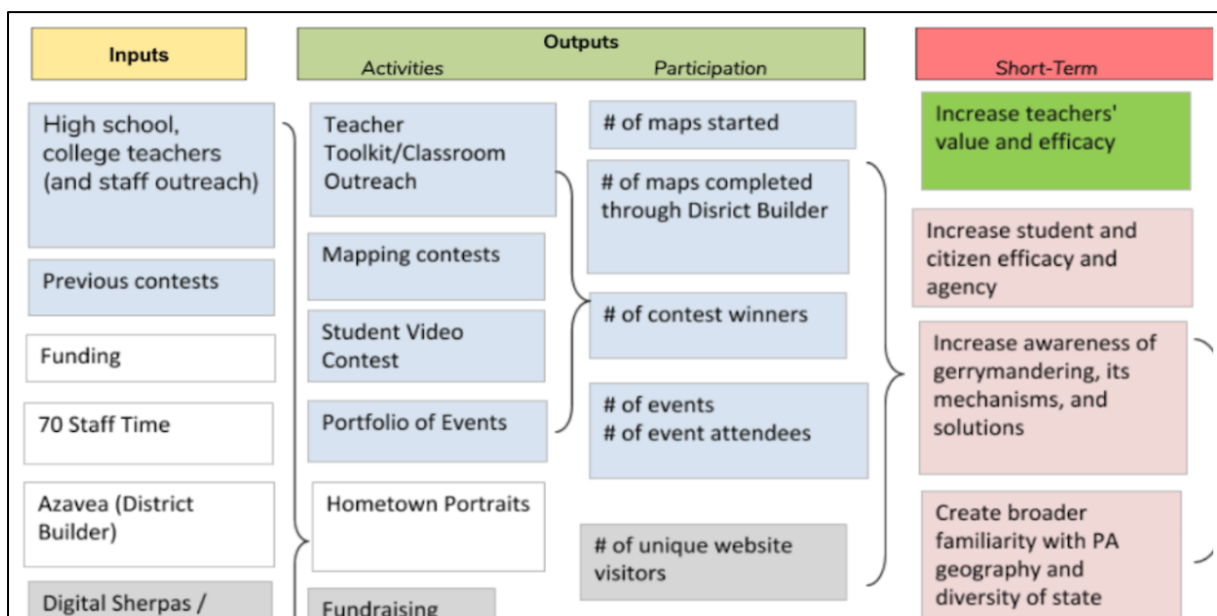
Draw the Lines is an initiative designed to build awareness of current gerrymandering practices across PA and to advocate for structural changes that support transparency, public input and the creation of fair, non-partisan districts. The DTL competition recruits high school and college students specifically, and the general public at large, to increase public engagement in advocacy efforts, with the belief that, in the long-term, illustrating how easily fair districts can be built will lead to citizen agitation that affects legislative changes. The program centers on implementation of Azavea (“District Builder”) software, and the accompanying civic education modules developed by DTL hosted on a robust website that offers the public varying degrees of engagement with the DTL mission and activities.

According to the logic model, DTL plans to undertake the following activities:

- Mapping Competition
- Teacher Toolkit/Classroom Outreach
- Student Video Contests
- Organizing school events
- Contacting elected representatives
- Social Media Outreach & Fundraising



Draw the Lines believes that the activities included in the logic model will help increase civic participation and eventually improve outreach to the elected representatives, one of the long-term goals of the initiative. However, DTL needs more data around the strengths and areas for improvement as it relates to current activities (e.g., events, classroom visits, mapping competitions, etc.). **This report specifically focuses on the evaluation of DTL's Fall 2018 mapping competition.**



## Evaluation Goals & Questions

The evaluation focused on the following research questions:

- What contributed to the successes of the DTL competition in the Fall 2018 competition?
- What contributed to the challenges of the DTL competition in the Fall 2018 competition?
- Did the competition contribute to the short-term outcomes outlined in the DTL logic model?

The evaluation approach is mixed-methods in its design:

**Quantitative Evaluation:** We assessed the data obtained from DTL in relation to a prior survey conducted by DTL of the 1,418 participants that began a map during the Fall 2018 competition. Furthermore, we administered a new survey to all 250 participants who completed a map for the Fall 2018 competition. The quantitative methodology has been explained in detail in the Methodology section of the document and the quantitative instrument can be found in **Appendix A**. Through this process we sought to address certain indicators of successes and challenges of the DTL mapping activity, for example: (a) whether the participants were interested in the competition; (b) how useful the outreach and messaging was to the participants; and (c) whether the map-making activity is related to increased awareness of gerrymandering and/or increased interest in further engagement on civic issues.

**Qualitative Evaluation:** As part of the Fall 2018 competition, DTL partnered with certain schools to do workshops about the DTL initiative and about the mapping competition. DTL was assisted by school teachers who implemented the DTL program with their students. We conducted phone interviews with the teachers who participated in the mapping process. The qualitative methodology has been explained in detail in the Methodology section of the document and the qualitative instrument can be found in **Appendix B**. Through this process we sought to address certain indicators of whether the DTL mapping was a success or failure, for example; (a) whether the teachers found the curriculum and activities useful; (b) whether their students found the process complicated; or (c) whether the competition increased their motivation to teach gerrymandering.



# Quantitative Methodology

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The evaluation team used multiple sources of data for quantitative purposes: the data collected by DTL from a prior survey (“administrative data”), as well as a newly administered survey to those individuals who completed at least one map as part of the fall 2018 competition (“DTL survey”). The prior survey was sent to all participants who created a District Builder account in the fall of 2018 (1,418 individuals). In contrast, the DTL survey targeted the 250 individuals who took part in the fall 2018 mapping competition. The survey was designed to gain a clearer understanding of the experiences and takeaways, as judged by the assessment of the participants.

## Data Sources

### Administrative Data

In analyzing the data from the survey previously administered by DTL, we sought to uncover potential relationships between the respondents’ assessment of their experience and their demographic information provided. This information was used for analysis of the challenges DTL faced, as well as the quality of the resources DTL offered.

### DTL Survey

The majority of our quantitative analysis was centered on data from the survey administered by the project team (DTL survey; see Appendix A). The survey was distributed via email to all 250 individuals who completed at least one map during the Fall 2018 competition. The survey was open for 10 days in early February 2019, and 31 responses were received (12.5% response rate).

In order to evaluate constructs like civic efficacy and advocacy, the project team used and incorporated two scales into the survey: one for **Civic Engagement Efficacy** and one for **Civic Engagement Actions**. The scales were each made up of a series of questions drawn from other validated civic engagement surveys.

In the **Civic Engagement Efficacy** section of the survey, participants were asked to rate how strongly they agreed with certain statements about their community engagement, focusing on their feelings of empowerment. This question series included statements such as, “I have a strong attachment to my community” and “I am aware of what can be done to meet the important needs in my community.” Respondents were asked to think about how they would have answered these questions both before and after participating in DTL.

In the **Civic Engagement Actions** section of the survey, participants were asked to think about their likelihood of taking certain actions that reflect civic engagement if there was an issue in their community that they cared about. Options included actions such as attending a meeting organized by others, organizing and running a meeting, contacting a newspaper, radio, or TV talk show to express your opinion on an issue, contacting an elected official about the problem or organizing a petition. Respondents were asked to think about how they would have answered these questions before and after participating in DTL.

The project team used primarily descriptive analysis to describe changes in respondents’ ratings pre-DTL and post-DTL. Additionally, we used correlational analysis to uncover potential relationships between variables, such as feelings of efficacy to address civic issues and likelihood to take action.

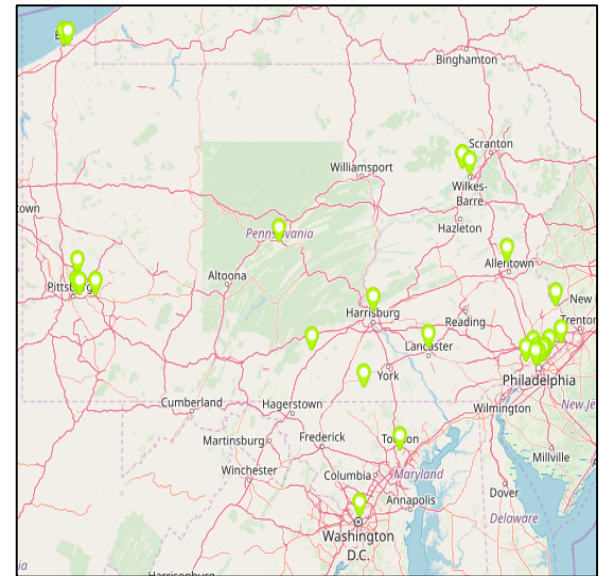


## DTL Survey Sample

This section captures information on the demographics of the 31 participants who completed the DTL survey. Survey respondents represent a wide range of PA residents geographically (see map below). The table below provides a breakdown of survey respondent type (student vs. non-student). Since most respondents were students, a second table breaks down students' grade/level of education.

User Type	Count	Percent
Student	21	69%
Non-student	10	31%

Student Level	Count	Percent
Grades 8-10	5	24%
Grades 11-12	6	29%
College/University	9	43%



Source: DTL Survey. Each marker represents 1 respondent. N = 31

Eighty percent of students reported that they completed their maps on their own, versus 20 percent reporting they did their mapping in a group setting.

## Political Affiliations of Respondents

Nearly all survey respondents replied to the optional Political Affiliation questions. While the majority of respondents identify as some version of liberal, there was representation of other political viewpoints among respondents (Figures 1 & 2).

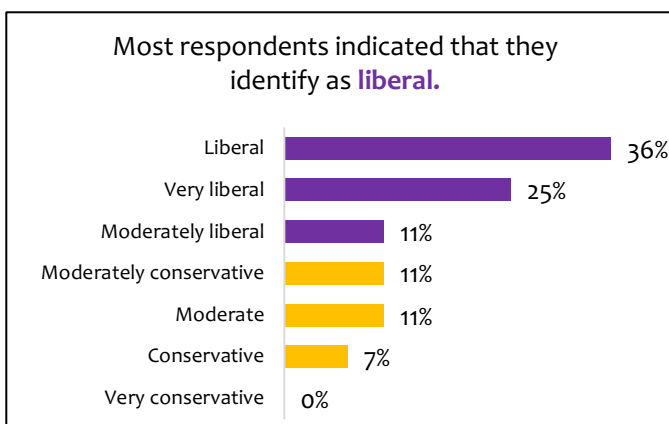


Figure 1 - DTL Survey: Political Ideology (N = 28)

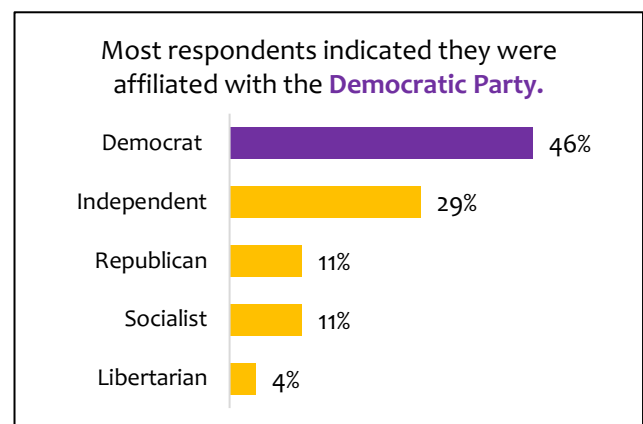


Figure 2 - DTL Survey: Political Ideology (N = 28)

# Qualitative Methodology

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We supplemented our quantitative data with focused qualitative data to gather more in-depth information on teachers' perceptions of the initiative. See **Appendix B** for the qualitative protocols.

## Interview Types

**Participating Teacher Interviews:** The evaluation team conducted phone interviews with eight teachers who implemented the DTL program in their classrooms and whose students completed maps as part of the fall competition. Of the eight who were interviewed, two teachers were unable to join a phone interview and instead responded through email to questions regarding their experiences. These interviews asked teachers to reflect on the perceived impact of the program on both teachers' and students' knowledge of the issue. We also looked closely at effective DTL messaging, classroom implementation and student engagement. To ensure teachers were comfortable discussing their actions and perceptions, responses were kept confidential. Please see **Appendix B** for the consent form.

**Non-Participating Teacher Interviews:** The evaluation team attempted to interview teachers who engaged with DTL but did not implement the DTL program in their classrooms as part of the fall competition. However, the team was unable to make contact with teacher in this category and was thus unsuccessful.

## Limitations

**Self-Reporting Reliability Concerns:** Both the DTL survey and the teacher interviews rely on participants self-reporting their experience with Draw the Lines accurately, and since we did not conduct observations, we have no way to verify their experience. This raises two main concerns. First, participants are asked to recall events that occurred several months ago. It is likely that at least some aspects of their participation with Draw the Lines will be misremembered or inaccurately reported. The other issue is social desirability bias, the notion that participants will answer questions in a way that conforms to societal or group norms, rather than accurately recalling their participation.

**Sample Size and Validity:** With a relatively small sample population consisting of the 250 participants that completed maps, mostly coming from students across a few schools, it will be difficult to draw any conclusions about the population of Pennsylvania as a whole. The survey respondents may not be representative of the sample, since the survey response rate was only 12.5%.

**Realities of Non-Experimental Design:** Without a control group or before and after testing, results from the survey will not point to any causal relationships. Any increase or decrease measured in the survey data may be attributed to outside factors that our research has not controlled for. Therefore, without more robust experimental testing, Committee of Seventy will not have definitive evidence of the impacts of their program.

## Key Findings

The following key findings, organized by research question, emerged from the qualitative and quantitative data collection and analysis conducted over the last several months.

### Research Question 1: What contributed to DTL successes in the Fall 2018 competition?

- **Teachers that had autonomy within their school or department had the most success implementing the program.** Teachers already

teaching this topic were able to envision how DTL resources could work within their already existing curricular arc. They were able to bring in DTL programming without administrative approval and set aside significant hours of in class map-making.

*"I have some autonomy from the teacher perspective. I am also my own chairperson... so it was really initiated by me... and we had the support of the school."*

- **Students with strong teacher facilitation and a framework for collaborative troubleshooting remained more engaged and completed more maps.** Students with

existing political interests and strong teacher support appeared to be most engaged. Additional factors that led to increased student interest were teachers' decisions about scoring and credit, students' perception of being pioneers, students' level of desire for hands on political experiences, and students' level of perceived autonomy

*"... Most of them were really intrigued that they could participate on a very intimate, individual level with their own map. There was a creative side to it... it wasn't the typical, "listen to your teacher talk about these government ideas that you've heard about for a long time." This was... "I'm engaging in this software program... all by myself and I have to figure that out!"*

- **Overall, a majority of all participants found the online user guide to be the most useful tool.** For teachers, the website resources:

district builder, menu of videos and online resources greatly enhanced their existing gerrymander and civics curriculum, by allowing them to select only the most relevant content for their courses. The technology worked very smoothly in almost all cases, which diminished some initial teacher apprehension.

*"I used what was convenient, delivered the most information, was familiar to our system, or my system as a classroom teacher."*

- **DTL staff are an asset to the program with their availability, approachability and transparency.** The combination of DTL social media presence, the existence prize

*"... their high professionalism, the [thoughtfulness] and comprehensiveness of their resources, and the financial incentives... this was a win."*

money, the ‘status’ with Harrisburg recognition, and the focus on participants’ stories is compelling to students, teachers, parents and school administrators.

- **Overall, teachers and participants reported a positive student experience.**

The teacher observations overall describe a more positive than expected student response from classroom implementation while the extra credit implementation described mixed student responses to the actual activity.

*“... the guy who took second place is number one in the class, which is no surprise. What is surprising, is that the winner of the competition... I don’t know what his class rank is, it might even be in the top 50, but he had an interest and he had an aptitude, he made two or three maps, so he was engaged on a higher level. That’s a really unique finding in this experiment, that this student rose above the top student.”*

### Research Question 2: What contributed to DTL challenges in the Fall 2018 competition?

- **Teachers indicated that top challenges were timing and flexibility.** Teachers felt limited in their ability to implement the DTL mapmaking activity due to limited flexibility in the ability to add new projects within an existing curriculum plan. They also felt that the timing of the DTL competition did not align with their already established schedule.

*“All I teach is AP, so I can tell you that in my AP World History, I can’t even add a day, especially now that in the school district we’re starting after Labor Day. There are districts in California and Texas with air conditioning that start the second week in August, so they already have three weeks on us and I never catch up.”*

- **Issues with technology and long completion time lead to user frustrations.** Both surveyed participants and interviewed teachers reported issues with lost progress on maps, or maps that did not match user inputs. Participants who started but did not finish a map reported that the process was too time consuming. Administrative data showed that most respondents who either nearly finished or halfway finished indicated that they ran out of time to complete the map.

*“There were a couple times when students thought they had drawn a map, and then for some reason it didn’t show up when they went to log in the next day.”*

### Research Question 3: Did the competition contribute to DTL’s intended short-term outcomes?

#### **Outcome: Gerrymandering Awareness and Efficacy**

- **Drawing a map helps participants understand gerrymandering.** Both surveyed teachers and student participants felt that completing a map through DTL increased understanding of gerrymandering.

Prior to their participation in DTL, most participants did not understand gerrymandering and its impact on Pennsylvania, and more than 25 percent of respondents were either fully unaware of gerrymandering or did not fully understand gerrymandering (Figure 3).

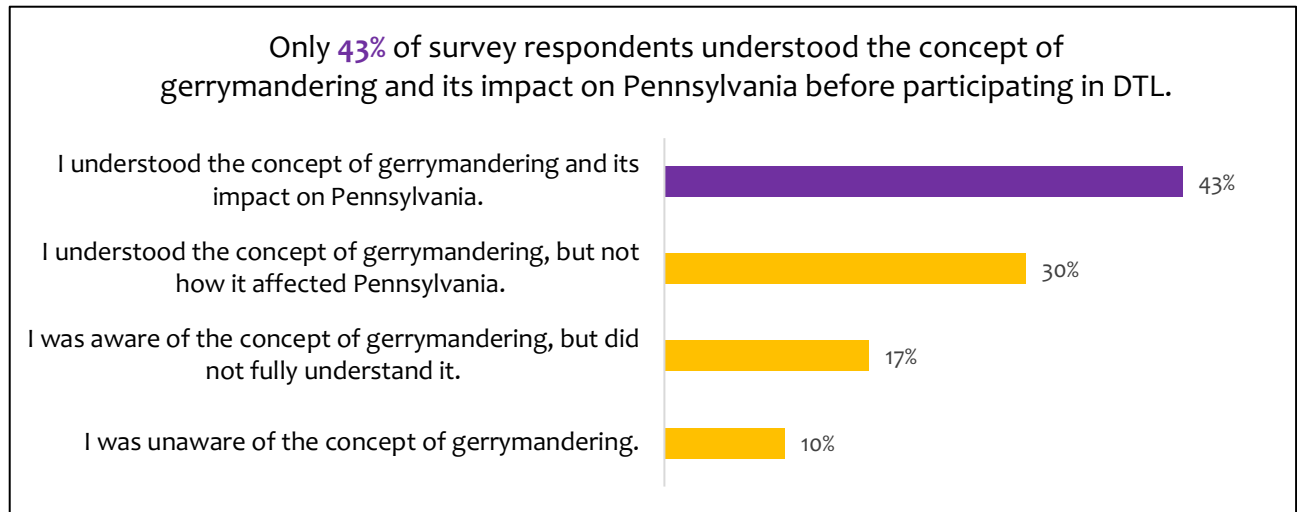


Figure 3 - DTL Survey: Respondent Pre-Awareness (N = 31)

Asked to rate their level of knowledge after participating in the competition, over 80 percent of respondents reported that participating in DTL increased their knowledge of gerrymandering (Figure 4).

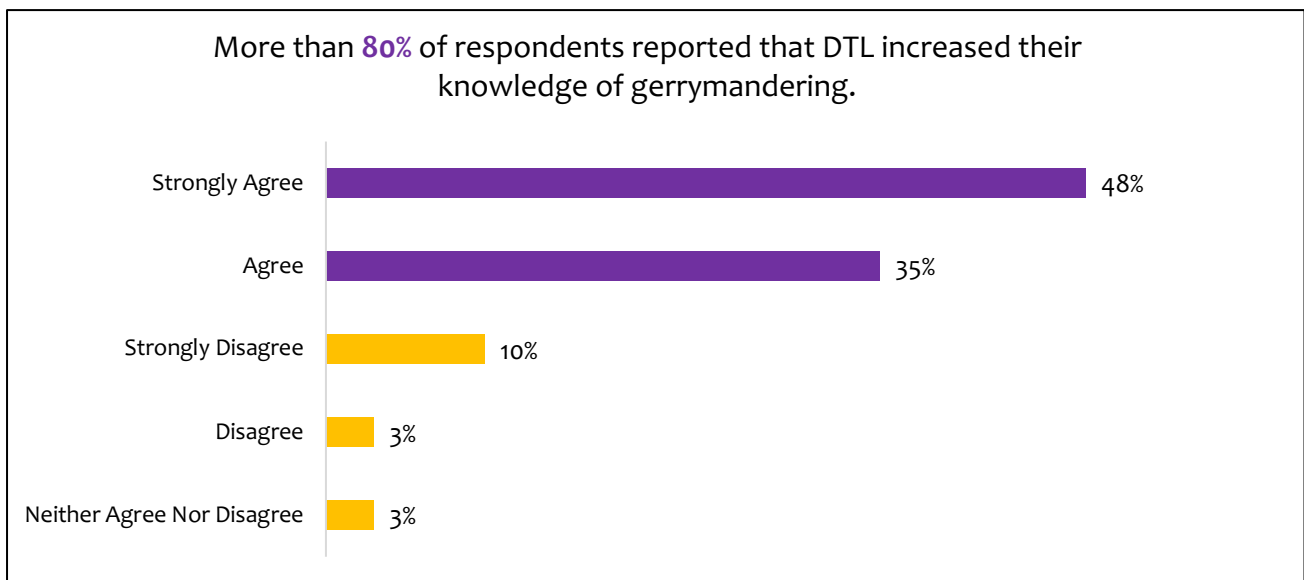


Figure 4 - DTL Survey: Respondent Post-Knowledge (N = 31)

Ninety-four percent of respondents agreed that gerrymandering is a serious civic issue and 84 percent agreed that addressing gerrymandering should be a non-partisan issue. 90 percent agreed that participating in DTL caused them to think about what makes a fair election map.

As shown in Figure 5, 60 percent agreed or strongly agreed that participating in DTL made them feel like they could take action to end gerrymandering.

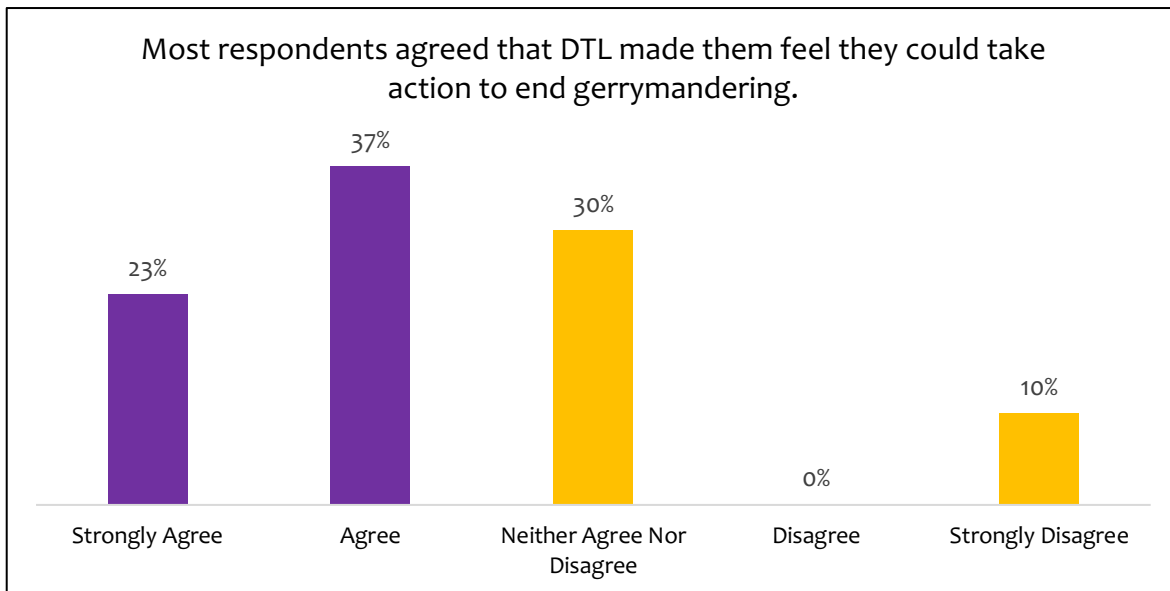


Figure 5 - DTL Survey: Respondent Post-Knowledge (N = 31)

### Outcome: Teacher Efficacy

- **Teachers whose students completed maps were satisfied with the Draw the Lines experience.** Across the board, interviewed teachers reported a positive experience implementing DTL in their classroom. Additionally, teachers found value in the online platform and materials and that the mapping exercise was an effective way to teach gerrymandering. Moving forward nearly all teachers indicated a high likelihood to repeat, and in some cases expand, the DTL programming in their classrooms

### Outcome: Participant Civic Efficacy and Engagement



- **Participants felt more empowered to address issues in their community after completing a map.** Surveyed mapmakers noted an increase in feelings of empowerment to address community issues as well as likelihood to engage in civic advocacy after participating. On average, participants

reported that their feelings of efficacy toward solving issues in their community increased from before they participated in DTL to after participating in DTL. The results are statistically significant ( $p < .001$ ). Respondents' changes in pre/post ratings of efficacy, reported as the changes in overall mean efficacy rating, are demonstrated below (Figure 6). In the Figure 6, the yellow dots represent respondents' ratings of their efficacy pre-DTL and the purple dots represent ratings post-DTL.

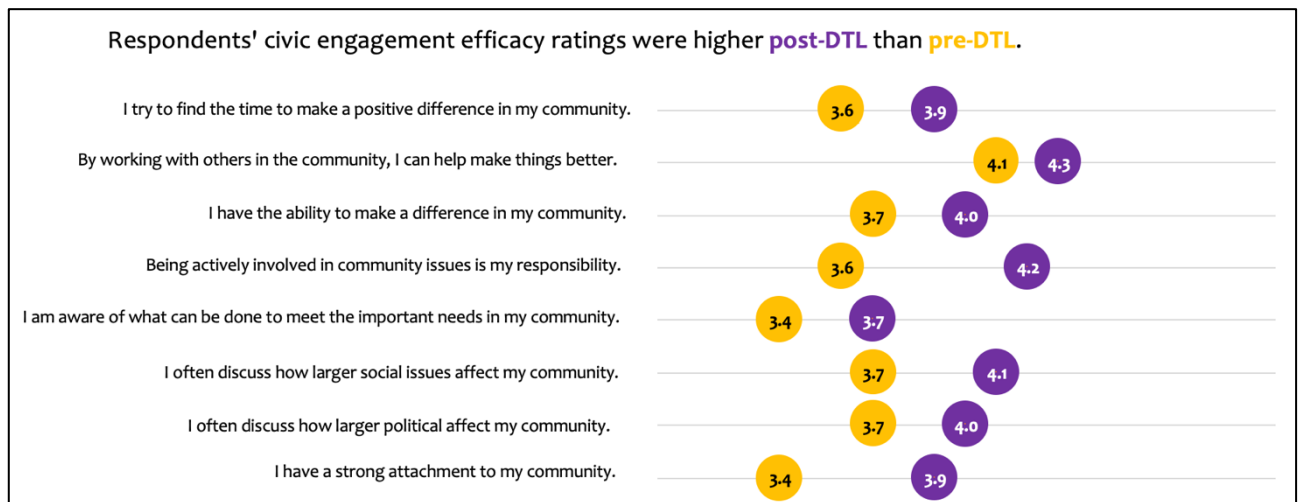


Figure 6 - DTL Survey: Respondent Post-Efficacy (N = 31)

On average, participants reported that their likelihood to engage in civic advocacy actions (on issues that concern them unrelated to gerrymandering) increased from before they participated in DTL to after participating in DTL. Overall, the average pre-mean increased from 3.65 to 4.01. This result is statistically significant ( $p < .001$ ).

- Participants reported that completing a map is leading to action.** Ninety-seven percent of survey respondents reported taking at least one action since participating in DTL, with 45 percent reporting they had taken 3 or more actions to end gerrymandering. The most popular action taken was discussing gerrymandering with friends (87 percent), followed by spreading the word about DTL (65 percent) and participating in the new DTL competition (42 percent). After participating in DTL, 23 percent reported contacting an elected representative to discuss gerrymandering.

When asked about actions they may take in the future, 49 percent reported it was likely they would contact their elected representative, and 32 percent stated their felt likely they would connect DTL with their school (Figure 7). It is important to note, however, that some participants may have interpreted this question differently than intended, which may have caused them to report actions already taken as actions planned for the future. Thus, numbers for this survey item may be inflated.



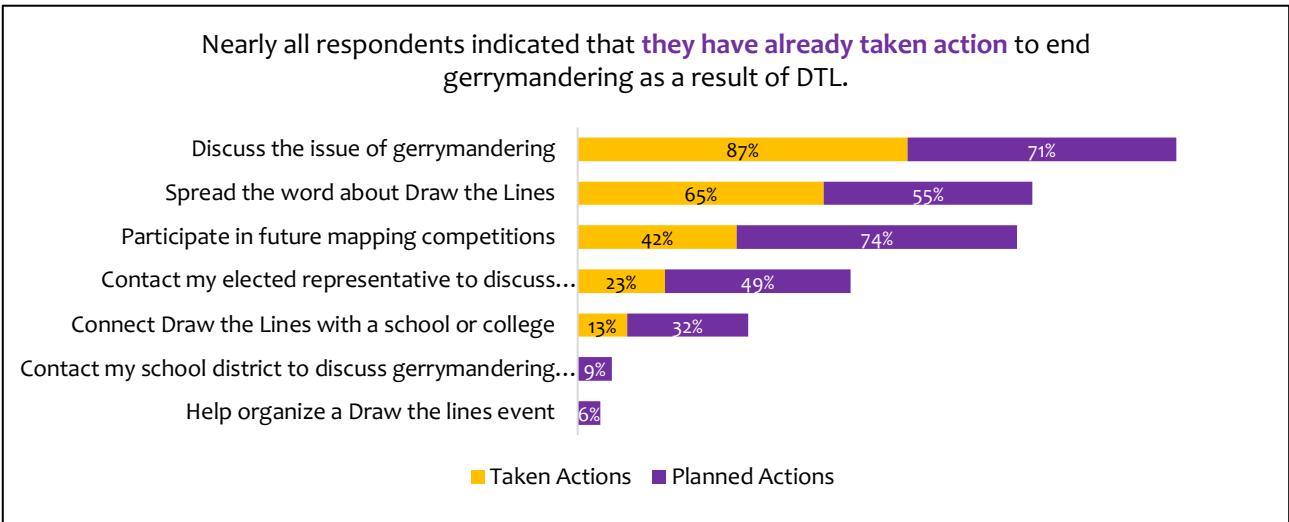


Figure 7 - DTL Survey: Respondent Actions (N = 29)

Additionally, there is a large positive correlation ( $r = .49$ ) between a participant’s feeling of being able to make a difference in their community and their reported likelihood that they will take action on a community issue, such that as efficacy to make a difference increases, likelihood to take action increases as well.

# Recommendations

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## Recommendations for Program Improvement

- **Consider ways to scale down the time commitment.** Both interviews and survey responses indicated that time was a challenge. This was especially prevalent in the teacher interviews, during which many teachers stated that they struggled to devote class time to mapping. Students in these classes would generally take three to six hours of unsupervised time to complete a map.
  - Allow teachers to choose between a full mapping exercise or an abbreviated version.
  - Break the mapping activity into disparate parts which can be spread out at their discretion.
- **Improve content for users with minimal knowledge of gerrymandering.** As participants who reported less awareness and understanding of gerrymandering prior to engaging with DTL were less likely to agree that DTL increased their knowledge of the topic than those who entered the DTL competition better informed about gerrymandering, DTL should focus on opportunities to improve this metric.
  - Create content tailored to those with no prior knowledge of gerrymandering, such as videos introducing the concept and a simplified version of the Gerrymandering 101 information.
  - Ensure the Gerrymandering 101 content exists within the District Builder software and not only in a separate section of the DTL website.
- **Create a system to track student work.** Some teachers used DTL as a class assignment, and teachers who were interviewed expressed difficulty with managing student progress for the mapmaking activity. There are several ways in which DTL could potentially address this challenge.
  - Create student/teacher accounts which give the teacher some sort of oversight or access capability.
  - Onboard all participating teachers to the DTL Google Classroom site with fidelity to better facilitate teacher tracking.
- **Create ways to expand the student experience beyond the classroom.** This recommendation is derived from the findings that participants that had more facilitated support had a better overall experience with DTL, and also that interviewed teachers expressed a lack of in-class time to complete maps.
  - Work with student groups and/or school clubs for them to implement DTL.
  - Consider offering an altered map-a-thon experiences that would allow students to complete maps in one sitting and compete for prizes the same day (rather than just the overall grand prize).

- **Consider prioritizing outreach to schools where teachers have high levels of autonomy.**

From teacher interviews, it was clear that teachers with higher levels of autonomy were more successful implementing DTL in their classrooms. Additionally, plenty of research shows that building principals are very influential over teachers' perceived autonomy.<sup>1</sup> Moving forward, DTL staff may want to tailor recruitment activities with this knowledge in mind.

- Focus outreach on schools where teachers have autonomy to make curricular decisions.
- Reach out to principals first to gauge their interest in DTL and/or obtain their support in getting their teachers involved with the initiative.

## Recommendations for Future Research

- **Consider implementing more controlled data collection.** In its pilot year, Draw the Lines is collecting data through post-participation surveys and interviews. While this allows Draw the Lines to cast a wide net, the initiative is dependent on the personal recollections of its participants, which are not always reliable. In the next phase of evaluation, Draw the Lines may consider implementing more controlled data collection, which would help them attribute outcomes to specific activities. See the following specific suggestions:

- A controlled study comparing two different classes within the same school, with one participating in Draw the Lines, while the other serves as the control group and does not.
- Before and after surveys given to students completing maps as part of a class assignment.
- Use a strategic and targeted canvassing approach across the state to determine PA citizens' average level of knowledge on the topic of gerrymandering. DTL could then have all mapmakers complete a pre-survey on gerrymandering. This could help DTL determine if individuals who are engaging with DTL are already those PA citizens most informed about the issue.

- **Conduct research on curriculum standards.** Several of the interviewed teachers were excited that parts of the Draw the Line materials aligned well with curriculum standards. At the same time, teachers felt that they didn't have as much time as they would have liked to implement DTL because they didn't have space in their curricular schedule to add something new. If Draw the Lines wants to carve out space in teacher's curriculum, they should mold their activities to fit existing standards. For example, DTL might consider:

- Listing the Pennsylvania statewide curriculum standards that to which Draw the Lines online material is aligned. Currently, DTL lists these standards within lesson plans, but it

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<sup>1</sup> Ingersoll, R. M. (2006). *Who Controls Teachers' Work?: Power and Accountability in America's Schools*. Cambridge, MA: Harvard University Press.

may be helpful to make this information more accessible, perhaps by creating a page specifically for teachers.

- **Seek out pragmatic improvements to the mapping platform.** The majority of survey respondents who started a map but quit before halfway done did so due to frustrations with the mapping platform. It would be wise for Draw the Lines staff to seek out explicit feedback as to exactly what users found challenging with the mapping tool and evaluate for what revisions can be made to the platform.
  - Conduct surveys to identify the concerns, for users who both completed and did not complete the mapping challenge.
  - Delve deeper into the motivations of those who completed less than 50% of the map and were most frustrated with the tool.
- **Expand evaluation and include more observational research.** Programmatic analysis has relied heavily upon surveys and interviews. While both of these methods can yield rich insights, they may also fail to yield some insights that observational research would facilitate. We recommend making the following adjustments to enhance future evaluations:
  - Schedule observation of DTL workshops, presentations and promotion events
  - Conduct in-person interviews rather than phone interviews with teachers onsite at their schools, noting environmental factors as pertaining to school infrastructure and culture.
  - Interview Students directly rather than rely on teacher perception of student outcomes.
  - Interview administrators regarding impact and awareness of the program within the school
  - Interview DTL staff regarding their roles within DTL and interactions beyond the offices.
  - Organize audio and visual documentation of the DTL process in classrooms, public presentations.
  - Solicit participant self-reporting through an entire process from DTL introduction to map submission

# Appendices

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- **Appendix A: Quantitative Materials**
  - [Participant Survey](#)
  - [Final excel file with survey results](#)
- **Appendix B: Qualitative Materials**
  - [Teacher interview protocol](#)
  - [Teacher interview transcripts](#)
  - [Teacher Consent Form](#)