Supporting Statement for the Evaluation of the Poetry Out Loud Program, Part B

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Part B. Collections of Information Employing Statistical Methods

Part B applies to data collection employing statistical methods only. For this study, data collection employing statistical methods includes pre- and post-student surveys of Poetry Out Loud (POL) program participants and non-participants in the 10 schools.

1. **Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.**

This section outlines the selection criteria that defines the sample for the study and describes the potential respondent universe and anticipated response rates. To select the study's sample, the research team will recruit ten (10) schools from a pool of approximately 2,300 participating schools that meet four (4) selection criteria: (1) states are optimally implementing Poetry Out

Loud;[1] (2) schools are implementing mandatory POL programming in at least one grade level;[2] (3) schools meet the necessary conditions to implement the study, including having a minimum of 900 POL-participating students and about 900 non-participants who are matched using propensity score methods, allowing the implementation of a school-wide online survey, and having the ability to provide student-level data for all students in the school; and (4) schools possess other features so as to achieve a good mix of school sites primarily in terms of geography, and secondarily in terms of locale (urban/rural) and student body composition. After the identification of 18 states that were optimally implementing POL, the NEA reviewed past documentation and reports shared by State Arts Agencies for evidence of schools that might meet the study's selection criteria. The NEA and/or its contractor then reached out to POL coordinators in State Arts Agencies in selected states for individualized follow-up about identified schools. Through this process, NEA learned about potential schools that might be eligible to participate in the study. The contractor then conducted individualized follow-up with school principals to learn more about the school's history with POL and to informally assess the

[1] As noted in Part A, schools will be selected from states that are optimally implementing POL. Optimal conditions as determined by the Poetry Out Loud program partners are as follows: states should have an overall count of participating students exceeding 2,500; an overall count of participating schools exceeding 20; presence of ancillary activities supporting state finals competitions, direct student exposure to a working artist, and celebratory activities for students and families such as a welcome banquet or reception; formal teacher recognition at the state level; opportunities for winning students to perform at local arts events throughout the state; strong support for the POL program from executive leadership at the state arts agency; workshops for teachers and/or students facilitated by the state arts agency; matching or overmatching of POL grant money with funds from the state arts agency; and an annual program assessment. Eighteen states were identified by the NEA and the Poetry Foundation as optimally implementing POL.

[2] NEA defined "mandatory" participation at the classroom level as individual teachers deciding that their class will participate in POL and that every student in the class will be required to select and memorize a poem and compete in the classroom and/or school competition. Mandatory participation at the grade level is when all teachers in a particular grade or grades agree to participate in POL and require all students in that grade level to select and memorize a poem and compete in the classroom and/or school competition. Selecting schools with mandatory participation prevents self-selection bias in the sample.

capability of the school to meet the study requirements, including, but not limited to, the use of mandatory participation for POL implementation.

Within the selected schools – selected from the criteria listed above, including mandatory participation in POL at the classroom or grade level - a maximum of 900 students participating in POL and 900 students not participating in POL will be identified to respond to the surveys. All students in the selected schools will be asked to complete the survey. Because mandatory participation is based on either a student's English Language Arts teacher or grade level, the research team will be able to identify POL versus non-POL participants by either teacher or grade.

As shown in Exhibit 1, the research team's goal is to achieve a response rate of 80% for the baseline surveys, which will occur prior to the implementation of Poetry Out Loud content in the classrooms. We chose an 80% response rate as a goal for the survey following OMB guidelines, the threshold where potential biases are acceptably small. To achieve this goal, we put in place specific strategies to help boost response rates. First, we designated a POL liaison at each of the schools to support survey data collection. POL liaisons are experienced English Language Arts teachers at the schools selected for the study. We expect that they will play an important role in relaying the importance of the study and helping us obtain the support from other teachers at the school. Second, with the support of teachers, we will be asking that students complete the surveys at school. Allotting a specific time to fill out the survey will help response rates. Lastly, we designed the survey keeping in mind the length and the ease for respondents to answer, both of which can lead to improved response rates. To avoid survey fatigue, we kept the length of the survey to about 15 minutes. We also used open ended items sparingly and spread throughout the survey to reduce the cognitive burden associated with responding to these kinds of questions.

If survey response rates fall below 80%, as we expect it will happen in the post survey, we have plans to conduct missing data analyses and correct for non-response bias, as further explained in section B.3. For the post-survey, the research team will administer the survey to respondents of the baseline survey and anticipates a lower response rate of approximately 50% due to attrition and other unexpected events, since the data collection will occur about nine months after the baseline survey.

Exhibit 1: Data Collection to be Analyzed Using Statistical Methods

Data Source	Respondents	Timing of Data Collection	Response Universe	Estimated Response Rate
Youth Baseline/ Pre-Survey:	POL Participants	Prior to start of POL curriculum (est. Sept. 2018)	9,000	80%
Youth Baseline/ Pre-Survey:	Non-Participants	Prior to start of POL curriculum (est. Sept. 2018)	9,000	80%
Youth Follow-up/Post-Survey	POL Participants	After conclusion of POL (est. June 2019)	7,200	50%
Youth Follow-up/Post-Survey	Non-Participants	After conclusion of POL (est. June 2019)	7,200	50%

2. **Describe the procedures for the collection of information, including:**

- Statistical methodology for stratification and sample selection.
- Estimation procedure.
- Degree of accuracy needed for the purpose described in the justification.
- Unusual problems requiring specialized sampling procedures,
- Any use of periodic (less frequent than annual) data collection cycles to reduce burden.

The purpose of the evaluation of the Poetry Out Loud program is to understand student-level outcomes associated with the implementation of POL programs. The evaluation is mixed method, combining a quasi-experimental design involving a treatment group of students participating in POL and a comparison group of non-participating students from the same schools. The quasi-experimental design will include pre- and post-student surveys for the treatment and control groups, analysis of student record data for all students (treatment and comparison), coupled with qualitative on-site data collection to help understand POL program

implementation and the counterfactual (i.e., the experiences of those in the comparison group). This design will allow the research team to analyze all outcomes of interest. It also helps us to provide insight into the factors affecting those outcomes and to identify how outcomes have changed after implementation of the program.

To learn about the efficacy of the Poetry Out Loud program, SPR will select a purposive sample of 10 POL-participating schools across the U.S. to conduct quantitative and qualitative data collection activities. In consultation with the NEA, SAA staff, and other project partners, SPR will recruit school sites that meet the criteria to be part of the study. Specific details about school site selection are addressed in detail in the section that follows.

As noted in the evaluation planning matrices, the study is guided by a series of research questions focused on the assessment of the program's impact in three different domains: students' academic engagement and performance, poetry engagement and appreciation, and socio-emotional development. Regarding student record data, SPR will be asking for the sample universe – that is, all de-identified student records at the school. Regarding the student survey, SPR will request that all students in the school fill out the pre- and post-survey. Regarding on-site qualitative data collection, SPR will work with the school and teachers to select classrooms to visit and individual students to interview and invite to participate in focus groups. For selecting teachers for interviews, SPR will work with the POL liaison to identify how many teachers are participating in POL in a given school. We will then seek teachers who are willing to participate in an interview with SPR and whose schedules align with the researcher's availability while on site. If POL participation is spread across multiple grade levels, SPR will try to interview participating teachers at those different grade levels. For students, SPR will provide the study liaison with parameters for teachers in recommending students for interviews.

Because this study is focused on POL in optimally implemented conditions, the parameters include students who are doing fairly well in school. Another reason to select "good" students is so that we do not take up class time for any students who are struggling academically. In addition, the study team will be seeking a broad diversity of student interviewees – in terms of grade level, rural/urban residents, race/ethnicity, and gender – across all 10 schools and will suggest appropriate school-level diversity through our parameters.

Regarding the degree of accuracy needed for the purpose described in the justification, the results of our power analyses utilizing 1,800 students per school yield minimum detectable effects (MDEs) for a pooled sample of 18,000 (1,800 for each of the 10 schools) on some of the outcomes of interest, which are as follows: 1) Based on the results from Crombie, Walsh, and Trinneer's (2003) study examining the effects of a similar program to POL on students' confidence (*M=3.86, SD=.88*), we estimated a minimum detectable effect of .06 for the pre-survey and .08 for the post-survey, assuming a 50% response rate and using a standard level of power (80%) at the 90% confidence level, and 2) Following the same assumptions and using the results of a study examining the impact of a theater intervention on reading scores (*M=193.16, SD=.22.74*), (Inoa, Weltsek, & Tabone, 2014), we estimated a minimum detectable effect of 1.37.

To build the comparison group that is similar to POL participants, propensity score matching will be used to construct a comparison group that is most similar to the group that participates in POL programming at least on observable characteristics. Recall that schools selected to participate in the study will be schools that mandate participation in POL at either the classroom or at the grade level (see above for a more detailed explanation). A set of covariates will be used to estimate the propensity score. The selection of covariates will be based on

previous research examining the relationships between variables of interests (e.g., age, gender, race/ethnic background, English Learner status, prior academic achievement). Data of POL and non-POL participants will be pooled to estimate the propensity score [(Pr(X) = Pr(T=1|X)] for each subject. To estimate the propensity score for each subject, logit regression will be used, with POL participation as the dependent measure, and a range of demographic and other characteristics as independent measures to establish the relative weights for each of the independent measures in "predicting" POL participation. The next step is to match each student in the group of students who participated in POL to another individual student in group that did not participate in the program. To do this, we will use the "nearest neighbor" approach in the selection process, meaning that we will select the comparison group member whose propensity score is closest to the respective POL participant. We also plan to use replacement, so that a potential comparison group member can be matched to several POL participants. Lastly, we will assess the matching and perform sensitivity tests to assess whether other approaches would be preferable before estimating the average POL participation effect on student outcomes.[3]

The primary means of reducing burden associated with data collection will be that we will be requesting student record data that schools already collect.

3. **Describe methods to maximize response rates and to deal with issues of nonresponse. The accuracy and reliability of information collected must be shown to be adequate for intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.**

[3] Other matching methods include caliper and radius matching, stratification/interval matching, or kernel matching.

The research team will work to maximize student survey response rates with multiple strategies. First, in order to be included in the sample of 10 schools, schools will need to agree to request that all students in the school to take the pre- and post-survey, and to encourage participation, although students will have the option to decline to take the survey. As discussed in Supporting Statement A, students will receive individual invitation links via email from SPR. SPR will therefore begin the survey administration process by collecting all student emails from each school. SPR will then input these emails into the survey administration platform (SurveyGizmo) using their Email Campaign feature linked with a simple mail transfer protocol (SMTP). By sending SurveyGizmo emails through this method, each student will receive an email containing a unique link to take the survey. The research team will work with the POL liaison to determine the best way to administer the survey at each school; however, we will suggest that each teacher set aside class time for students to take the survey either via a classroom set of computers or in a computer lab. To incentivize participation, the NEA will offer to brief leaders of participating schools on study results after the conclusion of the study. After a school has agreed to this condition of participation, the research team will work with the school to coordinate survey administration through the school, at the classroom level, and through follow up correspondence with participants. The follow up correspondence will occur through monitoring response rates via our SurveyGizmo platform. Through SurveyGizmo's Email Campaign feature, SPR will be able to email individual student reminders to those who have not completed the survey while keeping their information confidential to the research team. In addition to securing school administration-level buy-in for supporting full student participation in the pre and post surveys, SPR will also work with one or more POL coordinator teacher(s) to oversee survey administration and to encourage high rates of student response. To address

challenges to data collection and the danger of lower than expected response rates, SPR will undertake some of the following strategies to address low response rates:

(1) communicate with participating sites to better adapt our data collection strategies to specific sites;

(2) identify an evaluation point of contact at each site who could help administer the surveys. Because the survey is online, our POL liaison will help administer the survey through alerting teachers to the survey launch and coordinating classroom times for students to take the survey;

(3) provide a stipend and prepare a standardized training for evaluation points of contact to support data collection;

(4) track the completion of online surveys by site in order to conduct appropriate follow-up to encourage survey completion. We will specifically monitor the number of respondents that are POL participants and non-POL participants and target follow-ups to ensure that we have an equal balance of both groups; and

(5) actively collaborate with the site evaluation point of contact leading up to and during the administration and return of student baseline and follow-up surveys.

We will conduct a non-response bias analysis to determine the impact of non-response. To do this we will compare the characteristics of those who responded to the survey with the pool of program participants on various demographic characteristics (e.g., age, grade, gender, race and ethnicity). The pool of participants will be obtained from the student administrative data we receive from schools. Through this comparison, we will determine whether there are statistically significant differences between the actual and potential survey respondents. Depending on the results, we will determine if there is need to address non-response using additional statistical procedures such as weighting.

Administrative data are typically available for the vast majority of students since schools have to collect these data routinely to meet federal and state accountability requirements.

Nevertheless, the research team will assess the patterns of missing data and determine whether it is necessary to correct for missing data using other methods.

Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of test may be submitted for approval separately or in combination with the main collection of information.

The research team tested the survey questionnaire conducting four cognitive interviews with high school students in October - November 2017. The objectives were to: (a) detect questionnaire design problems; (b) check for students' interpretation of the questions and the reasoning behind their answers for question items; (c) detect confusing wording; (c) ensure questionnaire flow; and (d) estimate average time to complete the survey. Changes were made to the survey instrument following completion of cognitive testing. The Cognitive Testing Report can be found in **Attachment I**.

4. **Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractors, grantees, or other person(s) who will actually collect or analyze the information for the agency.**

Name	Title (Project Role)	Organizational Affiliation and Address	Phone Number
Parties doing the data collection			
Melissa Mack	Project Director, Co-Principal Investigator	Social Policy Research 1333 Broadway, Suite 310 Oakland, CA 94612	(510) 788-2478

Name	Title (Project Role)	Organizational Affiliation and Address	Phone Number
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Rachel Estrella	Co-Principal Investigator	Social Policy Research 1333 Broadway, Suite 310 Oakland, CA 94612	(510) 788-2481
NEA and Poetry Foundation staff consulted			
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Melissa Menzer	Program Analyst | Research & Analysis	National Endowment for the Arts 400 7th Street SW | Washington DC 20506	202-682-5548
Lauren Miller	Program Manager | Literature & Arts Education Division	National Endowment for the Arts 400 7th Street SW | Washington DC 20506	202-682-5490
Eleanor Billington	Division Coordinator | Literature & Arts Education Division	National Endowment for the Arts 400 7th Street SW | Washington DC 20506	202-682-5001
Andi Mathis	State & Regional Specialist | Partnership	National Endowment for the Arts 400 7th Street SW | Washington DC 20506	202-682-5430
Justine Haka	Program Associate Programming and Events	Poetry Foundation 61 West Superior Street, Chicago, IL 60654	312-787-7070
Contractor's technical working group consulted			
Sarah Cunningham	Executive Director for Research Director, Arts Research Institute	School of the Arts, Virginia Commonwealth University 325 N Harrison Street, Rm 201 Richmond, VA 23284	804-828-6875
Jonathan Herman	Executive Director	National Guild for Community Arts Education Data Collection	212.268.3337 x15
Jamal Abedi	Professor	University of California at Davis, School of Education One Shields Avenue Davis, CA 95616-5270	(530) 754-9150

Name	Title (Project Role)	Organizational Affiliation and Address	Phone Number
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Derek Fenner	Arts Learning Program Manager	Alameda County Office of Education, Oakland, California	(510) 670-7730
Andrea Santos	Teacher 2016 West Virginia Teacher of the Year Fine Arts Department Chair	Logan High School, West Virginia	(304) 946-2444
State Arts Agency Administrators consulted			
Josy Miller	State Arts Agency Administrator	California Arts Council 1300 I Street, Suite 930 Sacramento, CA 95814	916-322-6385
Emily Reece	State Arts Agency Administrator	Georgia Council for the Arts 75 Fifth Street, NW, Suite 1200 Atlanta, GA 30308	404-814-4017
Diane Daily	State Arts Agency Administrator	Massachusetts Cultural Council 10 St. James Avenue, 3rd Floor Boston, MA 02116-3803	617-727-3668, ext. 262
Melissa Wray	State Arts Agency Administrator	The Loft Literary Center Suite 200, Open Book Building 1011 Washington Avenue South Minneapolis, MN 55415	612-215-2590
Virginia Sanders	State Arts Agency Administrator	Missouri Arts Council 815 Olive Street, Suite 16 St. Louis, MO 63101-1503	314-340-6845
Charlotte Smelser	State Arts Agency Administrator	Mississippi Arts Commission Suite 1101A, Woolfolk Building Jackson, MS 39201	601-359-6529
Monica Smith Grable	State Arts Agency Administrator	Montana Arts Council 830 N. Warren Street Helena, MT 59620	406-444-6522
Julianne Gadoury	State Arts Agency Administrator	New Hampshire State Council on the Arts 19 Pillsbury Street, 1st Floor Concord, NH 03301-3570	603-271-0791
Kay Potucek	State Arts Agency Administrator	New Jersey State Council on the Arts 33 West State Street, 4th Floor Trenton, NJ 08608	609-292-4609
Maryjane Dorofachuk	State Arts Agency Administrator	Nevada Arts Council 716 North Carson Street, Suite A Carson City, NV 89701	702-486-3738

Jade Triton	State Arts Agency Administrator	Teachers & Writers Collaborative 540 President Street, 3rd Floor Brooklyn, NY 11215	212-691-6590
Chiquita Mullins Lee	State Arts Agency Administrator	Ohio Arts Council Rhodes State Office Tower 30 East Broad Street, 33rd Floor Columbus, OH 43215-3414	614-728-4455
Gayle G. Cluck	State Arts Agency Administrator	Pennsylvania Arts Council 216 Finance Building Harrisburg, PA 17120	717-705-5644
Meredith Callis	State Arts Agency Administrator	Tennessee Arts Commission 401 Charlotte Avenue Nashville, TN 37243	615-532-5934
Anina Moore	State Arts Agency Administrator	Texas Commission on the Arts E. O. Thompson Office Building 920 Colorado, Suite 501 Austin, TX 78701	512-936-6573
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