

Considering Equity within the Distribution of Innovative Approaches to Literacy Grant Funds



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Honor Statement

On my honor as a student, I have neither given nor received unauthorized aid on this assignment.

Disclaimer

This research uses information that is not publicly available on applicants to the Innovative Approaches to Literacy Grant from the U.S. Department of Education. The content does not reflect the views of the U.S. Department of Education, the Office of Elementary or Secondary Education, or the Innovative Approaches to Literacy Program Office. The U.S. Department of Education, the Office of Elementary or Secondary Education, or the Innovative Approaches to Literacy Program Office are not responsible for the content or any loss due to the use of such content. Any mention of products, trade names, or organizations within this report is not an endorsement of those entities by the U.S. Department of Education, the Office of Elementary or Secondary Education, or the Innovative Approaches to Literacy Program Office.

This study was conducted as part of the program of professional education at the Frank Batten School of Leadership and Public Policy, University of Virginia. This paper is submitted in partial fulfillment of the course requirements for the Master of Public Policy degree. The judgments and conclusions are solely those of the author, and are not necessarily endorsed by the Batten School, by the University of Virginia, or by any other agency. All limitations of figures, graphs, and data interpretations are discussed within Appendix E. All errors are my own.

Key terms:

Innovative Approaches to Literacy (IAL): A Discretionary grant to improve literacy outcomes for under resourced communities.

Local Education Agency (LEA)s: School Districts that serve more than one public school

Bureau of Indian Education (BIE)s: Public school systems/districts for Indian Education

OESE: Office of Elementary and Secondary Education

OGC: Office of General Counsel

Executive Summary

From 2012-2021 only 61% of applicants and 67% percent of recipients to the Innovative Approaches to Literacy (IAL) Program were below the national average literacy test scores of 3rd-8th graders (See Page 8, Table 1). Despite having some of the worst literacy outcomes, some Local Education Agencies (LEAs) & Bureau of Indian Educations (BIEs) are not applying or receiving funding from the IAL Program (Reardon et al., 2022; OESE G5 IAL Grant Data, 2023).

This report identifies four key barriers that explain why high need applicants do not apply or receive funding: (1) Lack of knowledge about IAL (2) Time and resources constraints (3) Complicated application process (4) Lack of competitiveness within the selection process (See Appendix D). Poor literacy performance among K-12 public school students is associated with greater societal inequalities including wealth and health divides; COVID-19 has only widened literacy performance gaps. **IAL funds make a substantial difference for communities, but their reach is limited (Reardon et al., 2022; Kuhfeld et al., 2022). In 2021, only ~2.5% of eligible applicants even apply, and~0.4% of total LEA/BIEs below the national literacy testing average were awarded IAL funding (OESE G5 IAL Grant Data).**

To increase the share of low literacy performing LEAs/BIEs that apply for and receive IAL funds this report considers:

1. Simplifying the IAL Application: Creates a condensed version of the application instructions by populating applicant information automatically to decrease requested information from the applicant (Bettinger et al., 2012).
2. Improving technical assistance: Increases the use of technical assistance virtual webinars, invites low performing LEAs/BIEs to apply and assigns them an advisor, creates a model application with ideas that have worked for recipients (Ludwig & Miller, 2005).
3. Including a literacy metric in Competitive Preference: Awards 4 points during the selection process to applicants below the NAEP average for literacy test scores (Reardon et al., 2022).
4. Recruiting new peer reviewers: Encourages new community leaders from low performing literacy districts to apply to be peer reviewers (Office of the Secretary, 2022; Shupe Yuan & Lou, 2020).

I recommend combining options 2 and 3 as these are both the most cost efficient with proven research on how they effectively address selection and recruiting barriers.

Redistributing funds will result in new winners and losers. However, this recommendation will strike a balance between increasing equity and ensuring projects that have been making a difference continue to do so. With this recommendation, high need LEAs/BIEs are less of an investment risk because the technical assistance process will help applicants factor in internal controls when designing a project. Awarding points based on literacy outcomes will be highly correlated with schools who have fewer financial resources to begin with and will add a wider scope of equity considerations when deciding recipients. These changes will further align IAL's work with President Biden's Executive Order of *Advancing Racial Equity and Supporting Underserved Communities Through the Federal Government* (The White House, 2021).

Introduction

Across the country variation in literacy performance reflect larger societal disparities in outcomes based on race, income, disability, gender, nationality, among other systemic factors (Blazer, 2009).

Funding and Resource constraints of public schools perpetuate literacy performance differences (AU, 2020). Research shows public schools with high percentages of disadvantaged students tend to have less resources and are underperforming compared to their counterparts (Reardon et al., 2022; NCES, n.d.). Public schools are vital in shaping the literacy outcomes of the 49.5 million students they serve, but more than half of these students -about 25 million- were below reading proficiency in 2022 (NCES, n.d.; NAEP, 2022). Literacy outcomes are predictive of health outcomes, crime rate, economic growth potential, and employment rates (Dewalt, 2004; RIF, 2023). Therefore, literacy achievement holds substantial weight for Americans, and American democracy.

To help improve national literacy outcomes and address the disparities schools face based on the income of their geographic area, the U.S. Department of Education created the discretionary grant, Innovative Approaches to Literacy (IAL) (OESE, 2023). Following a similar objective of improving education outcome disparities, President Biden issued the executive order #13985 or *Advancing Racial Equity and Supporting Underserved Communities Through the Federal Government*. This order calls for a "whole-of-government equity agenda that matches the scale of the opportunities and challenges that we face" (The White House, 2021).



Since then, the U.S. The Department of Education has directed initiatives towards an equity imperative. The Innovative Approaches to Literacy Grant, and other discretionary grants hold a great potential for the Department to take further action and meet Biden's equity goals.

This report considers the past and current distribution of those who apply and receive IAL grant funds to evaluate the equity implications of this funding. It provides an overview of the kinds of recipients and applicants who have historically applied or received funding. Through evaluating the IAL application review structure, this report considers evidence of the impacts of possible selection and recruitment interventions on application rate and selection of high need applicants. This report then assess different program/policy interventions on their cost efficiency, political feasibility, and effectiveness to propose a recommendation that best helps the Department meet its equity goals as outlined in Executive Order #13985. Finally, this report considers implementation considerations and interviews with relevant stakeholders.

Problem Statement

Since its creation in 2012, under the Improvement of Education sections of the 1965 Elementary and Secondary Education Act, the Innovative Approaches to Literacy Grant has given grants to eligible LEAs & BIEs that are concentrated in similar geographic regions. While the grant has improved literacy outcomes for recipients, only a small number of LEAs & BIEs are awarded the IAL grant. Gaps in literacy outcomes remain a pressing national issue that have worsened since COVID-19. The Innovative Approaches to Literacy Grant's goal of improving literacy outcomes for children and students in high-need LEAs and BIES has not come to fruition for some of the most high-need LEAs and BIEs. Dark blue areas in Figure #2 indicate high concentrations of low literacy performing LEAs, but some of these areas do not appear as applicants or recipients of IAL funds in Figure #1. **Nationwide, LEAs and BIEs with some of the worst literacy outcomes are not applying or receiving funding from IAL grants (See interview Appendix D).**

IAL Applicants and Recipients 2012-2021

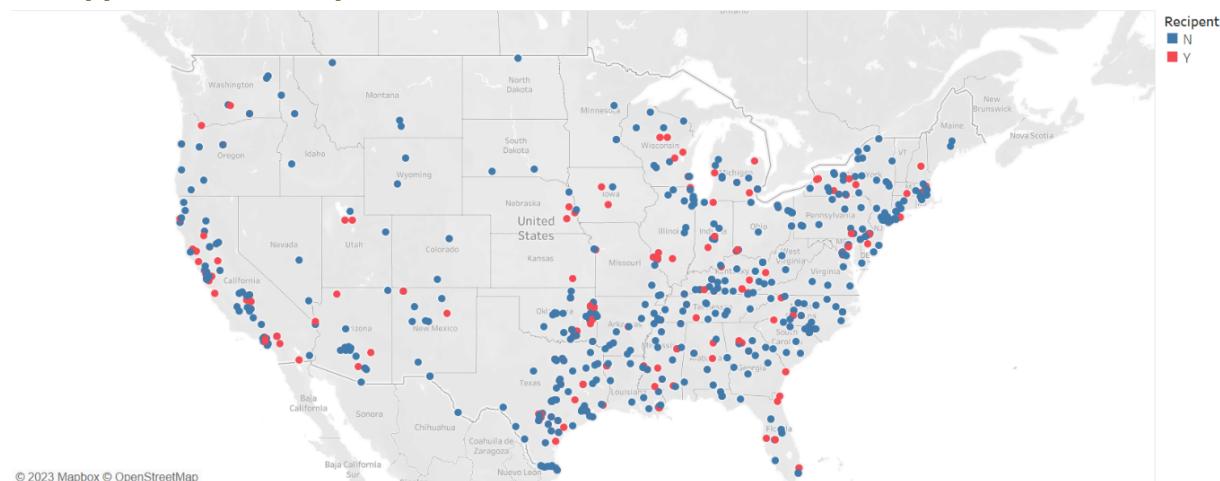


Figure 1: IAL Recipients and Applicants from 2012-2021 (OESE G5 IAL Grant Data, 2023; Reardon et al, 2022)

The Education Opportunity Project at Stanford's Map of Average Test Scores By LEA.

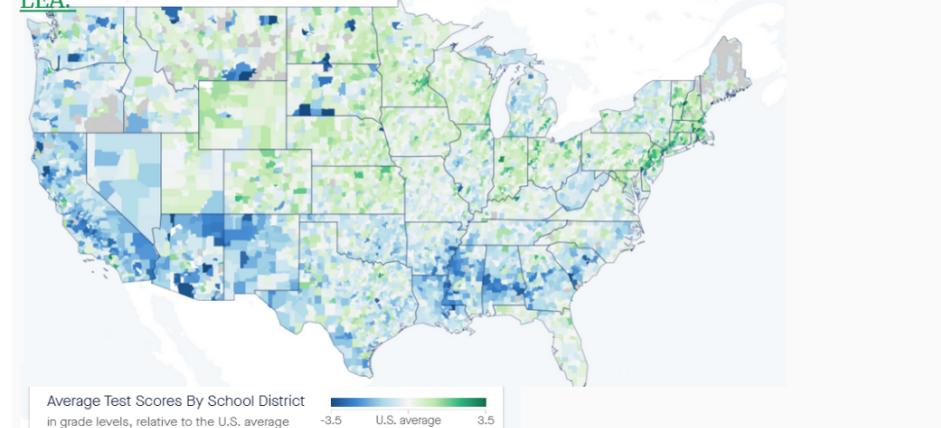


Figure 2: Average 3-8th Grade Literacy Testing scores by LEA from 2009-2018, (Reardon et al, 2022)

Client Overview

The U.S. Department of Education facilitates over a hundred formula and discretionary grants for thousands of recipients every year (US Department of Education (ED), 2016). The Office of Elementary and Secondary Education has ownership of over 40 discretionary grants, including the IAL program. The role of administering and monitoring IAL funds rests within the IAL program office (US Department of Education (ED), 2016). Every grant year IAL program officers facilitate an estimated total of \$9 million in discretionary award funds, with 30 recipients, around 100 applicants, and a \$500,000 average award size (Federal Register, 2023).

One goal of the U.S. The Department of Education and the Office of Elementary and Secondary Education is to bridge gaps in educational opportunities for students, particularly K-12 public school students. Ensuring that discretionary education funds are allocated to the parties most in need or who can benefit the most aligns with the goals of OESE and the USDOE. IAL's funding allocation can help guarantee that public schools have the resources they need to best help their students succeed and improve in literacy (US Department of Education (ED), 2016).

COVID-19 further widened achievement gaps in literacy nationwide. A Brookings study of elementary school test scores found that during the 2020-2021 school year, test scores differences grew 15% between schools serving students from majority high income verses low-income families. To make sure that we are reaching students with the help and resources they need, it is imperative for LEAs that are struggling with literacy performance to be prioritized in the allocation of IAL funds (Kuhfeld et al, 2022).

In response to President Biden's executive order, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, The Department of Education released their *2022 Equity Action Plan*. This plan details three specific steps the Department is taking for all their discretionary grants: (1) increasing peer reviewer diversity (2) increasing equity considerations from grant applicants (3) building an equity dashboard of grantmaking data. While all three are important steps to help deliver funds to the most in need applicants, they broadly touch on all discretionary funding and lack the specifics to make an effective impact for the Innovative Approaches to Literacy Program in particular. It is important that the Department considers ways to improve equitable funding to the Innovative Approaches to Literacy program now given the Biden administration's interest, and the impact COVID-19 had to worsen literacy outcomes (The United States Government, 2021).



Background on the Problem

Historical Motives & Politics behind current IAL Funding:

The modern-day federal grant system started in 1879 when the first federal grant to states allocated funds to support teaching materials for the blind. About thirty years later, the federal government's grant funding capacity was strengthened by the 16th amendment's ratification. In the 1960's there was increased interest in federal education grant investment, due to the strong demand for social rights. Thus, the Elementary and Secondary Education Act of 1965 was adopted which included an early outline of what came to be the IAL grant program (CRS, 2019).

IAL was established in 2012 through a bipartisan effort to provide funding for school libraries and literacy needs. The current determinant of eligibility and need of the IAL program includes whether a school district serves 20% or more students served who are below the SAIPE poverty threshold. With the Biden administration, there is interest in expanding the current definition of need to include other contextual aspects of inequities (Ewagner, 2019)

Current Pool of Eligible Applicants

From 2012 to 2021 there have been ~900 applicants to the Innovative Approaches Literacy program. As seen in Table 1, on average only 61.4% of applicants who apply are below literacy levels and 67% of all recipients are below literacy levels. In 2021, only .96% of LEAs who are below literacy levels even applied and only 2.5% of eligible LEAs applied. Therefore, in 2021 only .4% of LEAs below the U.S. literacy testing average were awarded IAL funding and 1.11 % of LEAs eligible according to SAIPE estimates (See Appendix A, Figure #11 for calculations).

Table 1: Applicant and Recipients At/Above vs. Below US Average Literacy Testing Scores

Year	Total Applicants	Total Recipient	Total Applicant Below Lit	Total Recipient Below Lit	Share of Applicant Below Lit average	Share of Recipient below Lit average
2021	93	40	56	26	0.602150	0.65
2019	-	4	-	2	-	0.5
2018	151	40	99	29	0.655629	0.725
2016	209	29	138	20	0.660287	0.68965
2015	-	2	-	1	-	.5
2014	207	71	115	43	0.555555	0.60563
2013	-	2	-	2	-	1
2012	244	45	146	31	0.598360	0.68888
Averages					61.4%	66.9%

Background on the Problem

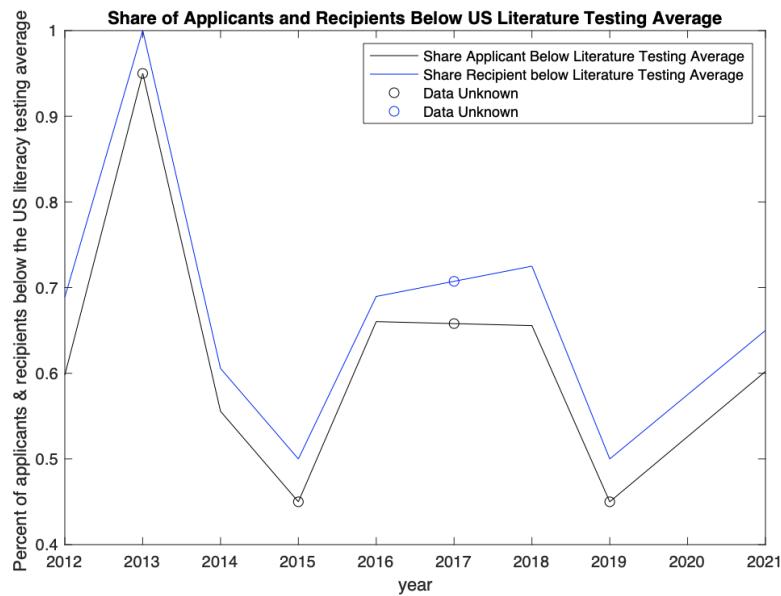


Figure 3: Share of Applicants & Recipients Below the US Literacy Testing Average Overtime (US Census Bureau, 2012-2021; OESE G5 IAL Grant Data)

Causes of high-need applicants not receiving funding:

By interviewing applicants, I found high-need schools may not be receiving these grants due to resource and time constraints. In lieu, the most 'high need' schools may also lack the necessary information to apply (George-Jackson & Gast, 2015). Due to only being marketed through the Federal Register, these 'high need' schools potentially do not know this grant exists (US Department of Education (ED), 2016). Further interviews revealed the application process to be long and complicated for applicants and recipients. The 2023 instruction manual is 56 pages long which has even been condensed in the last few years (Earle, 2023). Therefore, the complicated application process is a plausible third reason for why high need of LEAs are not receiving funding. Applicants noted that the period the application is open, from March 14th to May 15th, makes it difficult to gather all the necessary information and craft a strong plan. Thus, the limited application window could dissuade LEAs from applying to this grant. The IAL program office typically hosts one to two, two-hour-long virtual information sessions to help interested applicants in applying which is typically during working hours. If a LEA had a question about the application procedure, they would be constrained by how there is a max of two information session during normal work hours (Innovative approaches to literacy, 2023).

During the selection review process reviewers may be less likely to choose the candidate with the highest need because of the evaluation parameters. Currently the Department determines the need of applicants by requiring applicants to have 20% or more of their students below the SAIPE poverty threshold to be eligible for consideration (Federal Register, 2023; Innovative approaches to literacy, 2023).

Background on the Problem

Causes of high-need applicants not receiving funding (Continued):

Research has shown that income has a strong indirect correlation with literacy outcomes and resource need (Reardon et al., 2022). Currently to be eligible for the grant a school district must be resource constrained or have 20% or more students served below the SAIPE poverty level. Therefore, not factoring in literacy outcomes within the selection review process is arguably missing a pivotal indicator of need to differentiate applicants better rather than relying on income status and project design alone. (Smith, 1997).

As part of the selection process the department conducts a "risk assessment" to evaluate the school district's financial structure and internal controls. Given that high need LEAs may have weaker internal controls compared to a greater resourced LEA, high need LEAs may be more likely to fail the "risk assessment" (See Appendix D). Lastly, the system for selecting applications goes towards the schools that have the 'best' application. Considering that most high need schools face capacity constraints in crafting a persuasive application, it may be the case that the highest scoring application on the selection criteria does not surmount to the school with the most need for the funds (See Appendix D).

Demographic Make-up of Applicants and Recipients

-*Geography:* The most common type of applicant and recipient from 2012-2021 were rural. LEAs that are classified as towns are more likely to be chosen than any other geography types, discounting cities. City applicants are the third most common recipient type despite being the second most common applicant type. Suburb type LEAs make up the smallest number of applicants and recipients (See Figure #4).

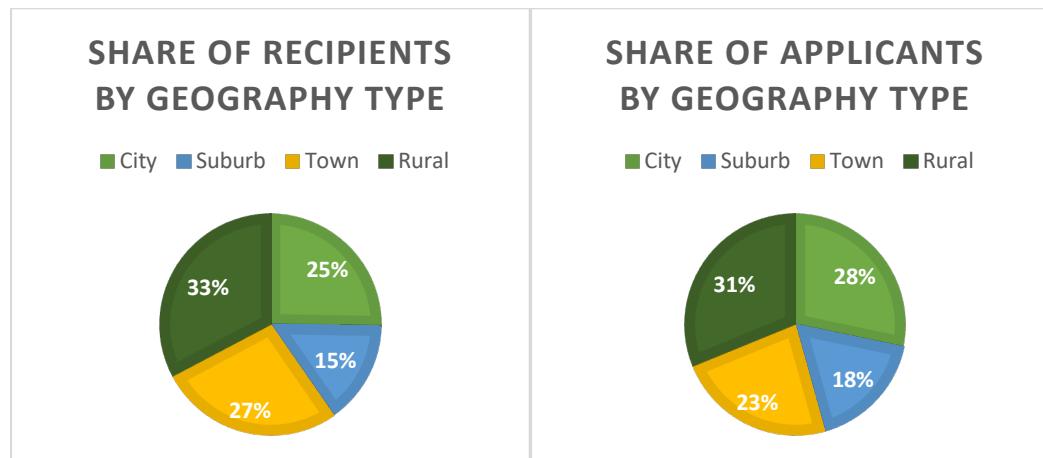


Figure 4: Share of Applicants & Recipients by Geography Type, (OESE G5 IAL Grant Data, 2023; NCES Edge Open School District Characteristics, 2018-2021)

Background on the Problem

-*Size*: The average number of students served by LEA applicants who applied but did not receive funding was about 20,000 students. Applicants not selected for IAL funding oversaw about 45 schools. Recipients of IAL funds served on average about 17,000 students and oversaw about 36 schools. (OESE G5 IAL Grant Data, 2023).

-*Student to Teacher Ratio*: The average student-teacher ratio of those not selected for IAL funds was about 14.42. The average student-teacher ratio of those selected for IAL funds was about 15.09. Therefore, on average, applicants not selected tend to have similar amounts of students per teacher than recipients (OESE G5 IAL Grant Data, 2023).¹

-*Recipient Type*: Overtime LEAs are the largest winners of IAL funding followed by nonprofits and then LEA consortiums/Education Service Centers. 2012 had the highest number of Nonprofit winners (8). 2016 & 2021 saw the highest number of nonprofits who won with 3 in 2021 and four in 2016. 2021 had the largest concentration of ESC/LEA Consortium winners (3). In 2014 there were only LEA recipients (71) (See Figure #5).

-*Income of students served*: On average from 2012-2021 IAL grant applicants have 27% of their student body below the SAIPE poverty threshold. IAL recipients have on average 25% of their student body below the SAIPE poverty threshold. Of those who applied but did not receive funding, on average 28% of their student body are below the SAIPE poverty threshold. (See Figure #6).

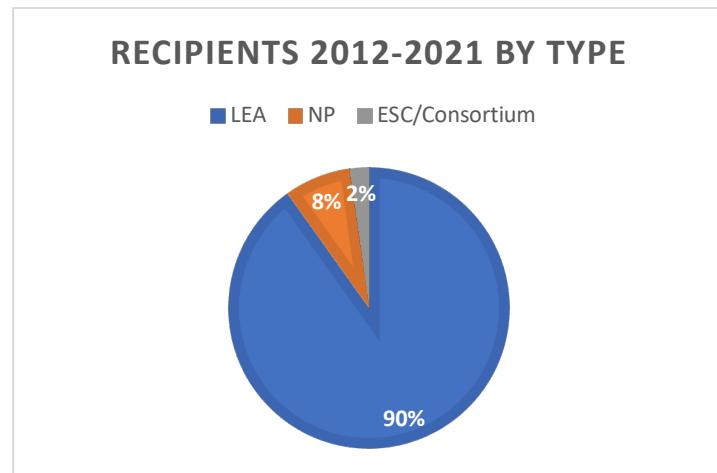


Figure 5: Recipients from 2012-2021 by Applicant Type, (OESE G5 IAL Grant Data, 2023).

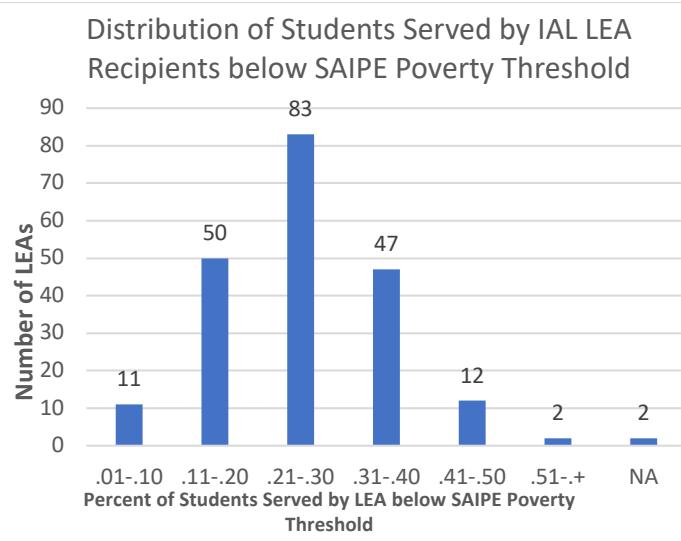


Figure 6: Distribution of Students Served by LEA below SAIPE Threshold, (Reardon et al., 2022 & Bureau, US Census 2021-2010).

¹ Student to teacher ratios are calculated by dividing the total reported students by classroom teachers at the school level, and this average is aggregated up to the district level for this report (NCES Edge Open Data, 2023).

Background on the Problem

-*Average Literacy Testing Outcomes:* The average literacy testing scores from 2009-2018 for those who applied but did not receive IAL funding was -.09 below the average. Those who were IAL recipients had average literacy outcomes of -.05 below the average (OESE G5 IAL Grant Data, 2023 & Reardon et al., 2022)

-*Title 1 Eligibility/ Status:* From 2012-2021~ 94% of applicants and recipients were Title 1 eligible. On average, those LEAs who applied but did not receive funding served about 27 Title 1 schools while recipients served about 22 Title 1 schools (OESE G5 IAL Grant Data, 2023).

-*Free and Reduced Lunch Eligibility:* LEAs who applied but did not receive funding served about 14,000 students who were eligible for free and reduced lunch. Those who received IAL funding served about 10,000 students who were eligible for free and reduced lunch. 98% of those who did not receive IAL funding and 96% of those who received IAL funding served students eligible for free and reduced lunch. (OESE G5 IAL Grant Data, 2023).

-*Racial Makeup of Recipients:* The largest recipient population served by IAL funds from 2012-2021 is black students (35% of recipients), then Hawaiian Pacific Islander (31%), White students (26%), multiracial students (4%), Hispanic students (3%), and lastly American Indian students (1%) (See Figure #7).

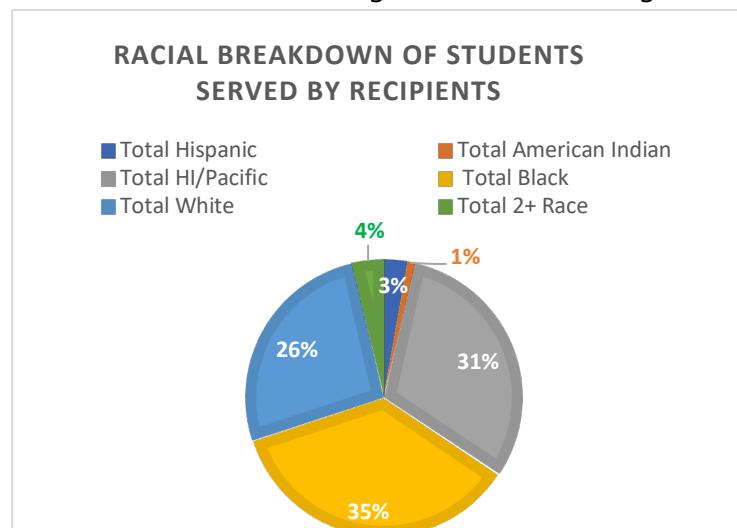


Figure 7: Distribution of Students Served by LEA below SAIPE Threshold (NCES Public School Characteristics EDGE Data, 2012-

Estimated Share of Students Served by LEA Winners by Racial Group from 2012-2021

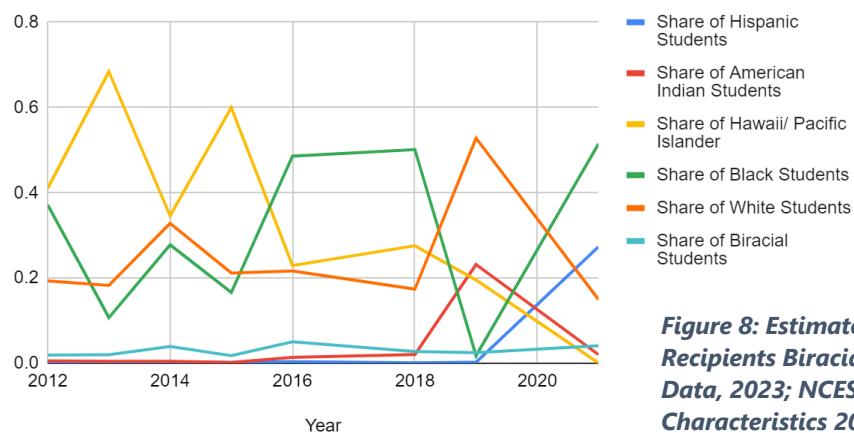


Figure 8: Estimated Share of Students Served LEA Recipients Biracial Group (OESE G5 IAL Grant Data, 2023; NCES Open Data Public School Characteristics 2012-2021)

Background on Problem

-Racial Makeup of Applicants: Out of applicants who did not receive funding from 2012-2021, the largest population of students were Hawaiian Pacific Islander (50%), then black students (28%), White students (16%), multiracial students (2.3%), Hispanic students (1.6%), then American Indian (.9%) (See Figure #9)

-Applicants by State: From 2012-2021 TX had the largest number of applicants out of all the states, 122 applicants, or 14% of all applicants. CA had the second highest number of applicants (9%), then NY (8%) and OK (7%). 14 states have only ever had 3 or less applicants from them from 2012-2021. The average state had only about 17 applicants from 2012-2021, although this varies across states (See Figure 10).

-Winners by State: There is a concentration of repeated winners in similar states. From 2012-2021 12% of recipients were from Texas, 11% of recipients were from Oklahoma, 10% of recipients were from California and 9% of recipients were from Kentucky (See Figure 11).

RACIAL BREAKDOWN OF APPLICANTS WHO DID NOT RECEIVE FUNDING

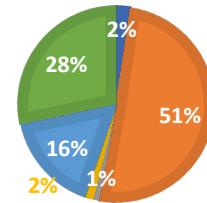


Figure 9: Figure 5: Racial Breakdown of Students Served by LEA Applicants Who did Not Receive Funding (NCES Public School Characteristics EDGE Data, 2012-2021; OESE G5 IAL Grant)

2012-2021 Share of IAL Applicants by State

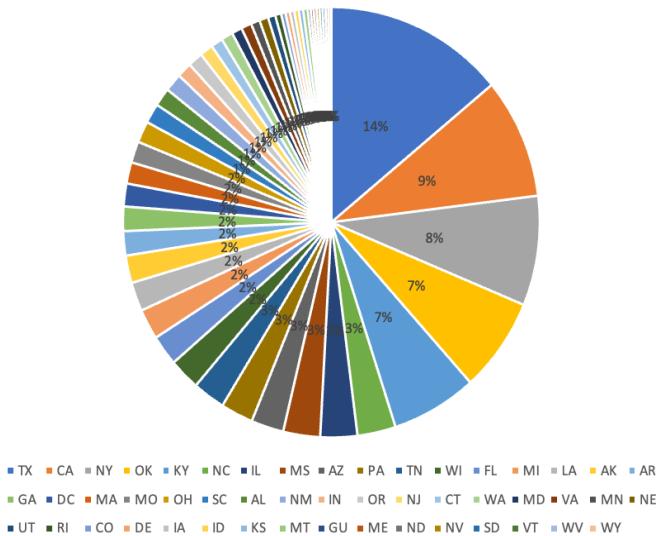


Figure 10: Share of Applicants by State 2012-2021, (OESE G5 IAL Grant Data, 2023)

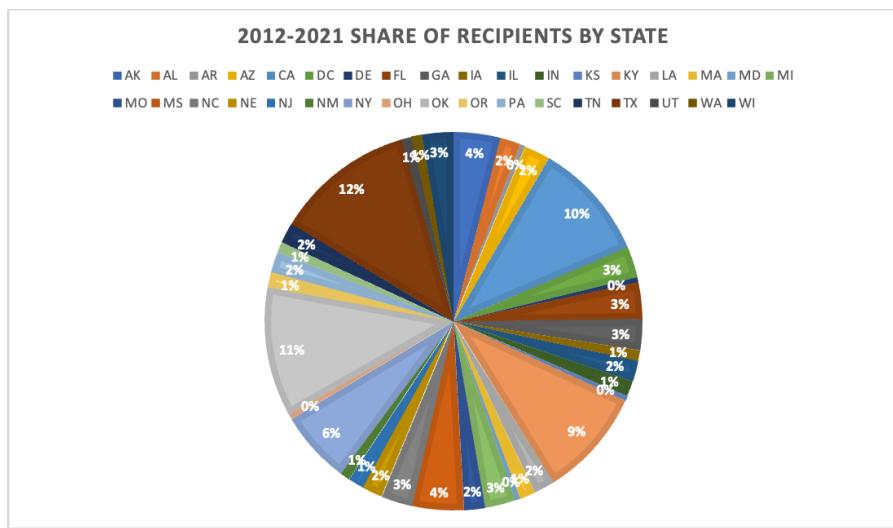


Figure 11: Share of Recipients by State (OESE G5 IAL Grant Data, 2023)

-*Repeat Winners & Applicants:* From 2012-2021 there have been 29 repeat winners all of which were individual Local Education Agencies. Of the total recipient pool, 12% of applicants (29 LEAs) were repeat winners thus 88% were new winners (205 LEAs). From the total applicant pool 17% were repeat applicants and 83% were new applicants (See Figure #10).

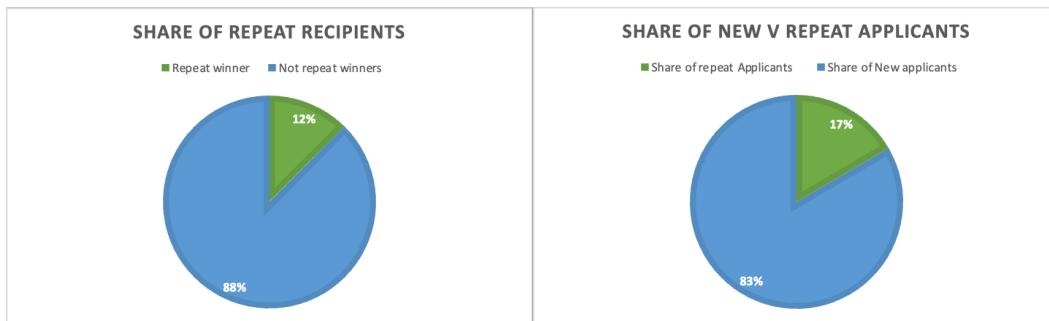


Figure 12: Share of Repeat Recipients and Applicants from 2012-2021, (OESE G5 IAL Grant Data, 2023)

-*Repeat Winners by State:* 76% of repeat winners won only twice (See Figure #13). 6 LEAs, 2 in Oklahoma, 1 in Mississippi, 1 in Texas, and 2 in Kentucky, have won 4 or more times. An LEA in Kentucky won the most out of all LEAs (5 times).

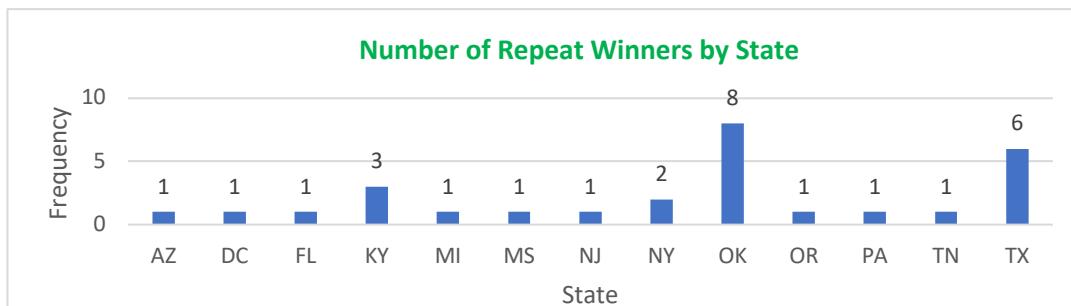


Figure 13: Number of Recipients Who Have Received Funding Greater than 2 times By State (OESE G5 IAL Grant Data, 2023)

Consequences of the Problem

High need applicants not applying or receiving IAL funding have short term costs for the Department and larger American society. First, the Department funds about \$9 million dollars per grant cycle to the program (Federal Register, 2023). However, only a small subset of eligible applicants and applicants with low literacy testing averages apply and receive funding. Thus, the Department is missing LEAs/BIEs who are in need which is against the Program's objectives (Bureau US Census, 2010-2021; Reardon et al, 2022; OESE G5 IAL Grant Data, 2023). A second cost is high need schools and a portion of the 25 million public school students below reading proficiency will continue to have poor literacy outcomes due to funding not reaching them (RIF, 2022). Instead, schools who have historically won will continue to win (Reardon et al, 2022). The Department of Education's reputation could be a potential concern with the status quo, due to how high need applications are sometimes rejected compared to the applicants with better literacy outcomes who receive funding (See Appendix D).

Not allocating IAL funds to schools who most need them contributes to further disparities in wealth attainment, health, and crime outcomes, which are further divided by race (Blazer, 2009). Poor literacy performance in youth is associated with higher levels of unemployment after graduation, lower wealth outcomes, and increased crime for students (Kirsch et al, 1994). A study in the early 2000s found 66% of students who are not proficient in reading by the end of 3rd grade are more likely to end up in jail or on welfare (National Assessment of Adult Literacy, 2000). Poor literacy is also associated with a two-fold increase in the likelihood of experiencing poor health according to research by the National Library of Medicine (Dewalt, 2004).



Worse literacy outcomes for students are also associated with higher rates of unemployment for students; for example, a study found that low literacy outcomes are associated with about a 20% decrease in the likelihood of being employed (Rivera-Batiz, 1992). Additionally, lower literacy rates are associated with less wealth attainment over a lifetime. A NCES study of adult workers found that earning potential increased 4 times for adults with greater literacy outcomes compared to adults with some of the worst literacy outcomes (Kirsch, et al, 1994). The larger economy suffers from unemployment benefit payouts and the economic revenue foregone of those poor literacy performing students who are unemployed post-graduation, or those who drop out. Thus, we see there's a population of students who could be benefiting from IAL funds and positively contribute to society but are instead costing the government.

Research Evidence on How to Best Reach High-Need Applicants

This literature review provides a historical explanation for the current application and award distribution process, and research on interventions that would increase the number of high need applicants and recipients to the IAL program. It draws on evidence from randomized controlled trials (RCTs) to estimate the causal effect of specific interventions.

Characteristics of high need schools

Research evidence shows that most LEAs and BIEs who have poor literacy outcomes also face some degree of resource and financial constraints (See Appendix for interview summaries). For example, the Century Foundation study *Closing America's Education Funding Gaps*, found that almost two thirds of public-school districts face funding gaps, meaning they require greater funding to improve student outcomes. School districts with limited funding, resource constraints and low performing literacy outcomes, also tend to have a high concentration of minority students (Feeney, 2013). School districts with high concentrations of Black and Latinx students face an estimated \$5,000 deficit compared to their majority white school counterparts (Potter et al., 2020). Therefore, measures to help target these high need schools should account for the time and resource burdens LEAs face in constructing their applications.

Federal grant application simplification:

Some potential federal aid applicants, like applicants to the IAL Program, are dissuaded from applying and do not receive funding due to application complexity (Davidson, 2013). Applications that require high levels of time and resources to complete are predictive of the likelihood that a high need LEA/BIE applies for federal grants (See Appendix D). In the context of applying for federal aid to attend higher education, researchers found that complexity of applying is among the top reasons why high need applicants do not apply for FAFSA (Bettinger & Oreopoulos, 2013; Davidson, 2013; Feeney & Heroff, 2013; George-Jackson & Gast, 2015). The FAFSA Simplification Act was passed by Congress in 2021 to address this issue, but it is still too early to see the policy's outcome on a national scale. However, a 2012 randomized field experiment administered a streamlined process to complete FAFSA for low-income individuals in-which software helped decrease the amount of information required for the applicant to obtain.

The study found that simplifying the required information for low income FAFSA applicants resulted in a 42-percentage point relative increase in the share of high school seniors and recent graduates who applied for financial aid, particularly among the lowest socioeconomic level (Bettinger, 2012). The Innovative Approaches to Literacy Grant involves a different applicant population, application process & required information than the FAFSA case. However, the 2012 study and the Innovative Approaches to Literacy program are similar in that they involve participants with resource and time scarcity applying for federal aid to assist with education outcomes. They are also similar in that the recipients of these funds are both generally lower-income students. Therefore, this study's treatment effect poses significant consideration for analysis (Bettinger, 2012).

Research Evidence on How to Best Reach High-Need Applicants

Technical Assistance to Recruit Applications for Government Programs:

Other reasons why applicants may be deterred from applying for federal aid can be that they lack awareness of the process, and struggle with the application's complexity in general. Technical assistance has been utilized as an intervention to increase applicants to and recipients of various federal aid programs. For example, a 1965 study done by the Office of Economic Opportunity provided technical assistance to 300 of the poorest counties in the U.S. to help them develop applications for the Head Start program. This regression discontinuity study found that technical assistance led to a 10-percentage point increase in impoverished recipients (Ludwig & Miller, 2005). Despite the Head Start technical assistance study occurring in the 1970's, those writing the grant proposals in the Head Start study are quite like those writing for the IAL grant. In the Head Start study grant writers were "local community leaders" and IAL grant writers are also community leaders or have received large support from community education leaders (See Appendix 1 Interviews 1-4). Additionally, the Head Start program is designed for students/children from low-income families who tend to be like the population of students who would benefit the most from IAL funding (Ludwig & Miller, 2005). Thus, the effects of technical assistance found in the Head Start study behavior hold important weight in the IAL context.

Expanding diversity of grant reviewers to reach the target pool:

Social psychology research shows people are in-group biased towards favoring those of their own identity (Turner & Hewstone, 2006). However, researchers have found that just recruiting more diverse reviewers for selection committees does not result in more equitable outcomes. For example, in 2021 researchers Baron et al. found that increasing the number of women on the selection committee for the Internet Engineering Task Force (IETF) did not correlate to an increase in women being appointed to IETF. Rather when the number of women on the selection committee was increased in conjunction with "informal and holistic norm" changes during the review process, women were 12 percentage points more likely to be chosen. Thus, it is unlikely that recruiting more diverse reviewers will create a significant change unless the organizational "norms" of the selection process change as well (Baron et al., 2021).

Research on group influence and behavior also finds people are more likely to change their behavior when information is conveyed by people we admire and trust. Therefore, IAL grant reviewers have the capacity to change behavior in their social networks, by potentially influencing others to apply. One study found that the social media influencers we view positively are 24 percentage points more likely to get consumers to buy their advertised products compared to their counterparts. This study differs from this report's context as it pertains to social media influencers' attempting to sell online products to their followers. On the contrary, the social influence in the IAL context comes from newly recruited peer reviewers influencing school districts to apply within their social networks. However, the power of social influence in shaping applicant behavior is important to consider here (Shupei Yuan & Lou, 2020).

Policy Alternatives

Alternative 1: Streamlining the Application Process

This alternative would consolidate the application process by retrieving information on the applicant from OESE's databases, therefore requiring less information of the applicant to collect themselves. When the applicant enters in their NCES ID on the application form, LEA/BIE data collected yearly by the Department would populate the application. This alternative would consider certain areas of the application to eliminate. It would create a streamlined instruction manual for applicants by relocating the applicant checklist from page 21 of the 2023 manual to the first page. This alternative would remove the required forms from the instructions manual and instead place them into a separate PDF titled "required forms." Following the checklist there would be eight separate sections that describe each section's necessary writing components, and things to note about the formatting and what would potentially disqualify an applicant if omitted. Thus, the new instruction manual would be condensed down to a maximum of 20 pages maximum.

The simplified application materials would be posted on the OESE website for the grant in the subsection under "Applicant Information" titled "Simplified Application instructions." The OESE webpage "Applicant Information" would be restructured so that visually it's easier to follow and the simplified application instructions would be highlighted, and the longer version is clearly accessible next to it. Given the time and resource constraints of the IAL program office, this alternative would require an additional staffer to be hired, and contractors to develop the application populating software. The process of simplifying the requirements from applicants should be done by the IAL program office leaders, in collaboration with other data collecting program offices like the Management and Support Office (MSO) data team, to best ensure simplification (Bettinger, 2021 & Turner, 2023).

Alternative 2: Improving Technical Support

The second alternative considered is improving the outreach and support resources given to schools to help them apply and submit competitive applications. Currently the only outreach the Department does to advertise the grant is publish it in their Federal Register. The Department holds one to two "Technical Assistance" pre-application meetings for prospective applicants which are held for two hours each, during the school day. This alternative would increase the frequency of technical assistance meetings for applicants so that they occur bi-weekly, during after school hours, and occasionally on the weekends.

This alternative would require the Department of Education to invite applicants who are from some of the most underperforming school districts and BIEs through email to apply to the IAL grant. This email would include the instructions manual along with discussing the benefits of applying. If the school district or BIE expresses interest in the grant, they would be assigned an "advisor" who would be able to assist them with questions about the application process.

Policy Alternatives

Alternative 2: Improving Technical Support (Continued)

This alternative would also look at the most successful recipients, and repeat recipients, and advertise exemplar project models the Department is looking for to improve literacy. It would advertise these models through a document and would post these examples under the "application information" page on the OESE website. The outreach function of emails, advising, holding zoom technical support meetings, and creating helpful applicant resources could be done by the IAL program office leaders. Again, given the limited supplies of the IAL program office the Department could hire another staff member to carry out this outreach and support this alternative.

Alternative 3: Expanding Competitive Preference

This alternative expands competitive preferences during the IAL application review process. Currently eligible applicants are evaluated for 100 possible points using standardized criteria used to review all discretionary grants with the highest scoring applicants receiving the grant. Competitive preference awards additional points to applications on top of the 100 points they receive through the standardized criteria review. In 2023, the Department updated their competitive preference priorities to be rural or urban applicants (0-2), new potential grantee (0-2), supporting students from low-income families (0-3), and promoting equity within student access to resources (0-3). Given that this change was just made we are not able to see the effects of it just yet.

This alternative would then establish competitive preference to schools who have reading scores lower than the national NAEP proficiency average for 3rd grade students' language arts and reading tests. This competitive preference would range from 0-4 points, with more points awarded to schools who are performing worse in literacy. Therefore, competitive preference would expand the total possible points an application could receive from 110 to 114. To create this competitive preference, the Management Support Office Data Team office would have to share information with the IAL Program grant office to automatically populate the 3rd grade state reading scores for each LEA/BIE that applies. The US Department of Education executive officials would have to approve this competitive preference. (Federal Register, 2023).

Alternative 4: Recruiting New Peer Reviewers

The fourth alternative is recruiting new peer reviewers. In response to the President Biden's Equity Plan request, the US Department of Education expressed interest in recruiting more diverse & new peer reviewers. Thus, this alternative would require the US Department of Education to perform strategic outreach to school leaders from school districts that are underperforming in literacy to get them to apply to be peer reviewers. This outreach would also take the form of emails sent out by an IAL program office leader but may also include the IAL program office leader cold calling influential school leaders in the underperforming literacy region/ district to motivate them to apply. This alternative will require program office staff to research specific school district leaders

Policy Alternatives

Alternative 4: Recruiting New Peer Reviewers (Continued):

in education, with the attempt of gathering a diverse range of peer reviewers, especially from states that have never had an applicant. This alternative would require an additional staffer for the IAL program office to carry out this outreach (Castleman, 2023).

Recruiting new peer reviewers from specifically underperforming literacy districts may not yield the intended diversity of peer reviewers expressed in the 2021 Equity Action Plan, as these low performing districts tend to be similar. This alternative would then advertise the opportunity to be a peer reviewer on different online platforms besides just the *Federal Register* to recruit more diverse peer reviewers.

Evaluating Alternatives

This section evaluates the four alternatives against their predicted effectiveness, defined as how much an alternative increases applicants and recipients who are low performing in literacy. Cost efficiency, or the cost of an alternative by one unit of benefit, and political feasibility, or how likely an alternative is to be adopted by the program office, are also considered. Appendix B describes the effectiveness calculations for each alternative, and Appendix C describes the cost efficiency calculations for each alternative.

Effectiveness:

Policy Options <i>(Weighed on scale of 1-5, 5 being most favorable)</i>	Effectiveness
1. Simplification of IAL Application	4, High: 25 new low literacy performing applicants, 5 new above average literacy applicants. 1 new low literacy performing recipient.
2. Improving technical Support to schools	5, High: 4 new low literacy performing applicants, 1 new above average applicant. 4 new low literacy performing recipients.
3. Expanding Competitive Preference	3.5, Moderate: 1 additional high need recipient, or a 3% increase in the share of LEAs recipients who are underperforming.
4. Recruiting New and Diverse Peer Reviewers	2, Low: Unclear the number of new high need applicants. No change in high need recipients receiving funding.

Alternative 1, Streamlining the Application Process: High (4/5)

This alternative scores highly on effectiveness because it addresses a major barrier for why high need LEAs and BIEs do not apply, by decreasing the time and resources it will take to complete an IAL application (See Appendix D). I estimate the predicted increase in high need applicants and recipients with this alternative using research evidence of the effect of the FAFSA Simplification Act on the number of high need applicants who apply to federal financial aid. Thus, I predict that this alternative will result in 25 new low performing literacy schools who apply and five new high performing LEAs applicants. This alternative will also result in one additional below average literacy testing LEA/BIE becoming a recipient as compared to the share of high need recipients in 2021 (See Appendix B, Alternative 1).

Evaluating Alternatives

Alternative 2, Technical Assistance: High (4/5)

This alternative scores high on effectiveness because it effectively provides resources to LEAs who wouldn't have otherwise applied because they were lacking the resources to apply or wouldn't have known about the grant. High need LEAs would be more competitive with this alternative as having a Department of Education advisor will help the applicant craft an application that has what the Department is looking for specifically. By sharing the most successful previous years' designs, high need IAL applications become more competitive because they can clearly see the expectations and application components via exemplar applications. However, creating exemplar applications would motivate the high-performing LEAs/ BIEs in literacy to be more competitive as well. We can estimate the predicted increase in number of applicants who apply and high need recipients using estimates from the study of technical assistance being used to help eligible applicants create a proposal for Head Start. Using the Head Start study's estimates we find that technical assistance will likely result in four new LEAs below the literacy testing average who apply, and one new applicant with literacy testing scores at or above average. This alternative predicts that this intervention would result in four new recipients from below average literacy levels compared to 2021 (See Appendix B, Alternative 2).

Alternative 3, Expanding Competitive Preference to Include a Literacy Metric: Moderate (3.5/5)

This alternative ranks moderate on effectiveness because it awards points to applicants who best align with the program's goals of improving literacy outcomes for high need LEAs. The selection criteria do not explicitly ask for the literacy outcomes of a LEA or BIE, which means some schools who may be most in need of funds are not receiving the funds. While it is true that schools who are performing well on literacy can be still in need of funding due to serving high percentages of low-income students, asking about the literacy outcomes of the school helps the Department provides an indicator of a district's needs for additional literacy support. Although there are no studies specifically on the impact of changing competitive preference within the Department, this alternative is likely to result in a 3.5% probability increase in being selected given a relatively similar competitive application. Assuming 2021 numbers on recipients and applicants this equates to about 1 additional high need recipient or a 3% increase in the recipient share of LEAs who are underperforming (See Appendix B, Alternative 3)

Alternative 4: Recruiting New Peer Reviewers: Low (2/5)

This alternative scores low on effectiveness because while there is some indication of potential bias among peer reviewers, there is not enough substantial research evidence that this intervention would increase of high need recipients and applicants to the program. Currently, peer reviewers, who determine applications elect to the process, and are often repeated reviewers. Research has shown people are biased towards favoring those of their own identity, or In Group Bias (Everett, 2015). However, per the discussion of In-Group Bias within the literature review, recruiting more diverse reviewers for selection committees does not change equitable outcomes alone. General research on social influence yields the hypothesis that new peer reviewers may

Evaluating Alternatives

Alternative 4: Recruiting New Peer Reviewers (Continued): Low (2/5)

result in new applicants within their own networks, especially if these new peer reviewers are community leaders and have great respect. However, no studies with a similar enough context have been carried out for this hypothesis to have substantial support. Therefore, it is uncertain the amount of new high need applicants and recipients this alternative will result in. However, I do predict that the number will be less than policy alternatives one and two due to the indirect nature of the intervention's influence on application rate.

Evaluating Alternatives

Cost Efficiency:

Policy Options <i>(weighed on scale of 1-5, 5 being most favorable)</i>	Cost Efficiency
1. Simplification of IAL Application	2.5, Moderate: Total cost \$794K. \$31.76K per new high need applicant recruited and \$794K per new high need recipient.
2. Improving technical Support to schools	4, High: Total cost \$90K. \$22.5K per new high need applicant recruited. \$22.5K per new high need recipient.
3. Expanding Competitive Preference	5, High: Total cost \$0. \$0 per increased high need recipient/applicant.
4. Recruiting New and Diverse Peer Reviewers	2, Low: Total cost \$90K. \$90K per new applicant recruited. \$90K per an unclear measure of benefits.

Alternative 1, Streamlining the Application Process: Moderate (2.5/5)

The costs associated with this alternative are the expenses associated with developing/adopting a software that automatically populates the information collected from other program offices about LEAs/BIEs to IAL. Likely the Department will have to hire contractors to develop this software. Other costs include the time and resource burden IAL program office leaders will endure going in and manually changing/creating simpler instructional material and removing requested information. Given that the program office is under three people currently, it is likely that to fulfill Policy Option 1's plans the Department will have to hire another staffer.

The predicted total fiscal cost of this alternative is \$794K in the first year of implementation and \$90K for following years. For every new applicant who applies who is below the average testing outcome for literacy due to policy option 1, it will cost the Department \$34.5K the first year. For every new applicant who applies who is at or above reading outcomes it will cost the department \$99.25K the first year. For every new high need LEA who receives funding due to policy option 1 it will cost the Department about \$794K in the first year (See calculations in Appendix C, alternative 1).

Alternative 2: Improving Technical Support High (4/5)

Like Policy Option 1, the Department will endure the cost of hiring a new Program office staffer in order to best carry out its objectives. This policy option will require more than one personnel to act in a technical support capacity. Thus, the new hired staffer on IAL can work with existing people at the technical support centers to assist IAL's function, costing the Department no additional expenses.

Evaluating Alternatives

Cost Efficiency Continued:

Alternative 2: Improving Technical Support High (4/5):

Total predicted fiscal costs for alternative 2 are \$90K per year of use. For every new applicant below the average literacy testing outcome, it will cost the Department \$22.5K the first year. For every new applicant who applies who is at or above reading outcomes it will cost the department 90K the first year. For every new high need LEA receiving funding due to policy option 1, it will cost the Department about \$22.5K within the first year (See calculations in Appendix C, alternative 2).

Alternative 3: Expanding Competitive Preference High (5/5)

Policy Option 3 has no associated direct financial costs thus a high-cost efficiency ranking. Due to the alternative likely resulting in a 3.5% increase in the likelihood of low literacy performing LEA applicants, or about 1 new high need LEA recipient compared to a same scoring applicant who is at or above average with no added costs, this alternative is highly cost efficient (See calculations in Appendix C, alternative 3).

Alternative 4: Recruiting New Peer Reviewers Low (2/5)

This option will have the same costs as improving technical assistance (Policy Option 2), despite not having the same level of associated benefits. This option requires the IAL program office to hire one additional staffer which is associated with a direct cost of \$90K. Given how this policy alternative will result in an unknown amount of high need LEAs applying to the IAL grant who otherwise wouldn't have absent the policy, we find that it would cost the Department \$90K per every applicant recruited with this intervention. Additionally, this alternative will cost the Department \$90K for the unknown chance that a high need LEA is selected as a recipient. Thus, this alternative is not very cost efficient.

Political Feasibility

Policy Options <i>(weighed on scale of 1-5, 5 being most favorable)</i>	Political Feasibility
1. Simplification of IAL Application	Moderate: 2.5
2. Improving technical Support to schools	Moderate: 3
3. Expanding Competitive Preference	Moderate: 2.5
4. Recruiting New and Diverse Peer Reviewers	High: 5

Alternative 1, Streamlining the Application Process: Moderate (2.5/5)

This alternative is a new idea for the Department so executive management may be less receptive to the cost of employing a new IAL program office staffer. Efforts to simplify the FAFSA took years to advocate for within the Department, so we can conclude this alternative may receive similar political backlash (CRS, 2022). Policy Option 1 is also moderately politically feasible because it has adequate cost efficiency and the highest overall cost of all the alternatives. The Department of Education and OESE regularly employ contractors to carry out IT functions, so while the cost of this alternative is high at \$700K, this is an average if not lower amount compared to other Department projects (USASpending.Gov, n.d.)

Funding could be a slight barrier in the political feasibility of this alternative, although it is unlikely to receive too much backlash considering how the Department is already employing contractors at a similar price. However, this alternative is likely to receive backlash from school districts who may not receive IAL funding due to the change in the way the funds are allocated. Given that this alternative is the most effective at redistributing funds to those most in need, we can predict this backlash may be heightened. Thus, this alternative is only moderately politically feasible.

Alternative 2, Improving technical Support: Moderate (3/5)

Alternative 2 is slightly more politically feasible than option 1, scoring a moderate 3 out of 5. This alternative scores higher than alternative 1 because it has less cost as technical assistance centers already exist in OESE. Compared to alternative 1 and 4 this alternative is also the most cost efficient which helps rank it stronger in political feasibility. However, Alternative 2 ranks moderate on political feasibility because unlike alternatives 3 & 4 it has not been presented to the forefront of the program office's attention, thus lacking popular support from administrative officials unlike other alternatives. This alternative is also the most effective alternative in changing who receives grant funds, which leads to a chance of previous grant winners being upset at the reallocation of grant funds.

Evaluating Alternatives

Political Feasibility

Alternative 3, Expanding Competitive Preference to Include a Literacy Metric: Moderate (2.5/5)

It is within the program office staffer's capacity to advocate for and implement a literacy metric within Competitive Preference, and they have done so in recent years with no additional costs. Policy option 3 receives a lower score than policy option 2, or moderately politically feasible with 2.5/5. The Department recently introduced Competitive Preference for IAL applications based on if a school is rural/urban, a new applicant, serving low-income students, or promoting equity within education opportunities and resources. Additionally, program office leaders have mentioned they have considered expanding to new Competitive Preferences.

This alternative is highly cost efficient as there are no associated costs per the increased number of high need recipients receiving funds, thus it is likely to be less resisted by administration. Deciding on the literacy testing score that is the threshold to award points to an applicant if they are below this target may seem arbitrary to officials, thus this is a political feasibility concern. Additionally, it may not be within the Department's political power to use this as a metric because literacy standards vary across states. Lastly, this alternative may result in new winners and losers which poses feasibility concerns.

Alternative 4: Recruiting New Peer Reviewers, High (5/5)

Within the Department's Equity Action Plan as mandated by President Biden's executive order, the Department spells out its goals of recruiting new and more diverse peer reviewers to improve equitable distribution of grant funds. Thus, we can see popular support for Policy Option 4 within the Department's administration. This option is also not very effective, which means there will not be the political turmoil found in alternatives 1-3 where applicants who have been receiving funds become upset that they are no longer doing so. Therefore, this alternative is highly politically feasible because there is low potential backlash from applicants, and it's not very costly.

Recommendation

Policy Options (Weighed on scale of 1-5, 5 being most favorable)	Effectiveness	Cost Efficiency	Political Feasibility	Totals
Simplification of IAL Application	4, High: 25 new low literacy performing applicants, 5 new above average literacy applicants. 1 new low literacy performing recipient.	2.5, Moderate: Total cost \$794K. \$31.76K per new high need applicant recruited and \$794K per new high need recipient.	Moderate: 2.5	9
Improving technical Support to schools	5, High: 4 new low literacy performing applicants, 1 new above average applicant. 4 new low literacy performing recipients.	4, High: Total cost \$90K. \$22.5K per new high need applicant recruited. \$22.5K per new high need recipient.	Moderate: 3	12
Expanding Competitive Preference	3.5, Moderate: 1 additional high need recipient, or a 3% increase in the share of LEAs recipients who are underperforming.	5, High: Total cost \$0. \$0 per increased high need recipient/applicant.	Moderate: 2.5	11
Recruiting New and Diverse Peer Reviewers	2, Low: Unclear the number of new high need applicants. No change in high need recipients receiving funding.	2, Low: Total cost \$90K. \$90K per new applicant recruited. \$90K per an unknown chance that this applicant will be selected.	High: 5	9

Given the outcome of this design matrix and the analysis above, I recommend combining policy options 2, Improving Technical Support to schools (scores the highest at 12 on criterion) and 3 Expanding Competitive Preference (scores the second highest at a 11 weight on criterion). Option 2 and 3 are effective alternatives, as research shows similar interventions have led to more equitable outcomes. Additionally compared to Alternative 1 and 4, Alternatives 2 and 3 are highly cost efficient. Alternative 3 and 2 both are moderately politically feasible and expanding competitive preference has even been spoken about within the Department.

The Department should consider adopting both Alternatives 2 and 3 in tandem because they address different driving causes of the problem and use existing structures to do so. When combined these initiatives both help to address the issue of those high need schools not applying because they do not know about the IAL grant, do not have the resources to apply, and do not have the capacity to make their application the most competitive. While simplifying the application review process and recruiting new and diverse peer reviewers are both potentially feasible for the Department, the extent to which they will be effective is not as clear as how effective the 2nd and 3rd options would be based on the research available on all interventions.

Implementation Considerations

To implement expanding competitive preference and increased technical support function, the Department can take the following three steps, laid out in the process map below.

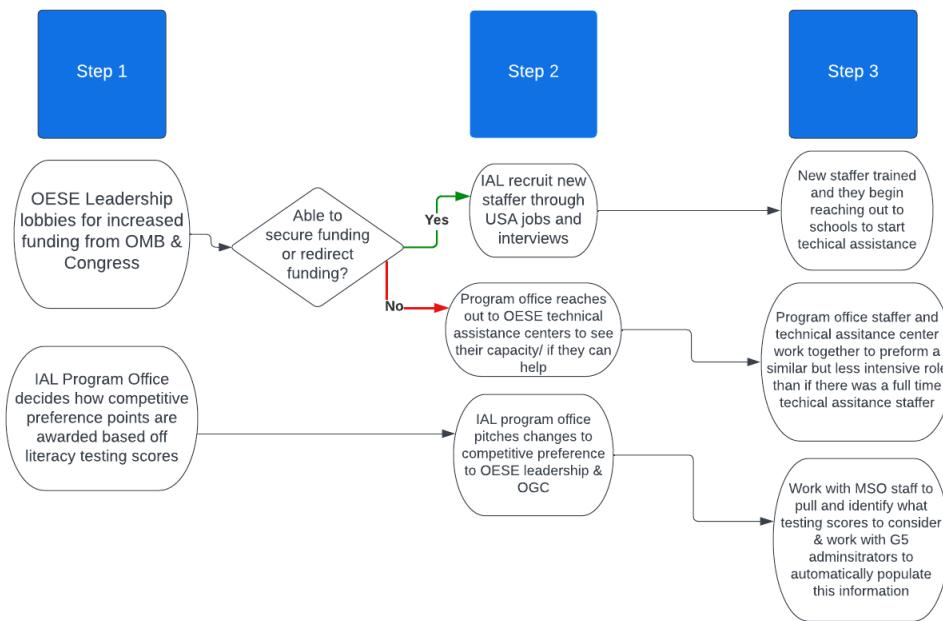


Figure 14: Suggested Implementation Process Map

A potential implementation issue could be that these changes cause the Department of Education to stop funding projects that have been making a difference overtime. This recommendation could cause the Department to instead invest in more “risky” projects with schools that do not have the best internal controls to ensure that they will be using the funds in ways that do not lead to fraud or abuse. While it is important that funds are targeted to recipients who are most in need, systemic issues facing these recipients could likely cause them to also be more vulnerable to misusing funds.

Three aspects of this recommendation consider this potential risk and helps to mitigate the occurrence. First, the provided technical assistance will be supported by a IAL program office leader with an established background on the use of discretionary grant funding for the Department. This program office official can best identify risk of abusing allocated funds, and how to best shape a grant proposal for the most effective use of said funds. Second, this recommendation only targets a small number of instances where an average literacy performing LEA and a low literacy performing LEA are close to the same score on all other selection criteria. The majority of the time applications will not score practically the same on every criterion, but differ on literacy outcomes, thus the additional points for literacy outcomes won’t be the deciding factor in winning in all cases (Appendix B, Alternative 3, Figure 11). Thus, this recommendation does not exponentially change the design of the selection review process.

Implementation Considerations

With this recommendation, the Department will still be able to continue to invest in projects that are working and consider the risk of investing in certain school districts. Adjacently the Department will have more information to make the highest need applications more competitive and judged more equitably. Third, risk of abuse of funds can also be mitigated because the IAL program office performs a risk assessment of the highest scoring applicants. The monitoring function of this recommendation, that already checks the use of grant funds by recipients, will ensure they are being used effectively. This alternative will decrease the amount of monitoring work for the IAL program office as applicants will be supported in developing a design that has less risk of misuse of funds before they are selected to receive funding.

Another potential risk could be that by bringing attention to this problem and implementing these alternatives, negative attention is brought to this Program Office. This risk is unlikely to occur because the information that this is a problem is only dispersed within Program Office Leaders, and the Department can decide how they want to frame it to the public. Additionally, these barriers to entry and selection for high need LEAs/BIEs can be applicable to other discretionary grant programs. This issue is not reflective of a fault of the IAL Program Office, or peer reviewers, but how discretionary funds in general are set up and the barriers to entry for applicants.

Overall, we see that implementing both a literary metric competitive preference in addition to providing technical assistance can require a staffer to be hired and function in a new capacity for the program office. This recommendation suggests IAL program office leaders tap into existing technical assistance centers, and OGC, MSO, and this staffer work together to implement the literacy metric for the review of applications. OGC, OMB, and Congress will also play a pivotal role in deciding to grant more resources to the IAL program office. The federal push to fund more equity initiatives will help receptiveness to these demands. Potential risks associated with this proposal are mitigated by the design of the alternatives and the control USDOE has in releasing information.

Conclusion

The mission of Innovative Approaches to Literacy is to improve the literacy skills and development for low-income communities through supporting high quality programs to improve outcomes. Despite this mission, over time we see that grant funds have gone to recipients in the same locations, who may have more resources, time, and knowledge to make a competitive application as compared to their counterparts. The absence of applications and recipients from key geographic regions struggling with literacy demonstrates that there is a problem with the current recruiting and selection process of this grant.

This report considered four alternatives. Two relate to changes in the recruiting process: streamlining the application process and improving technical assistance to high need applicants. The other two relate to changes within the selection process: recruiting more diverse peer reviewers or implementing new competitive preference priorities based on literacy outcomes.

Overall, I recommend combining the use of increased technical assistance to high need applicants and implementing new competitive preference priorities. When combined, they most effectively address the barriers to entry and selection within the recruiting and review process. Additionally, they are both highly cost efficient which is desirable due to funding limitations.

I predict this recommendation to result in a total of 5 new applicants, 5 new high need recipients, and the 3.5 probability increase that high need recipients are more likely to be selected when being compared to above average performing LEAs with similar scoring. These alternatives help provide funding to communities struggling with literacy outcomes who are low income. Given the health, wealth, and larger societal benefits of better literacy outcomes and the growing divide in education performance and opportunity, the potential to make a lasting impact is substantial with these changes.

Appendix A:
Background Calculations

Figure 11:

Total LEAs in the Country	~13,000 School Districts In the US=
Total LEAs Eligible According to Program Guidelines: Students below SAIPE Income 20% or more	<p>Fluctuates per year:</p> <ul style="list-style-type: none"> • 2021: 3659 LEAS • 2019: 4374 LEAs • 2018: 4778 LEAs • 2016: 5284 LEAs • 2015: 5648 LEAs • 2014: 5584 LEAs • 2013: 5626 LEAs • 2012: 5400 LEAs <p>(US Census Bureau, 2012-2021)</p>
Estimated total LEAs below Literacy level from 2009-2018	<p>About 5800 LEAs</p> <p>(Reardon et al. 2022)</p>
2021 share of applicants below literacy testing outcomes out of total LEAs underperforming population	<ul style="list-style-type: none"> • (share of applicants below literacy testing outcomes)/(total LEAs underperforming in literacy) • $56/5800 = 0.96\%$ <p>(Reardon et al., 2022; OESE G5 IAL Grant Data, 2023)</p>
2021 share of eligible applicants out of total eligible	<ul style="list-style-type: none"> • (total applicants)/(number of LEAs 20% or more below SAIPE) • $93 / 3569 = 2.5\%$ <p>(US Census Bureau, 2012-2021; OESE G5 IAL Grant Data)</p>
2021 share of LEAs below literacy average awarded IAL funding out of total LEAs below literacy average	<ul style="list-style-type: none"> • (total below average recipient/total below average LEAs) • $26/5800 = 0.4\%$ <p>(Reardon et al. 2022; OESE G5 IAL Grant Data)</p>
2021 share of LEAs eligible who are awarded IAL funding out of total eligible LEAs	<ul style="list-style-type: none"> • (total recipients/total eligible) • $40/3569 = 1.11\%$ <p>(US Census, 2012-2021; OESE G5 IAL Grant Data, 2023)</p>

Appendix B

Effectiveness Calculations:

Alternative 1:

Step 1): Standard SEDA's aggregated LEA testing data from 2009-2018 estimates the number of LEAs below Literacy level are about 5800. In 2021 the average number of applicants who applied to IAL funds that were below average literacy testing scores according to SEDA data is 56. Given the FAFSA simplification study finding of a 42-percentage point relative increase in the amount of high school seniors and recent graduates who applied for financial aid, we can assume simplifying the IAL will have a relatively similar effect. Therefore, we predict this alternative will see a 1.4 % relative increase in the share of LEAs below reading test scores applying.

- $\frac{\# \text{ of high need applicants}}{\text{total high need eligible applicants}} (\text{predicted relative increase}) = \left(\frac{56}{5800}\right) (1.42) \cong .014$

Step 2) This relative increase translates to about 25 new low performing literacy schools who apply:

- $\# \text{ of total high need eligible applicants} (\text{predicted relative increase}) - \text{previous year high need} = 5800(.014) \cong 81 - 56 \cong 25$

Step 3) According to SEDA's count of LEAs in 2021 there are about 12,840 total districts and there were 93 LEAs who applied. Those performing above average on literacy have less time and resource burden compared to those preforming below average on literacy. Thus, we assume this intervention to have one fourth the effect on the number of LEAs performing above the average literacy testing scores compared to LEAs performing below average. Therefore, this alternative is predicted to result in a 1.005-percentage point relative increase in the share of LEAs above the reading test scores applying.

Find the total additional applicants the intervention will inspire by:

- X: Average Applicants absent intervention, Y: Additional high need LEAs, Z: Additional Low need LEA
- $\text{Total Applicants} = X + Y + Z = 93 + 25 + Z$
 - $Z = \frac{\text{LEAs above literacy threshold who apply}}{\text{total LEAs above threshold}} * (\text{One third of the relative change}) = \frac{93-56}{12,840-5800} * (1.105) \cong 0.0058$

Step 4) This relative increase translates to about 4 new above average performing literacy schools who apply.

- $(\text{Total LEAs above threshold} * \text{their relative change with intervention}) - \text{previous year above average literacy rate} = ((12,840 - 5800) * .0058) - 37 \cong 4$

Step 5) The total predicted application with this intervention then is about 122 (93+4+25). Assuming the same number of recipients as 2021, 40, and assuming these applicants will have the

same competitiveness as 2021 than 27 of the 40 recipients will be below average literacy outcomes.

- $\frac{\text{total below average literacy LEAs with intervention}}{\text{total applicants with intervention}} * \text{estimated recipient \#} = \left(\frac{56+25}{122}\right) * 40 \cong 27$

Step 6) This intervention results in about 1 additional high need recipient of IAL funds from 2021, or a 3 percent increase in the share of recipient LEAs who are underperforming from 2021 terms.

- Share of 2021 average low literacy recipient: 65%
 - $\# \text{ of LEAs recipients in 2021} * \text{2021 share of low literacy recipients} = 40 * .65 = 26$
- Predicted share of high need literacy score recipients: 68%
 - $\# \text{ of LEAs recipients in 2021} * \text{Predicted share of low literacy recipient} = 40 * .68 \cong 27$

Alternative 2:

Step 1): Starting with the number of LEAs below literacy levels nationwide, 5800, and the average number of applicants who apply to IAL funds below average literacy testing scores, 56. The Head Start study found a 4.7 percentage point increase in applicants from counties who were 49% -59% below poverty levels, and 10 percentage points among those who were most impoverished through technical assistance. Therefore, this alternative will see between a .1 and .11 relative increase in the share of high need applicants who will apply.

- $\frac{\# \text{ of high need applicants}}{\text{total high need eligible applicants}} (\text{predicted relative increase}) = \left(\frac{56}{5800}\right)(1.047) \cong .00101$
- $\frac{\# \text{ of high need applicants}}{\text{total high need eligible applicants}} (\text{predicted relative increase}) = \left(\frac{56}{5800}\right)(1.1) \cong .0106$

Step 2) This relative increase translates to 2.8- 5.5 new LEAs or about 4 LEAs below the literacy testing average who apply:

- $\# \text{ of total high need eligible applicants (predicted relative increase)} - \text{previous year high need} = 5800(.0101) \cong 58.83 - 56 \cong 2.8$
- $\# \text{ of total high need eligible applicants (predicted relative increase)} - \text{previous year high need} = 5800(.0106) \cong 61.489 - 56 \cong 5.5$

Step 3) Given 12,840 total districts, and the number of LEAs who applied in 2021, 93. We assume that this intervention will have half the effect on the number of LEAs performing above the average literacy testing scores as it does on LEAs performing below. We assume this because the Technical Assistance will be targeted directly to underperforming districts in literacy, although there will be increase technical assistance webinars for all applicants. Therefore, this alternative is predicted to inspire a 5.4 % relative increase in the share of LEAs above the reading test scores applying.

Find the total additional applicants the intervention will inspire by:

- X: Average Applicants absent intervention, Y: Additional high need LEA, Z: Additional Low need LEA
- $Total\ Applicants = X + Y + Z = 93 + 4 + Z$
 - $Z = \frac{LEAs\ above\ literacy\ threshold\ who\ apply}{total\ LEAs\ above\ threshold} * (One\ fourth\ of\ the\ relative\ change) = \frac{93 - 56}{12,840 - 5800} * (.005) \cong 0.000026$

Step 4) This relative increase translates to 0-1 new above average performing literacy schools who applies

- $(Total\ LEAs\ above\ threshold * their\ relative\ change\ with\ intervention) - previous\ year\ above\ average\ literacy\ rate = ((12,840 - 5800) * .000026) - 37 \cong 1$

Step 5) The total predicted applicants with this intervention is then: 98 (93+4+1). Assuming the same number of recipients as 2021, 40 recipients, and assuming these new high need applicants will be 20% more competitive than in the past because of the personalized technical assistance, 29 out of 40 recipients will be below the average literacy outcomes.

- $\frac{total\ below\ average\ literacy\ LEAs\ with\ intervention}{total\ applicants\ with\ intervention} * estimated\ recipient\ # * competitive\ edge\ with\ technical\ assistance = \left(\frac{56+4}{98}\right) * 40 * 1.2 \cong 29.38$

Step 6) This intervention results in 3 more recipients of LEAs below the literacy outcomes compared to 2021, or a 8% increase in the share of LEAs who are underperforming.

- Share of 2021 average low literacy recipient: 65%
 - $\# of LEA recipients in 2021 * 2021 share of low literacy recipients = 40 * .65 \cong 26$
- Predicted share of high need recipient: 73%
 - $\# LEAs recipients in 2021 * Predicted share of low literacy recipient = 40 * .73 \cong 29$

Alternative 3

Step 1) Given the total number of points an applicant can score, 110, adding 4 more points will increase the likelihood that low performing literacy districts will be selected by 3.5%.

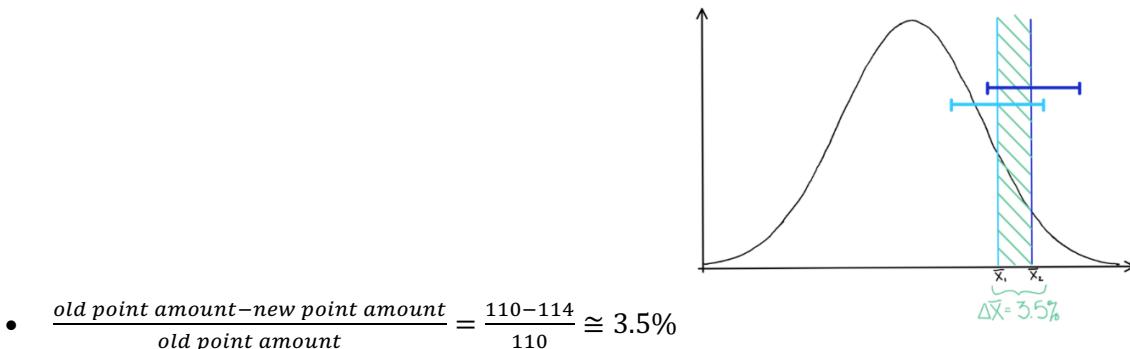


Figure 15: Predicted range of Application Scores

Step 2) Using 2021 data on the total high need recipients who won out of those who applied, and assuming these applicants will be 3.5% more competitive than 27 out of 40 recipients will be high need:

- $\frac{\text{Total high need recipients 2021}}{\text{total high need applicants 2021}} * \text{predicted increase in competitiveness} = \left(\frac{26}{40}\right) * (1.035) * 40 \cong 27$

Step 3) This intervention results in 1 more high need recipient than in 2021, or a 3% increase in the share of LEAs who are underperforming.

- Share of 2021 average low literacy recipient: 65%
 - $\# \text{ of LEA Recipients in 2021} * \text{2021 share of low literacy recipients} = 40 * .65 \cong 26$
- Predicted share of high need recipient: 68%
 - $\# \text{ of LEA recipients in 2021} * \text{Predicted share of low literacy recipient} = 40 * .68 \cong 27$

Alternative 4

Step 1) Given the lack of study data on a similar intervention, I will not try to quantitatively estimate this alternative's effectiveness. The social media influencer study referenced in the literature review is very different in comparison to the social influence we predict may occur when a peer reviewer recruits a new applicant to IAL. I estimate the effect of peer reviewers on recruiting new applicants will be less than Policy Option 1 & 2. I do not know if peer reviewers recruit applicants from their surrounding area to apply. Thus, it is unclear if this intervention would increase the number of new or high need applicants.

Appendix C

Cost Efficiency Calculations

Alternative 1)

Cost Name	Amount Total
New Program Office Staffer Salary including benefits	~\$90K annually (Comparably, 2022)
Costs of Hiring a new IAL employee (background checks, recruiting, etc.)	~\$4K flat rate (Glass door, 2023)
Contractor expense	~\$700K over the course of a project (estimated a year) (USA Spending.Gov, 2021)
Total Costs	~\$794K first year, \$90K for remaining years

Benefit Per grant Cycle	Cost Efficiency (Total cost/benefit)
25 new low performing literacy applicants	First year: \$31.76K/ low performing applicant Remaining years: \$3.6K/low performing applicant
5 new average performing literacy applicant	First year: \$158.8K/ low performing applicant Remaining years: \$18K/low performing applicant
1 new high need recipients	First year: \$794K/ low performing applicant Remaining years: \$90K/low performing applicant
Total Benefits: 31	First Year: \$25.6K per summed units of benefits

Alternative 2)

Cost Name	Amount Total
New Program Office Staffer Salary including benefits	~\$90K annually (Comparably, 2022)
Total Costs	~\$90K for remaining years (Comparably, 2022)

Benefit Per grant Cycle	Cost Efficiency (Total cost/benefit)
4 new low performing literacy applicants	\$22.5K/ low performing applicant
1 new average performing literacy applicant	\$90K/ low performing applicant
4 new high need recipients	\$22.5K/ low performing applicant
Total Benefits: 9	First Year: \$10K per summed units of benefits

Alternative 3)

Costs	Cost Efficiency
0	0\$/3.7% probability that the new high need applicant is selected over a LEA with higher literacy outcomes

Alternative 4)

Cost Name	Amount Total
New Program Office Staffer Salary including benefits	~\$90K annually (Comparably, 2022)
Total Costs	~\$90K for remaining years

Benefit Per grant Cycle	Cost Efficiency
Unclear the # of Applicants recruited	\$90K/ new applicant
Total Benefits: 1	First Year: \$90K per summed units of benefits

Appendix D :

LEA Interviews

Interview 1: OK LEA 2021 Recipient of IAL funds

- Summary: This LEA is in a very rural part of OK that is mid-sized and has a high poverty rate. This LEA contracted out the writing of their application to Barlow Education Management Services. The LEA has applied to IAL every year of its offering since 2012 and received the grant every year. They report difficulties because they are so rural, so a lot of the ideas they had for innovations to literacy were not possible due limitations with technology. They also noted they thought the application process is complex. Since the LEA already had a plan of how to use funds from previous years, and what the Department liked to see, it was easier for them to complete the application in the 2021 cycle.

Interview 2: TX LEA 2021 Recipient of IAL Funds

- Summary: The LEA is a large rural school district in TX that has a high poverty rate. The District contracted out the grant writing to a grant writer who has served as a peer reviewer for other USDOE discretionary grants and is well experienced with grant writing. Bloomington Independent School District has applied to the grant every year since 2014 and received it the first time in 2021. They report difficulties in how the timeline for grant writing is short and hard to find all the information needed during the short window. The district also reports that the grant writing falls during school testing time so the data used in the application is not always most reflective of the current situation, and the application process is long and elaborate and it's easy to miss essential information to include.

Interview 3: WA LEA 2021 Recipient of IAL Funds

- Summary: The District, is a large rural district with a high Hispanic population and a high poverty rate. The district has a staffer whose only job it is to be a grant writer for the large district, although she wrote it in partnership with other staffers. The district has a lot of resources from the state. The LEA applied for the grant the first time in 2021 and received it. They reported difficulties in consolidating all the necessary information for the application from the different schools they manage as a large LEA, given the quick turnaround time for needing to submit the application. They also explained that designing a sustainable project with staffers who can implement the initiatives is hard, and they also said that navigating the system to apply for the grant or G5 is complex and confusing.

Interview 4: GA LEA 2021 Recipient of IAL Funds

- Summary: The LEA is large with a growing and large ESOL population. The LEA has a staffer whose job it is to write grants for the District, although when they applied it was the staffers' second time applying to a USDOE grant. The staffer wrote the application along with other staffers of the districts, and 2021 was the first time the district applied for the

grant. They reported difficulties in knowing what information the Department wanted as the instructions were in many different places, and the instructions were not very clear. The district also reported difficulties in coming up with innovative ideas that the schools could sustainably use.

Appendix E:

Data Notes

Figure 1: Five LEAs who applied do not appear on this map, either because there were errors within their application or because these were errors within the reported zip code.

Figure 2: All rights and credit to this map is given to the Stanford Education Opportunity Project.

Appendix A Figure 11:

- The total # of LEAs in the country fluctuates by year and resource count, which is why it is estimated.
- SAIPE Estimates use US Census data files per relevant year in the "SAIPE School District Estimates" files and divides column "Estimated number of relevant children 5 to 17 years old in poverty who are related to the householder" by "estimated population 5-17."
- LEA literacy testing numbers come from the data file: *seda_geodist_poolsub_CS_4.1*, and use the "cs_mn_avg_rla_ol" values, row "all", because all refers to the aggregated test scores of all students in the referenced district from 2009-2018

Table 1:

- The total number of applicants in 2019, 2015, & 2013 was not clear in OESE G5 data. Therefore, their associated calculations are unknown.

Figure 3:

- Data points for 2013, 2015, 2017, and 2019 are missing due to known applicant data in these years.

Figure 4:

- Uses data from the "NCES School District Characteristics" file from 2018-2021. Applies 2018 School District data to applicants from earlier than 2018 because of the lack of data before 2018.

Background on Problem: Size

- Aggregates public school data found in NCES EDGE Open files to district level counts. Applies relevant information from school year 2015-2016 to applicants from 2012, 2013 & 2014 because of lack of relevant data files.

Appendix E:

Data Notes

Background on Problem: Student to Teacher Ratio

- Student to teacher ratios are calculated by dividing the total reported students by classroom teachers at the school level. This NCES Edge Open Estimate is then aggregated up to the district level for the report. Applies relevant information from school year 2017-2018 to applicants from 2012, 2013, 2014, 2015, 2016 because of lack of relevant data files.

Figure 5, Figure 6, Background on Problem: Title 1 Eligibility/ Status & Free and Reduced Lunch Eligibility & Racial Makeup of Recipients & Racial Makeup of Applicants & Repeat Winners

- Aggregate's "Public School Characteristics" data files found in NCES EDGE Open files to district level counts. Applies relevant information from school year 2015-2016 to applicants from 2012, 2013, 2014, 2015, 2016 because of lack of relevant data files.
- Values in NCES Edge Open "Public School Characteristic" data that are negative were excluded from analysis.

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