Washington State Institute for Public Policy

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HOW DOES WASHINGTON STATE'S LEARNING ASSISTANCE PROGRAM IMPACT STUDENT OUTCOMES?

Final Report

Washington State provides supplemental funding to school districts through the Learning Assistance Program (LAP) to help students at-risk of not meeting state learning standards. The state Quality Education Council (QEC) makes recommendations to the legislature regarding basic education, including LAP. The QEC requested that the Washington State Institute for Public Policy (Institute) study the impact of LAP-funded remediation strategies on student achievement.[1]

The Learning Assistance Program has been the subject of six other studies since 1995 (see Appendix A). These studies primarily focused on the funding formula the state uses to distribute LAP funds. Most recently, the Institute's December 2011 preliminary report found that the state's K–12 data system does not reliably identify which students receive LAP-funded services. In response, the Office of Superintendent of Public Instruction (OSPI) modified district reporting requirements to ensure that LAP students will be identified in state data from 2011-12 and beyond.

This final Institute report describes how LAP is implemented in Washington State (Section 1). We also present results from a school-level analysis of the association between LAP and student outcomes (Section 2).

[1]Specifically, the QEC called for "a research study to measure the impact of LAP programs on student achievement … to determine what programs and strategies are most effective and efficient in assisting struggling students in the areas of math, literacy, and science, as well as outcome measures for use by policy makers in evaluating program success." Quality Education Council (2011). *Report to the Legislature*. January 15, 2011. The Institute provides research support to the QEC under a legislative assignment (HB 1087 § 610 (4), 2011). This project was approved by the Institute's Board of Directors.

Summary

Washington State's Learning Assistance Program (LAP) is a funding stream for school districts to offer remediation to underachieving students. In 2010-11, the state allocated $140 million for LAP (about 1% of total state and federal K–12 spending). The money was distributed to 56% of Washington public schools and served 12% of public K–12 students in 2010-11.

LAP primarily pays for teachers and instructional aides to provide tutoring, small group instruction, and extended learning time. Educators use assessment tests, teacher feedback, and other measures to identify eligible students. Similar methods are used to evaluate the effectiveness of services at the local level.

The Institute was asked by the QEC to study the impact of LAP-funded remediation strategies on student achievement.

Given that student-level data are presently not available, we cannot determine LAP's specific effect on individual student achievement. LAP funding data by school, however, are available for 2008-09 to 2010-11, allowing us to approximate the average impact of LAP expenditures on school performance on assessment tests and graduation rates. The results suggest LAP has a similar small, positive impact on student outcomes as K–12 spending in general.

OSPI recently modified K–12 data rules to require districts to report which students receive LAP-funded remediation. By the close of 2015, three years of individual-level data will be available to replicate this analysis with greater precision.

Suggested citation: Pennucci, A., Lemon, M., & Anderson, L. (2012). *How Does Washington State's Learning Assistance Program Impact Student Outcomes? Final Report.* (Document No. 12-08-2201). Olympia: Washington State Institute for Public Policy.

SECTION 1. HOW IS LAP IMPLEMENTED IN WASHINGTON SCHOOL DISTRICTS?

This section describes how LAP funds are used in schools throughout Washington State. The information comes from two sources:

- iGrants data that school districts submit to OSPI each year (see Appendix B for details);[2] and
- interviews the Institute conducted with representatives from 30 schools and districts around the state (see Appendix C).[3]

The following sub-sections describe the allowable uses of LAP funds and variation in services provided, how districts identify eligible students for LAP-funded services, and how districts evaluate their programs.

1A. Allowable Uses of LAP Funds and Services Provided

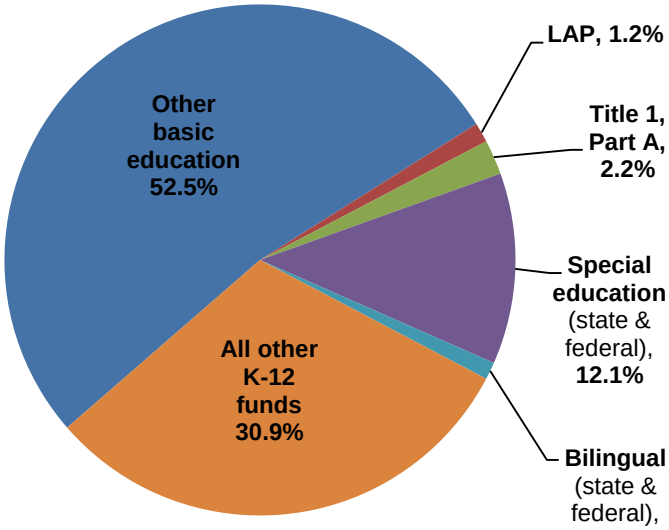
Washington State distributes Learning Assistance Program (LAP) funds to districts each year. Districts apply to OSPI for approval, and then OSPI allocates the funding based on the percent of low-income students in each district using a formula set by the legislature.[4]

In 2010-11, the state allocated $140 million for LAP and distributed the money to 282 (out of 295) districts around the state.[5] Districts reported that 124,922 students (about 12% of all public school students) received LAP-funded services during this school year. In comparison, in 2010-11, 33% of students in grades 3–8 did not meet standards in reading, and 42% in math.

A 2010 state workgroup estimated that about one-fourth of eligible students receive LAP-funded services.[6] The average per-pupil LAP expenditure was $1,380 in 2010-11.

LAP represents 1.2% of state and federal K–12 funding in Washington State (see Exhibit 1). We learned from educators that LAP operates in complementary ways with three other major sources of federal and state supplementary assistance: federal Title I, Part A (2.2% of total funds), state and federal special education (12%) and state and federal bilingual programs (1%).[7]

Exhibit 1
Washington State and Federal K–12 Funding
(Local Funds Not Included)



Data source: OSPI

Seventeen other states operate programs similar to LAP—that is, they allocate supplemental funding for districts to provide remediation for K–12 students. Nine of these states allocate the funding based on poverty rates (as Washington does), and ten allocate the funding based on student performance measures (three use both factors to determine funding amounts). Appendix D provides details about other states' programs.

[2] We analyzed all 282 district applications from the 2010-11 iGrants data for this study.
[3] We conducted interviews with teachers, principals, and administrators from districts and schools across the state. Appendix C describes the interview process, including the sampling strategy, schools and districts included in the sample, and the interview questions.
[4] The funding formula has varied over time. Currently, each district's kindergarten through 12th grade full-time equivalent (FTE) enrollment is multiplied by the percent of students eligible for free or reduced priced meals and the per-student allocation ($282.13 in 2010-11).
[5] This total reflects the initial allocation. Budget revisions and carryovers from the previous year put the final budget amount slightly higher.
[6] Pauley, G. (2010). *Learning Assistance Program Technical Working Group Recommendations*. Olympia, WA: Office of Superintendent of Public Instruction.
[7] Out of $10.3 billion in total state and federal K–12 funding. OSPI (April 2012). *Financial Reporting Summary* p. 27-28.

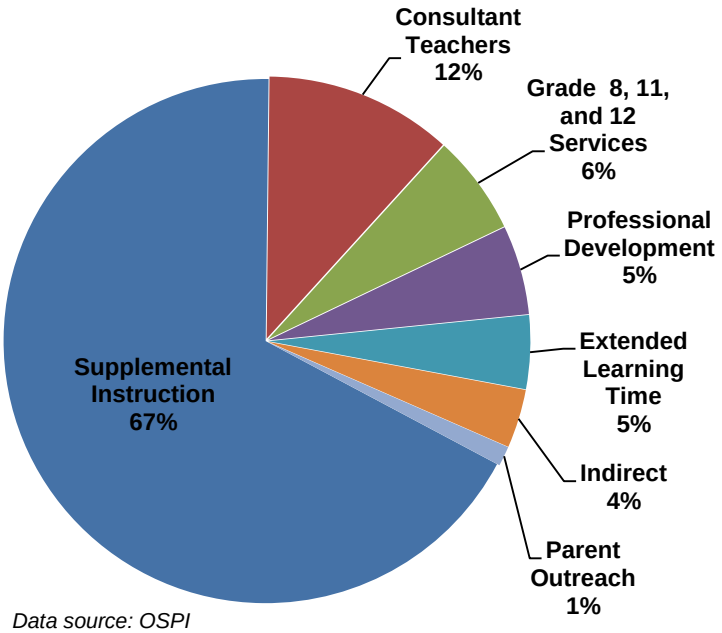
In Washington State, districts have discretion to select and implement remedial strategies with LAP dollars. Districts can distribute their LAP funds to all or some school buildings within the district. In 2010-11, 1,273 out of 2,281 schools (56%) received LAP funding. State law allows school districts to allocate LAP funds across six categories of activities:

- extended learning time;
- special assistance for 8th, 11th and 12th grade students;
- professional development;
- consultant teachers;
- supplemental literacy and math instruction; and
- parent outreach.[8]

Exhibit 2 summarizes the distribution of LAP funds in 2010-11. Variation among districts is detailed in Appendix B.

***Accelerated Learning Plans*.** All students served through LAP must have an Accelerated Student Learning Plan (ALP). The plan can be developed for individual students or for a group of students with similar academic needs, and may be combined with other student achievement plans such as the Title I Parent/Student/Teacher compact.[9] The ALPs are intended to set achievement goals, outline the expected roles of students, teachers, and parents, and establish communication procedures with families.[10]

Exhibit 2
Statewide Distribution of LAP Funds among Allowable Categories, 2010-11



Data source: OSPI

Examples of Funding Allocations in Districts

These examples from district program descriptions and interviews with educators across the state illustrate how districts of varying sizes allocate LAP dollars.

- A large district's LAP budget totaled about $3.5 million for over 4,500 students, for an average per-pupil expenditure of $790. The district distributed funds to 38 out of 42 schools for an average allocation of $60,500 per school (ranging from $19,000 to over $300,000). The district allocated funds to all six allowable categories, ranging from $2.3 million in supplemental instruction for "double dose" classes, before and after school tutoring, and supplemental curricula, to $30,000 for 11th and 12th grade summer school credit retrieval classes.
- A mid-size district's LAP budget totaled about $487,000 and served 290 students for an average per-pupil expenditure of $1,680. The district distributed $329,000 to five out of six schools, with about half of the funding ($161,000) going to its high school. The district used $438,000 in supplemental instruction to purchase supplies and materials for a "limited pull-out" model and learning labs in reading, writing, and math. $35,000 was dedicated to extended learning time (after-school tutoring with a certificated teacher one day per week).
- A small district had a $50,000 LAP budget and served 80 students for an average per-pupil expenditure of $630. The district distributed LAP funds to its two schools. The funds were allocated to four categories, including $42,000 in supplemental instruction (small group tutoring and test preparation) in junior high, $500 in family outreach (a "Math Family Fun Night") and $5,500 in extended learning time for K-2 summer school.

[8] RCW 28A.165.035 and WAC 392-162-072

[9] Pauley, G. (2010). *Learning Assistance Program Technical Working Group Recommendations*. Olympia, WA: Office of Superintendent of Public Instruction.

[10] WAC 392-162-034

Most LAP dollars are spent on supplemental instruction. LAP pays for teachers and instructional assistants to provide direct services to students, usually in the form of tutoring. Districts choose specific program activities and the mix of services varies, with some districts using only one approach, while others use several different strategies. Exhibit 3 summarizes the frequency of specific services across districts.

Exhibit 3
Most Frequently Reported District Services for LAP Students

Type of Service	# Districts	% Districts
Tutoring*	204	72%
Small/ability groups	*135*	*48%*
In-class ("push-in")	*124*	*44%*
Outside-of-class ("pull-out")	*89*	*32%*
More class time	159	56%
Before/after school programs	127	45%
Online/supplemental curricula	97	34%
Summer school	77	27%

* Districts were coded as providing tutoring if they reported one or more of the three tutoring sub-categories or provided individual assistance.
Data source: OSPI

The six allowable expenditure categories are not mutually exclusive. For example, if LAP funds pay for an instructional assistant who provides after-school tutoring, the amount could be accounted for under "extended learning time" or "supplemental instruction."

***Tutoring*.** LAP-funded tutoring is provided by instructional assistants, certificated teachers, and reading/math specialists. The tutoring occurs in a range of settings, including before- and after-school programs, summer school, and during the regular school day.

Providing tutoring to small groups of students, often grouped by ability, was frequently in district program descriptions. The groups are typically composed of three to eight students who have similar learning needs. The tutoring is conducted both inside and outside of the general education classroom, and many districts use a blend of the two.

"Push-in" support, or using LAP funding to provide tutoring in the regular classroom, was reported by 44% of districts. Typically, this method places instructional assistants in general education classrooms to tutor individuals and small groups of students, and was most commonly used at the elementary school level. This method contrasts with tutoring provided outside of the regular classroom, often referred to as "pull-out" services. In pull-out models, individuals or small groups of students leave the classroom for tutoring services in a different setting. Outside-of-class tutoring was reported by about 32% of districts.

***More Class Time*.** Supplemental assistance is provided through extra classes ("double dosing"), specific intervention periods scheduled during the regular school day, and other forms of extended instructional time. Just over 56% of districts reported using this method, with most districts using this approach at the secondary school level. The extra classes are often provided to LAP students in lieu of enrichment or elective classes, although some districts have scheduled periods during the day when all students attend classes where individually-focused assistance is provided.

***Before- and After-School Programs*.** Over 45% of districts reported using LAP funds for before- and after-school programs. The programs often vary by school and grade level within a district. Their availability can depend on district characteristics; for example, rural schools may have a more difficult time offering after-school programs due to a lack of transportation options. The time is used to provide access to teachers or instructional assistants, "study tables," supervised computer labs, and more structured programs delivered in a classroom setting.

***Online and Other Supplemental Curricula*.** In many districts, supplemental services are delivered through a reinforcement method where interventions augment the core curriculum. This includes "pre-teaching," when concepts in the core curricula are covered prior to delivery in class to promote recognition of key ideas, as well as "re-teaching," when concepts are repeated so as to aid comprehension and retention.

About 34% of districts reported using LAP money to purchase supplemental curricula, including online or computer-based learning systems, commercially purchased curricula delivered through teachers or instructional assistants, or a combination of the two. One of the most widely reported curricula was READ 180, which is a combination of whole-group instruction, small-group instruction, instructional software, and independent reading time in a rotation format.[11] Exhibit B3 (Appendix B) includes a list of some of the supplemental and online curricula funded by LAP.

***Summer School*.** Similar to before- and after-school programs, LAP-funded summer school is provided in various ways across the state. Some districts or schools offer a structured, multi-week summer session, while others offer programs like a "Math Camp," "Summer Academy," or more informal access to tutoring services during the summer. About 27% of districts reported using LAP funds to support summer school activities.

What Does Research Say about the Effectiveness of LAP-funded Services?

At present, descriptions of LAP services are not linked to individual schools or students, so we were unable to evaluate the relative effectiveness of different remediation strategies implemented with LAP funding. The Institute has, for previous legislative assignments, systematically reviewed the high-quality research literature on some of the most frequently used LAP remediation strategies.[12] The research we reviewed provides evidence that the following strategies can improve student outcomes:

- one-on-one tutoring;
- content-specific professional development;
- additional instructional time; and
- parent involvement programs.

Examples of LAP-funded Services in Schools

There is considerable variation among districts and schools in the supplemental services provided to students. A few examples from interviews with educators illustrate this variety.

- An elementary school adheres to an early intervention philosophy and provides LAP-funded services to students in kindergarten, second, and fifth grade. Kindergarten and second grade students are provided a "pull-out" model, in which an instructional assistant conducts interventions with small groups of students outside the regular classroom. These interventions are in addition to the 90 minutes of instruction students receive in core classes each day. They use the "Read Well" curriculum. For fifth grade students, the school relies on "literature circles" with students in small groups according to reading level. The students are provided instructional materials appropriate for their level.
- A middle school uses an "inclusion" or "block" model with assorted classes for students with different needs. LAP students are placed in "targeted" classes which average about 18 students (regular class size averages 28 students). The smaller LAP class size allows for more intensive and tailored instruction. The school also runs a summer school program for incoming LAP-eligible students when funds allow.
- A high school uses several different models to provide LAP-funded supplemental instruction. The school provides class periods called "Literacy Lab" and "Math Lab" to students in all grades. The labs use a team-teaching model. The school also offers credit retrieval programs and courses during the regular school day for 11th and 12th grade students at risk of not graduating. Finally, the school provides extended day and year programs, including a mandatory after-school program called "Success First" that meets two times per week. School representatives report that the mandatory nature of this program has increased participation considerably and the attendance rate for targeted students is over 90%. The school also offers a winter break program, an after-school study center, and an after-school learning lab for English language learners.

[11] See http://read180.scholastic.com/ for more information.

[12] Lee, S., Aos, S., Drake, E., Pennucci, A., Miller, M., & Anderson, L. (2012). *Return on investment: Evidence-based options to improve statewide outcomes, April 2012* (Document No. 12-04-1201). Olympia: Washington State Institute for Public Policy.

Our review of district program descriptions and the interviews we conducted suggest that LAP funds are frequently used for these activities—tutoring and additional instructional time in particular. For other LAP-funded activities, such as small group instruction, Accelerated Learning Plans, and consultant teachers, we have not yet reviewed the research.[13]

1B. How Districts Identify Eligible Students for LAP-funded Services

Students are eligible for LAP-funded services if their performance on state or local academic assessments is below standard for mastering basic skills, or if they are 11th and 12th grade students at risk of not meeting state or local graduation requirements.[14] Local school districts have discretion in the specific assessment systems they use to identify students for services,[15] and there is substantial variation among districts regarding the mix of assessments and other measures they select. Most districts use multiple measures to identify eligible students (Exhibit 4).

Exhibit 4
Average Number of Measures Used to Identify Students to Receive LAP-funded Services

Level	# Districts	Average # Measures
Elementary (K-6)	255	3.7
Middle (7-8)	248	3.0
High (9-12)	226	2.9

Data source: OSPI

Over 90% of districts that receive LAP funds use the state assessments (Measures of Student Progress/High School Proficiency Exam) as at least one measure to identify K–12 students in need of remediation. Other common measures include:

- Measures of Academic Progress (MAP);
- Dynamic Indicators of Basic Early Literacy Skills (DIBELS);
- teacher recommendations and parent referrals; and
- credits earned and GPA (in high schools).

Additional details about each method are in Appendix B.

Ranking Systems. Many districts report that they prioritize using LAP to help students with the greatest need. Districts use a combination of measures to place students on a rank-order list and generally serve students beginning with the most in need and moving down the list as funds allow.

Coordination with Other Programs. To avoid unnecessary overlap among LAP, Title I, special education, and services for English Language Learners, districts report that they carefully coordinate services. Assessment measures are used to determine which funding stream provides the most appropriate services for each individual student in need of assistance.

Some students receive services from more than one program. For example, one school noted that a struggling student may receive LAP services for math and special education services for reading, if reading is part of the student's individualized education plan (IEP) but math is not. Some schools reported that their data systems are helpful in tracking student needs and specific services provided.

The Importance of Data Systems. Many educators we interviewed told us that students typically receive LAP services for short periods of time; for example, for a month or two rather than the entire school year. If students show sufficient progress, the LAP resource is shifted to another at-risk student. Some, usually larger, districts have data systems that compile classroom and formative assessment results as soon as they are available. Teachers say the immediate feedback helps them optimize LAP and other supplemental funding streams by quickly identifying who is improving or still

[13] We have, however, reviewed research that shows that providing mentors to new teachers (similar to consultant teachers) can improve student learning. Pennucci, A. (2012). *Teacher compensation and training policies: Impacts on student outcomes.* (Document No. 12-05-2201). Olympia: Washington State Institute for Public Policy.
[14] WAC 392-162-180
[15] WAC 392-162-032, WAC 392-162-025

struggling. Several small districts mentioned that their technical capacity to collect and analyze data was limited and expressed a need for more assistance in this area.

1C. How Districts Evaluate LAP-funded Services

Districts are required to submit information annually to OSPI on "How a program evaluation will be conducted to determine direction for the following school year."[16] A review of districts' responses to this requirement reveals three main components (Exhibit 5) that districts consider when evaluating their LAP programs:

- Almost all districts report using student assessment data, usually from the same tests given to initially identify students for services, to evaluate their programs. Districts also consider the number of students served, grade point averages, and credits earned. Several districts reported using the Accelerated Learning Plans to measure progress toward student goals.
- Over half of districts (56%) report using some form of qualitative information, such as stakeholder surveys, meetings, conferences, and classroom observations.
- A few districts (5%) use measures not directly related to academic performance, such as attendance, disciplinary referrals, and indicators of student engagement, such as interest in particular course offerings.

Exhibit 5
School Districts' LAP Evaluation Methods

Method	# Districts	% Districts
Assessment data	253	90%
Survey/qualitative feedback	158	56%
Both assessment and qualitative feedback	140	50%
Non-academic indicators	14	5%

Data source: OSPI

Examples of How Schools Identify Students to Receive LAP-funded Assistance

Examples from interviews illuminate how schools identify students for LAP services.

- An elementary school uses DIBELS for students in kindergarten and first grade. All students who score in the "intensive" category are eligible for LAP. For grades 4-6, the school uses the MSP; students who score below the 10th percentile are eligible for LAP services, while students in the 11th to10th percentile are placed on a watch list. Teachers at the school may request that a student be screened if they believe he or she is at-risk for not meeting learning standards.
- A junior high school uses the reading MSP and spring MAP results to identify potentially eligible students. Students are listed in rank-order based on assessment results. Those with the lowest scores receive LAP-funded services first and the school tries to improve their skills quickly so they can be moved out of LAP and other students can receive assistance.
- A high school uses a two-pronged approach: credit recovery for 11th and 12th grade students and "on-time interventions" for 9th and 10th grade students. The school uses the results of 8th grade MSP, MAP, and classroom performance in literacy, math, and core academics to identify eligible students.
- One school district uses a six-step process to select students for LAP:
  a) State law is the first filter, so students must be below standard on state assessments.
  b) The LAP staff meets with teachers to gather clarifying information to identify students in greatest need.
  c) District-administered diagnostic test results are examined for trends in students' progress.
  d) Student attendance records are examined. If poor attendance may indicate homelessness, the school can consider using federal McKinney-Vento Homeless Assistance funds to help those students.
  e) Students are assessed to determine if they are having difficulty with language acquisition and may benefit from assistance through the Transitional Bilingual Instruction Program (TBIP).
  f) If a student has shown a lack of progress in previous interventions, the district may determine that the student may be best served through special education.

  After all these filters, the district selects students for LAP.

[16] WAC 392-162-068

Examples of LAP Evaluation in Schools and Districts

- An elementary school uses a combination of summative and formative assessments to evaluate on-going student progress. The school uses DIBELS, MAP, and AIMS formative assessments and MSP as a summative measure. Intervention teams meet one to two times per month. District staff meets with grade level and instructional specialists three times per year to review results and adjust intervention strategies. The district has developed benchmark comparisons against demographically and socio-economically similar districts in the state.
- A middle school follows a district-developed evaluation system that includes computer-based tracking and data aggregation, which helps in the development of Accelerated Learning Plans (ALPs). The district uses pre- and post-tests to examine the impact of LAP on individual students, while DIBELS and other formative tests provide on-going feedback and allow the district to see a student's growth over time. The overall program is evaluated through an analysis of assessment data and feedback from parents. The district recently found that parent surveys were not useful due to a low return rate, and has begun to solicit feedback via focus groups, parent-teacher conferences, and other face-to-face meetings.
- A high school uses a combination of observations, stakeholder feedback, and close examination of student progress to evaluate their program. LAP-funded classes are observed multiple times by building principals, district administrators, and the superintendent. Administrators review schools' benchmark assessments, pre- and post-assessments, standardized tests, teacher observations, grades, and attendance. The district also conducts a survey, in three languages, of parents each year.

SECTION 2. HOW DOES LAP IMPACT STUDENT OUTCOMES?

Does LAP funding work to improve student outcomes such as test scores and graduation rates? An answer to this question can only be approximated at this time due to constraints in the state's data system.

Our original study plan aimed to measure how LAP funding impacts the outcomes of students who receive remediation services. However, state data do not indicate which grade levels or students get LAP-funded services within each school. Therefore, we use school-level rates to measure student outcomes.

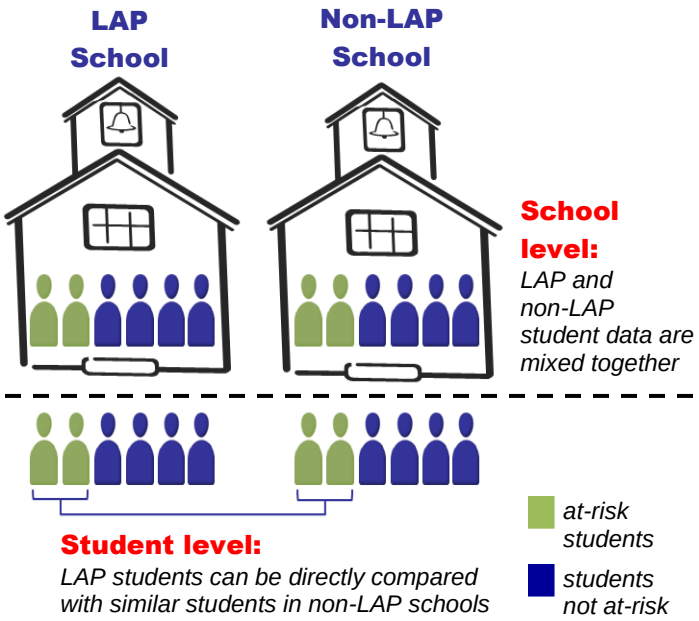
We would not expect school-level rates to change substantially based on services provided to a relatively small proportion of students (12%). In the available data, any potential impact of LAP is mixed with other students' outcomes. If individual-level data were available, the outcome of students served with LAP funds could be directly compared with similar students in schools that do not receive LAP funds. Exhibit 6 helps illustrate this issue.

Following the Institute's December 2011 preliminary report, OSPI modified the K–12 data system to ensure that individual-level data will be available for analysis beginning with the 2011-12 school year. When three years of student-level data are available, a more precise estimate of the impact of LAP can be made.

If OSPI takes an additional step to link standard program descriptions to every school that receives LAP funding, a follow-up analysis could also examine the relative impact of different remedial strategies. The OSPI Title I/LAP office plans to begin collecting school-level program data during the 2012-13 school year. By 2015, the necessary data will be in place to answer the specific question posed by the QEC (the effectiveness of different remediation strategies funded by LAP).

At present, however, only school-level data are available. In this report, we analyze these "second-best" data to draw approximate inferences about the effectiveness of LAP funds. The analysis uses Washington State K–12 data for 2008-09 through 2010-11.[17] Descriptions of our statistical analysis methods and results follow.

Exhibit 6
School versus Student Level Data



2A. Research Approach

Our methods have been refined since the December 2011 preliminary report was issued. Our preliminary findings were based on a regression analysis that takes into account factors influencing student outcomes at the school level (such as the composition of the student body and teacher workforce). However, there may be other, unobserved influences present in schools, such as school culture or discipline policies.

Therefore, here we use what is termed a "fixed effect" regression analysis to estimate the association between LAP funding and student outcomes. While still an approximation using school-level data, this approach allows us to take into account each school's unique characteristics, including unobserved factors. Technical details of this approach are described in Appendix E.

[17] The school characteristics, assessment, graduation, and LAP funding data were provided by OSPI.

How "LAP" is Measured. We use per-pupil LAP funding to measure LAP services provided in schools that receive the funding. The amount of LAP dollars a school receives is divided by the total number of students in that school building. If a school does not receive LAP funding, that amount is zero. We assign the per-pupil expenditure dollar amount to each school as a proxy for LAP activities.[18]

Student Outcomes. Student outcomes are also measured at the school-level: the proportion of students in the school who achieve a particular outcome. The specific measures are:

- "Met standard" rates for state reading and math assessments in grades 4–8;[19]
- The percentage of students who score above the most basic level on the state reading and math assessments (above level 1);[20] and
- On-time (four-year) and extended (five-year) high school graduation rates.

Other Factors. The statistical models also take into account school characteristics measured in available data: the percentage of students by gender, poverty, special education status, English language learner (ELL) status, and race/ethnicity. We include two measures of teacher characteristics typically used in analyses of K–12 outcomes: percent with graduate degrees and average years of teaching experience. The school's prior year test score outcome or graduation rate is also included in the analysis. Additionally, as noted, we also included school and year fixed effects.

2B. Student Test Score Results

The statistical models measure the impact of LAP funding on the percentage of students meeting standard, or scoring above basic levels, on the state reading and math assessments—holding other factors constant.

Our result suggests that LAP probably has a similar impact on student outcomes as general K–12 spending—a relatively small but positive impact. We recently reviewed the body of evidence—focusing on high quality studies—regarding impacts from changes in per-pupil expenditures on test scores and high school graduation rates. In a forthcoming publication, we find an overall small positive impact: a 10% increase in per-pupil expenditures is associated with a 0.21% improvement in annual student achievement.[21] Our final results for LAP fall within the range of findings we estimate from this research literature: a 0.23% improvement in annual student learning per 10% increase in funding.

Again, this is only an approximate finding at this time, and a more refined estimate will require the student-level data that is now being collected by OSPI.

The state assessment tests, which evaluate students' mastery of state learning standards, are appropriate measures to evaluate whether LAP funding serves the goals set in legislation: to "[p]romote the use of assessment data when developing programs to assist underachieving students."[22] When individual-level data are available, estimates of the impacts on test scores will be much more precise.

To estimate impacts in grades K–2, non-state assessments would need to be used, since the statewide assessment is only given in grades 3–8 and 10.

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[18] This amount represents a lower-end estimate of LAP per-pupil funding because it is based on all students in the school. In practice, LAP funds are used to assist struggling students only. Data on LAP students per school are unavailable (the number of students served by LAP is only reported at the district level). Thus, the school-level analysis uses total school enrollment as the denominator for calculating per-pupil funding (each school building's total LAP funding divided by the school's total enrollment). Title I, Part A funding was handled in the same manner.

[19] Students "meet standard" if they score high enough (at least a 400 scale score) to be considered proficient in that subject area. In the 2008-09 school year, the statewide assessment was the Washington Assessment of Student Learning (WASL). In 2009-10 and 2010-11, it was the Measures of Student Progress (MSP). Both assessments measure whether students meet the same underlying standards (the Essential Academic Learning Requirements or EALRs).

[20] We include the second measure because LAP is intended to serve students at the lower end of the assessment spectrum.

[21] Aos, S., & Pennucci, A. (Forthcoming, 2012). *K-12 Spending and Student Outcomes: A Review of the Evidence.* Washington State Institute for Public Policy.

[22] RCW 28A.165.005

2C. High School Graduation Results

High school graduation rates, which measure the cumulative impact of 13 years of K–12 resources, are less likely to be affected by a relatively small, short-term funding stream such as LAP. However, since the funding can be used to assist 11th and 12th grade students meet graduation requirements, we examined whether LAP impacts school graduation rates.

The high school analysis has mixed results. Schools' on-time (four-year) graduation rates do not appear to improve with LAP funding, although LAP is associated with slightly higher extended (five-year) graduation rates.

CONCLUSION

Washington State's Learning Assistance Program (LAP) primarily funds supplemental instruction (tutoring and extended learning time), although how school districts use the money varies across the state. Teachers and administrators use multiple measures to identify students for LAP-funded services. Many educators interviewed for this study noted the usefulness of data systems in targeting services to students most in need of remediation.

Given the data presently available regarding the LAP program, we cannot determine its specific effect on individual student achievement. The measured impacts at the school level suggest that LAP has a similar small, positive impact on school outcomes as other funding streams.

Recent improvements to the state data system will allow future research to determine whether the impact of LAP is larger than measured here, because the analysis will be able to focus on students who receive LAP services. By the close of 2015, three years of individual-level data will be available to replicate this analysis with more precision.

APPENDIX A: PRIOR LAP STUDIES

Legislative Budget Committee (now JLARC). (1995). *K–12 Learning Assistance Program Fiscal Study* (Report 95-2). Olympia, WA: Author.

Office of the Superintendent of Public Instruction. (1999). *Report to the Legislature on Funding and Programmatic Recommendations for the Learning Assistance Program*. Olympia, WA: Author.

McLain, B., & Miller, M. (2002). *The Learning Assistance Program: Options to revise the state funding formula* (Document No. 02-06-2201). Olympia, WA: Washington State Institute for Public Policy.

Pauley, G. (2008). *Learning Assistance Program in Washington State*. Olympia, WA: Office of Superintendent of Public Instruction.

Pauley, G. (2010). *Learning Assistance Program Technical Working Group Recommendations*. Olympia, WA: Office of Superintendent of Public Instruction.

Pennucci, A. & Anderson, L. (2011). *How Does Washington State's Learning Assistance Program Impact Student Outcomes? Preliminary Results.* (Document No. 11-12-2201). Olympia: Washington State Institute for Public Policy.

Washington State Auditor's Office. (2010). *Learning Assistance Program: 2005-06 through 2007-08* (Report No. 1002985). Olympia, WA: Author.

APPENDIX B: LEARNING ASSISTANCE PROGRAM DISTRICT-LEVEL DETAILS

Each year, Washington school districts apply for Learning Assistance Program (LAP) funding from the state Office of Superintendent of Public Instruction (OSPI) Title I, Part A, and Learning Assistance Program Office. This appendix summarizes information from district-level descriptions of their LAP-funded activities. Reports from all 282 districts who applied in the 2010-11 school year were analyzed; the information is summarized from the district LAP applications as well as from end-of-year and end-of-summer reports.

The Institute reviewed district responses to questions related to budget allocations, services provided, identification of eligible students, and program evaluation. Where applicable, a rubric was created for each section and each district's response was coded. The information analyzed for each section included:

- **Budget Allocations:** The information in this section was derived from "Page 2: Allowable Expenditures", "Page 3: Student Information", and "Page 4: LAP – Public School Breakdown" of the district applications ("Form 218").
- **LAP Services Provided:** The information in this section was derived from question "A" on "Page 1: Basic Program Elements" and sections one ("Extended learning time opportunities") and five ("Supplemental instruction") on "Page 2" of the district applications. In addition, summer school information was derived from "Form 247" submitted by participating schools at the end of each summer session to OSPI. The information regarding services for 11th and 12th grade students was found in the end-of-year reports "Form 245" and "Form 247".
- **Identification of Eligible Students:** The information in this section was derived from question two on "Page 1" of "Form 218". A separate rubric was created for each grade span (kindergarten through 6th grade, 7th and 8th grades, and 9th through 12th grades).
- **Program Evaluation:** The information in this section was derived from question seven on "Page 1" of "Form 218."

Exhibit B1 displays how each school district that received LAP funding in the 2010-11 school year distributed the funding among the allowable expenditure categories, and Exhibit B2 provides detail about those categories.

Exhibit B3 provides detail on LAP-funded services provided to 11th and 12th graders.

Exhibit B4 provides detail on the curricula used by districts for LAP-funded instruction.

Exhibit B5 through B9 provide detail on methods used to identify students eligible for LAP-funded services.

Exhibit B10 displays the questions asked in the district application form ("Form 218") from 2010-11.

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories

(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Aberdeen	1%	12%	0%	0%	85%	0%	3%	$726,434	404	$1,798
Adna	40%	0%	0%	0%	58%	0%	2%	$52,069	55	$947
Almira	0%	0%	0%	0%	100%	0%	0%	$9,123	13	$702
Anacortes	19%	7%	5%	0%	64%	3%	2%	$218,123	383	$570
Arlington	8%	0%	0%	0%	90%	0%	3%	$356,127	190	$1,874
Asotin-Anatone	11%	34%	3%	0%	44%	0%	7%	$43,537	45	$967
Auburn	4%	2%	7%	2%	81%	1%	2%	$2,065,251	1,057	$1,954
Bainbridge Island	0%	0%	0%	0%	100%	0%	0%	$69,954	161	$434
Battle Ground	4%	8%	13%	17%	54%	2%	3%	$1,448,102	1,710	$847
Bellevue	8%	10%	5%	22%	50%	3%	2%	$972,095	521	$1,866
Bellingham	0%	14%	1%	14%	68%	0%	3%	$1,056,978	260	$4,065
Bethel	1%	9%	1%	53%	33%	0%	4%	$1,879,236	1,339	$1,403
Blaine	2%	2%	1%	0%	93%	0%	2%	$269,500	163	$1,653
Boistfort	0%	0%	0%	0%	93%	0%	7%	$15,912	12	$1,326
Bremerton	10%	15%	2%	7%	61%	0%	4%	$1,056,985	420	$2,517
Brewster	0%	8%	4%	0%	85%	0%	3%	$362,159	878	$412
Bridgeport	24%	10%	3%	0%	52%	5%	6%	$300,466	168	$1,788
Brinnon	0%	0%	0%	0%	91%	0%	9%	$7,469	14	$534
Burlington-Edison	3%	12%	2%	4%	73%	1%	5%	$452,987	466	$972
Camas	0%	0%	0%	0%	97%	0%	3%	$273,405	220	$1,243
Cape Flattery	0%	66%	2%	0%	29%	0%	2%	$107,325	53	$2,025
Carbonado	0%	0%	0%	0%	98%	0%	2%	$11,958	35	$342
Cascade	0%	3%	0%	0%	88%	6%	3%	$161,983	595	$272
Cashmere	0%	5%	0%	0%	91%	0%	4%	$220,764	126	$1,752
Castle Rock	10%	8%	13%	0%	66%	1%	2%	$208,187	500	$416
Centerville	0%	0%	0%	8%	82%	0%	10%	$12,501	10	$1,250
Central Kitsap	1%	0%	1%	1%	92%	0%	5%	$883,518	661	$1,337
Central Valley	4%	14%	2%	11%	65%	0%	3%	$1,141,984	1,677	$681
Centralia	3%	1%	0%	0%	93%	0%	3%	$853,600	1,208	$707
Chehalis	6%	0%	4%	16%	69%	3%	2%	$318,287	258	$1,234
Cheney	9%	3%	2%	0%	81%	1%	3%	$527,206	1,110	$475
Chewelah	9%	18%	2%	0%	67%	0%	3%	$216,842	97	$2,235
Chimacum	25%	1%	1%	26%	43%	1%	4%	$160,425	154	$1,042
Clarkston	7%	6%	3%	8%	73%	0%	2%	$536,099	750	$715
Cle Elum-Roslyn	0%	5%	7%	0%	82%	0%	6%	$83,309	85	$980
Clover Park	13%	0%	13%	0%	67%	1%	5%	$3,000,933	1,176	$2,552
Colfax	5%	48%	0%	0%	45%	0%	2%	$51,483	48	$1,073
College Place	0%	0%	7%	0%	86%	2%	4%	$173,555	117	$1,483
Colton	0%	0%	0%	0%	97%	0%	3%	$8,337	6	$1,390
Columbia (Stevens)	6%	17%	0%	0%	74%	0%	3%	$70,402	85	$828
Columbia	0%	0%	0%	0%	96%	0%	4%	$102,503	130	$788

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories
(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
(Walla Walla)										
Colville	7%	0%	0%	0%	90%	0%	3%	$487,131	290	$1,680
Concrete	12%	0%	14%	6%	40%	28%	1%	$126,499	385	$329
Conway	0%	0%	0%	0%	100%	0%	0%	$34,698	30	$1,157
Cosmopolis	0%	0%	0%	0%	94%	0%	6%	$17,662	22	$803
Coulee-Hartline	0%	0%	0%	0%	99%	0%	1%	$27,497	10	$2,750
Coupeville	0%	31%	0%	0%	62%	3%	4%	$106,047	90	$1,178
Crescent	0%	0%	3%	0%	92%	0%	5%	$64,609	69	$936
Creston	0%	0%	0%	0%	91%	0%	9%	$13,606	22	$618
Curlew	23%	23%	0%	0%	54%	0%	0%	$45,268	100	$453
Cusick	0%	0%	0%	0%	96%	0%	4%	$57,942	30	$1,931
Darrington	0%	2%	0%	0%	91%	0%	6%	$88,524	60	$1,475
Davenport	0%	7%	0%	0%	91%	0%	2%	$100,585	104	$967
Dayton	6%	4%	1%	0%	85%	1%	3%	$83,610	58	$1,442
Deer Park	1%	23%	1%	37%	35%	0%	3%	$499,635	820	$609
Dieringer	0%	0%	0%	0%	100%	0%	0%	$37,141	55	$675
Dixie	0%	0%	0%	0%	100%	0%	0%	$5,868	4	$1,467
East Valley (Spokane)	1%	16%	6%	5%	66%	2%	4%	$730,917	336	$2,175
East Valley (Yakima)	0%	17%	12%	3%	64%	0%	4%	$438,827	800	$549
Eastmont	2%	13%	2%	15%	60%	6%	4%	$1,049,596	1,335	$786
Easton	0%	0%	76%	24%	0%	0%	0%	$20,599	63	$327
Eatonville	0%	0%	1%	4%	92%	0%	3%	$182,844	180	$1,016
Edmonds	0%	15%	0%	0%	82%	0%	3%	$1,461,568	1,194	$1,224
Ellensburg	1%	2%	0%	12%	79%	0%	5%	$282,008	282	$1,000
Elma	0%	0%	18%	7%	70%	0%	5%	$280,739	148	$1,897
Endicott	0%	0%	0%	0%	95%	0%	5%	$10,114	21	$482
Entiat	0%	27%	1%	31%	33%	0%	8%	$69,570	322	$216
Enumclaw	11%	6%	2%	0%	78%	1%	2%	$344,951	355	$972
Ephrata	0%	0%	1%	5%	91%	0%	4%	$345,529	216	$1,600
Everett	5%	3%	1%	2%	86%	0%	4%	$1,937,067	1,550	$1,250
Evergreen (Clark)	0%	15%	0%	2%	79%	0%	3%	$2,937,945	1,392	$2,111
Evergreen (Stevens)	0%	0%	0%	0%	98%	0%	2%	$3,597	20	$180
Federal Way	3%	0%	1%	65%	27%	1%	3%	$3,657,501	2,316	$1,579
Ferndale	10%	13%	3%	0%	70%	0%	4%	$787,819	779	$1,011
Fife	0%	0%	1%	0%	97%	0%	3%	$365,381	151	$2,420
Finley	0%	14%	1%	1%	80%	0%	3%	$240,852	90	$2,676
Franklin Pierce	1%	1%	3%	7%	83%	0%	5%	$1,672,744	1,010	$1,656
Freeman	0%	0%	0%	0%	97%	0%	3%	$48,926	118	$415
Garfield	0%	0%	0%	0%	94%	0%	6%	$15,299	15	$1,020
Glenwood	0%	0%	0%	0%	96%	0%	4%	$6,706	39	$172

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories
(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Goldendale	0%	0%	1%	0%	96%	0%	3%	$194,248	328	$592
Grand Coulee Dam	17%	17%	4%	0%	56%	1%	5%	$142,770	218	$655
Grandview	5%	6%	16%	12%	53%	2%	5%	$1,236,043	2,157	$573
Granger	4%	5%	2%	0%	83%	1%	5%	$643,652	1,058	$608
Granite Falls	0%	6%	14%	8%	66%	3%	3%	$221,171	133	$1,663
Grapeview	0%	0%	0%	0%	100%	0%	0%	$20,000	25	$800
Green Mountain	0%	0%	0%	0%	94%	0%	6%	$10,188	53	$192
Griffin	0%	0%	0%	0%	95%	0%	5%	$34,623	125	$277
Harrington	0%	0%	0%	0%	96%	0%	4%	$16,775	55	$305
Highland	2%	0%	6%	0%	87%	0%	5%	$338,494	675	$501
Highline	5%	4%	16%	16%	51%	5%	4%	$4,080,178	3,200	$1,275
Hockinson	0%	0%	2%	23%	71%	0%	4%	$104,110	143	$728
Hood Canal	55%	0%	0%	3%	42%	0%	0%	$91,589	116	$790
Hoquiam	0%	16%	4%	0%	77%	0%	4%	$422,337	816	$518
Inchelium	0%	0%	2%	2%	90%	0%	6%	$56,571	63	$898
Issaquah	0%	0%	2%	0%	98%	0%	0%	$386,835	1,460	$265
Kahlotus	0%	0%	0%	0%	95%	0%	5%	$11,062	8	$1,383
Kalama	9%	8%	0%	0%	76%	5%	3%	$92,318	70	$1,319
Keller	0%	0%	0%	0%	100%	0%	0%	$9,281	5	$1,856
Kelso	1%	3%	0%	20%	71%	0%	5%	$851,995	889	$958
Kennewick	3%	5%	4%	3%	77%	3%	4%	$2,725,169	1,955	$1,394
Kent	3%	1%	14%	9%	66%	3%	5%	$3,474,456	4,534	$766
Kettle Falls	0%	12%	0%	0%	78%	8%	2%	$209,359	245	$855
Kiona-Benton City	3%	0%	0%	0%	92%	0%	5%	$347,748	167	$2,082
Kittitas	0%	0%	0%	0%	97%	0%	3%	$102,547	94	$1,091
Klickitat	0%	0%	0%	0%	100%	0%	0%	$27,656	109	$254
La Center	4%	20%	1%	0%	72%	0%	3%	$118,612	500	$237
La Conner	6%	13%	1%	6%	71%	0%	2%	$77,335	75	$1,031
LaCrosse	0%	0%	34%	0%	66%	0%	0%	$11,021	47	$234
Lake Chelan	4%	5%	23%	0%	63%	0%	6%	$336,268	156	$2,156
Lake Stevens	6%	2%	13%	0%	76%	2%	1%	$636,745	332	$1,918
Lake Washington	10%	2%	0%	8%	78%	0%	2%	$961,156	363	$2,648
Lakewood	0%	0%	0%	0%	96%	0%	4%	$215,821	165	$1,308
Lamont	0%	0%	0%	0%	87%	0%	13%	$7,820	11	$711
Liberty	0%	0%	0%	0%	96%	0%	4%	$76,440	75	$1,019
Lind	0%	42%	1%	0%	57%	0%	0%	$52,239	37	$1,412
Longview	7%	4%	0%	50%	35%	0%	4%	$1,211,776	2,891	$419
Loon Lake	0%	0%	0%	0%	100%	0%	0%	$95,396	90	$1,060
Lopez	0%	0%	0%	0%	96%	0%	4%	$32,054	92	$348
Lyle	0%	7%	0%	0%	90%	1%	2%	$78,585	108	$728
Lynden	4%	8%	5%	0%	73%	8%	3%	$280,443	276	$1,016

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories
(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Mabton	10%	3%	9%	17%	47%	7%	7%	$408,706	271	$1,508
Mansfield	0%	1%	1%	0%	97%	0%	0%	$23,800	26	$915
Manson	1%	2%	11%	0%	83%	0%	3%	$210,293	324	$649
Mary M Knight	0%	70%	10%	0%	16%	0%	4%	$36,460	86	$424
Mary Walker	0%	0%	0%	0%	97%	0%	3%	$175,377	261	$672
Marysville	2%	1%	1%	7%	83%	0%	5%	$1,335,217	660	$2,023
McCleary	7%	0%	0%	0%	92%	1%	0%	$51,001	95	$537
Mead	0%	0%	0%	0%	97%	0%	3%	$633,480	655	$967
Medical Lake	4%	30%	0%	29%	35%	0%	3%	$167,920	138	$1,217
Mercer Island	0%	0%	0%	0%	100%	0%	0%	$31,657	8	$3,957
Meridian	0%	44%	2%	0%	44%	0%	9%	$157,911	56	$2,820
Methow Valley	0%	0%	0%	0%	97%	0%	3%	$72,010	82	$878
Mill A	0%	0%	0%	0%	100%	0%	0%	$12,350	45	$274
Monroe	0%	0%	7%	0%	93%	0%	0%	$495,418	320	$1,548
Montesano	9%	7%	3%	0%	78%	0%	3%	$109,752	89	$1,233
Morton	0%	15%	21%	0%	56%	3%	5%	$67,918	151	$450
Moses Lake	6%	16%	5%	2%	68%	1%	3%	$1,530,254	1,175	$1,302
Mossyrock	0%	0%	0%	0%	96%	0%	3%	$107,473	173	$621
Mount Adams	19%	7%	0%	0%	68%	1%	5%	$317,399	700	$453
Mount Baker	0%	9%	0%	0%	89%	0%	2%	$381,091	284	$1,342
Mount Pleasant	0%	0%	0%	0%	100%	0%	0%	$2,622	16	$164
Mount Vernon	7%	3%	4%	42%	38%	2%	3%	$1,531,891	4,634	$331
Mukilteo	9%	14%	2%	0%	70%	1%	4%	$2,037,280	1,665	$1,224
Naches Valley	0%	0%	2%	0%	92%	1%	5%	$149,127	70	$2,130
Napavine	0%	0%	11%	0%	84%	0%	4%	$98,782	122	$810
Naselle-Grays River Valley	5%	0%	0%	0%	94%	0%	2%	$52,360	24	$2,182
Nespelem	14%	0%	0%	21%	59%	0%	7%	$44,004	252	$175
Newport	10%	2%	1%	2%	84%	0%	2%	$232,340	130	$1,787
Nine Mile Falls	0%	0%	2%	0%	96%	0%	2%	$106,340	292	$364
Nooksack Valley	0%	5%	0%	0%	92%	0%	3%	$310,755	364	$854
North Beach	0%	4%	0%	0%	92%	0%	4%	$137,466	120	$1,146
North Franklin	0%	7%	0%	0%	91%	0%	2%	$630,150	1,220	$517
North Kitsap	4%	13%	2%	0%	78%	1%	3%	$499,440	1,014	$493
North Mason	1%	17%	4%	52%	20%	0%	5%	$268,426	177	$1,517
North River	0%	0%	0%	0%	97%	0%	3%	$11,718	13	$901
North Thurston	2%	8%	0%	19%	67%	1%	3%	$1,308,630	774	$1,691
Northport	18%	2%	1%	0%	74%	0%	4%	$114,770	46	$2,495
Northshore	0%	0%	1%	14%	81%	1%	3%	$772,766	925	$835
Oak Harbor	2%	14%	0%	0%	80%	0%	4%	$564,910	404	$1,398
Oakesdale	0%	58%	9%	0%	28%	0%	5%	$11,192	30	$373
Oakville	11%	0%	1%	56%	13%	14%	5%	$90,465	159	$569

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories
(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Ocean Beach	0%	78%	0%	0%	20%	0%	2%	$232,555	157	$1,481
Ocosta	0%	0%	6%	36%	55%	0%	3%	$166,318	159	$1,046
Odessa	0%	0%	0%	0%	100%	0%	0%	$23,390	60	$390
Okanogan	2%	1%	1%	0%	92%	0%	4%	$225,027	356	$632
Olympia	0%	0%	2%	12%	78%	6%	3%	$616,415	451	$1,367
Omak	5%	1%	6%	4%	74%	6%	4%	$408,702	250	$1,635
Onalaska	15%	9%	2%	16%	56%	0%	3%	$169,980	252	$675
Onion Creek	7%	0%	31%	0%	54%	0%	8%	$14,759	10	$1,476
Orcas Island	0%	21%	3%	0%	76%	0%	0%	$47,275	65	$727
Orchard Prairie	0%	0%	0%	0%	97%	0%	3%	$535	4	$134
Orient	23%	0%	22%	0%	48%	0%	7%	$51,074	29	$1,761
Orondo	2%	0%	1%	1%	93%	0%	3%	$72,375	108	$670
Oroville	3%	37%	0%	0%	57%	0%	3%	$177,481	122	$1,455
Orting	5%	2%	3%	54%	29%	2%	4%	$186,656	148	$1,261
Othello	6%	3%	3%	10%	72%	3%	3%	$1,293,332	1,400	$924
Palisades	12%	0%	0%	0%	82%	0%	6%	$10,565	11	$960
Palouse	0%	0%	0%	0%	96%	0%	4%	$19,150	57	$336
Pasco	4%	5%	10%	23%	51%	2%	5%	$4,249,149	7,250	$586
Pateros	12%	10%	0%	0%	68%	1%	9%	$71,082	75	$948
Paterson	10%	0%	0%	0%	90%	0%	0%	$30,346	248	$122
Pe Ell	0%	0%	0%	0%	97%	0%	3%	$65,861	23	$2,864
Peninsula	2%	25%	3%	3%	63%	1%	2%	$591,569	618	$957
Pioneer	0%	0%	0%	48%	52%	0%	0%	$128,357	180	$713
Pomeroy	5%	7%	9%	0%	76%	2%	2%	$58,128	55	$1,057
Port Angeles	0%	3%	1%	5%	87%	0%	4%	$576,310	738	$781
Port Townsend	5%	2%	8%	0%	79%	4%	3%	$197,562	151	$1,308
Prescott	15%	1%	2%	0%	74%	1%	7%	$89,725	163	$550
Prosser	1%	0%	4%	1%	90%	0%	4%	$632,379	637	$993
Pullman	2%	3%	3%	0%	92%	0%	0%	$159,856	354	$452
Puyallup	0%	2%	4%	22%	68%	0%	4%	$1,579,377	1,175	$1,344
Queets-Clearwater	0%	0%	0%	88%	0%	0%	12%	$8,726	50	$175
Quilcene	0%	10%	2%	0%	84%	1%	3%	$45,730	31	$1,475
Quillayute Valley	3%	15%	0%	22%	54%	3%	2%	$798,385	349	$2,288
Lake Quinault	0%	3%	14%	0%	80%	0%	3%	$75,024	76	$987
Quincy	3%	5%	0%	5%	84%	0%	4%	$924,558	1,053	$878
Rainier	10%	11%	0%	0%	74%	1%	3%	$95,789	125	$766
Raymond	0%	20%	0%	0%	78%	0%	2%	$142,860	62	$2,304
Reardan-Edwall	0%	0%	0%	0%	98%	0%	2%	$67,883	191	$355
Renton	1%	4%	2%	2%	87%	0%	3%	$2,020,421	1,500	$1,347
Republic	2%	2%	10%	0%	82%	0%	4%	$76,994	107	$720
Richland	1%	0%	9%	0%	84%	0%	6%	$878,959	842	$1,044

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories

(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Ridgefield	0%	25%	2%	30%	43%	1%	0%	$152,288	87	$1,750
Ritzville	0%	0%	0%	0%	98%	0%	2%	$36,861	40	$922
Riverside	5%	27%	1%	13%	50%	0%	4%	$289,367	278	$1,041
Riverview	11%	0%	3%	0%	82%	0%	3%	$133,739	125	$1,070
Rochester	8%	0%	0%	0%	92%	0%	0%	$317,170	593	$535
Rosalia	0%	100%	0%	0%	0%	0%	0%	$41,390	30	$1,380
Royal	15%	7%	3%	2%	68%	0%	5%	$438,038	810	$541
San Juan Island	0%	0%	0%	0%	95%	0%	5%	$81,229	147	$553
Satsop	0%	0%	0%	0%	95%	0%	5%	$6,998	9	$778
Seattle	7%	2%	1%	12%	75%	1%	3%	$5,145,780	6,792	$758
Sedro-Woolley	5%	4%	1%	6%	79%	6%	0%	$566,713	394	$1,438
Selah	7%	7%	3%	10%	69%	0%	4%	$372,421	550	$677
Selkirk	0%	0%	0%	0%	97%	0%	3%	$57,482	40	$1,437
Sequim	1%	2%	5%	0%	87%	2%	2%	$307,451	148	$2,077
Shelton	2%	0%	1%	15%	80%	0%	1%	$803,021	430	$1,867
Shoreline	0%	0%	0%	8%	88%	2%	3%	$585,483	846	$692
Skamania	0%	0%	0%	0%	100%	0%	0%	$12,781	19	$673
Skykomish	0%	46%	0%	0%	46%	0%	9%	$8,723	15	$582
Snohomish	0%	11%	11%	11%	63%	0%	4%	$495,950	237	$2,093
Snoqualmie Valley	0%	5%	1%	0%	89%	1%	4%	$213,252	234	$911
Soap Lake	0%	8%	2%	0%	83%	1%	7%	$129,776	500	$260
South Bend	2%	35%	4%	11%	46%	0%	3%	$115,729	115	$1,006
Tukwila	5%	5%	0%	24%	59%	0%	6%	$1,021,354	893	$1,144
South Kitsap	0%	19%	2%	39%	37%	0%	4%	$967,318	874	$1,107
South Whidbey	9%	2%	0%	0%	79%	5%	5%	$116,612	135	$864
Southside	0%	0%	5%	0%	89%	1%	5%	$22,560	30	$752
Spokane	4%	8%	11%	30%	44%	0%	3%	$5,050,535	9,797	$516
Sprague	18%	7%	22%	0%	53%	0%	0%	$22,495	22	$1,023
St. John	31%	0%	0%	0%	66%	0%	3%	$17,165	24	$715
Stanwood-Camano	0%	0%	0%	0%	96%	0%	4%	$335,221	267	$1,256
Steilacoom Hist.	1%	8%	0%	0%	88%	1%	2%	$219,010	150	$1,460
Stevenson-Carson	14%	16%	4%	28%	35%	0%	3%	$177,784	117	$1,520
Sultan	5%	10%	0%	0%	81%	0%	3%	$238,740	141	$1,693
Summit Valley	0%	0%	4%	0%	87%	0%	9%	$26,470	33	$802
Sumner	0%	3%	2%	5%	85%	2%	3%	$660,112	395	$1,671
Sunnyside	2%	0%	32%	8%	54%	0%	4%	$1,964,373	3,117	$630
Tacoma	3%	5%	0%	0%	87%	0%	5%	$5,877,409	3,255	$1,806
Taholah	37%	7%	5%	0%	46%	0%	6%	$58,717	78	$753
Tahoma	4%	0%	6%	0%	90%	0%	0%	$250,590	528	$475
Tekoa	0%	0%	0%	0%	96%	0%	4%	$40,817	79	$517
Tenino	4%	5%	0%	0%	87%	2%	2%	$134,817	383	$352

Exhibit B1
School Districts' Distribution of LAP Funding among Allowable Expenditure Categories

(Totals may exceed 100% due to rounding)

District	Ext. Time	11/12 Services	Prof. Dev.	Cons. Teacher	Supp. Instruction	Family Outreach	Indirect Costs	Total LAP Budget	Estimate Served	Per-Pupil LAP Expenditure
Thorp	0%	47%	0%	0%	45%	0%	8%	$22,179	31	$715
Toledo	0%	0%	0%	0%	94%	2%	4%	$146,170	84	$1,740
Tonasket	10%	3%	6%	19%	56%	3%	4%	$242,022	295	$820
Toppenish	1%	22%	5%	4%	54%	6%	9%	$1,449,798	2,576	$563
Touchet	0%	16%	0%	0%	81%	0%	3%	$61,986	13	$4,768
Toutle Lake	16%	5%	0%	0%	75%	0%	3%	$65,093	256	$254
Tumwater	2%	0%	12%	18%	65%	1%	2%	$487,567	320	$1,524
Union Gap	15%	0%	4%	5%	71%	1%	4%	$201,347	830	$243
University Place	10%	4%	0%	0%	82%	0%	4%	$493,055	380	$1,298
Valley	0%	0%	9%	0%	86%	0%	5%	$236,423	165	$1,433
Vancouver	7%	7%	18%	14%	51%	1%	3%	$3,676,096	2,200	$1,671
Vashon Island	0%	5%	0%	0%	90%	2%	3%	$59,664	83	$719
Wahkiakum	2%	2%	2%	0%	90%	1%	1%	$81,599	76	$1,074
Wahluke	3%	3%	13%	17%	54%	4%	6%	$938,527	522	$1,798
Waitsburg	0%	0%	0%	0%	96%	0%	4%	$38,565	59	$654
Walla Walla	2%	1%	4%	7%	74%	8%	4%	$1,110,539	1,027	$1,081
Wapato	4%	7%	0%	6%	78%	0%	6%	$1,131,877	4,331	$261
Warden	11%	7%	12%	9%	58%	0%	1%	$306,500	541	$567
Washougal	4%	0%	0%	0%	92%	0%	4%	$322,644	415	$777
Washtucna	36%	7%	6%	0%	45%	4%	2%	$13,931	9	$1,548
Waterville	0%	1%	0%	11%	84%	0%	5%	$45,720	55	$831
Wellpinit	0%	44%	0%	0%	52%	0%	5%	$196,642	815	$241
Wenatchee	0%	12%	13%	19%	48%	4%	4%	$1,400,471	770	$1,819
West Valley (Spokane)	7%	29%	1%	20%	40%	0%	3%	$585,056	305	$1,918
West Valley (Yakima)	1%	4%	2%	0%	89%	0%	4%	$501,618	938	$535
White Pass	0%	5%	0%	3%	88%	0%	3%	$74,525	129	$578
White River	0%	0%	2%	23%	70%	0%	5%	$307,867	329	$936
White Salmon Valley	0%	4%	1%	6%	82%	4%	2%	$202,202	400	$506
Wilbur	0%	0%	0%	0%	100%	0%	0%	$30,459	45	$677
Willapa Valley	11%	0%	2%	0%	84%	1%	3%	$50,411	80	$630
Wilson Creek	0%	0%	0%	0%	90%	3%	8%	$19,216	22	$873
Winlock	0%	6%	0%	0%	92%	0%	2%	$176,658	212	$833
Wishkah Valley	0%	5%	0%	10%	82%	1%	1%	$20,910	51	$410
Wishram	0%	0%	0%	0%	99%	0%	1%	$24,298	120	$202
Woodland	0%	0%	1%	35%	62%	0%	2%	$244,061	381	$641
Yakima	21%	0%	15%	10%	52%	0%	2%	$4,966,465	2,500	$1,987
Yelm	0%	6%	0%	0%	90%	0%	5%	$525,365	374	$1,405
Zillah	0%	9%	13%	0%	65%	6%	7%	$231,409	1,326	$175

Exhibit B2
Allowable Spending Categories for LAP Funds

Supplemental Instruction. Supplemental instruction consists of instructional services beyond core classes provided by certificated teachers, instructional assistants, volunteer staff, tutors, or specialists (e.g. reading or math specialists). This category includes individual or small group tutoring, "push-in" or in-class assistance, "pull-out" or out-of-class instruction, supplemental or remedial classes, and other activities. Nearly all (about 99%) districts allocated funds to this category.

Extended Learning Time. Extended learning time refers to remediation activities before or after the regular school day, on Saturdays, or beyond the regular school year such as summer school or during scheduled breaks. Activities reported under this category often overlap with "supplemental instruction." About half (51%) of districts allocated funds to this category in 2010-11. Many districts also offer extended day and year services through other funding streams.

Consultant Teachers. Consultant teachers include "teachers-on-special-assignment" (TOSAs), reading and math coaches, and other personnel. The consultants provide coaching, modeling, and training to LAP teachers, coaching, modeling, and training in instructional practices. While this category was not widely used and only 103 districts (37%) allocated funds for this purpose, those districts that did use consultant teachers tended to concentrate funds here relative to other uses, with an average allocation of over 16% in those districts.

Special Assistance for 8th, 11th and 12th Grade Students. School districts can use LAP funds to assist 11th and 12th grade students at risk of not meeting state or local graduation requirements, as well as 8th grade students who need additional assistance for successful entry into high school.

Activities in this category include individual or small group instruction, English language arts and math instruction, remediation programs, summer school, language development instruction for English language learners, online curricula, credit retrieval in Grades 11 and 12, and preparatory classes for state assessments. Reading improvement specialists at Educational Service Districts may provide professional development to eighth, eleventh, and twelfth grade educators.

These grade-level specific services did not represent a large proportion of LAP spending. However, of the 247 districts that had students enrolled in grades 11 and 12 during the 2010-11 school year, 68% provided at least one service to eligible students during the regular school year, while 21% provided at least one service during the summer (see Exhibit B3).

Professional Development. LAP can fund development activities for teachers, instructional assistants, and volunteer staff in areas such as diverse student population needs; specific literacy and math content and instructional strategies; or the use of student work to guide instruction.

Most districts did not spend a large share of LAP funding on professional development, and 120 districts did not allocate any funds to this category. In interviews and program descriptions, many district and school staff mentioned the importance of professional development, and noted that professional development is more typically funded by non-LAP sources, such as federal Title II.

Family Outreach. Activities in this category promote support and outreach efforts for parents and guardians of LAP students. The specific activities include conferences, open house events, educational literacy classes for parents, and more**.** Family outreach is the least utilized expenditure category and 159 districts did not allocate any funds for this purpose.

Exhibit B3
LAP-Funded Services for 11th and 12th Grade Students

Service	Regular School Year		Summer	
	# Districts	% Districts	# Districts	% Districts
Instruction in English Language Arts/Math	113	46%	27	11%
Individual/Small Group Instruction	98	40%	25	10%
Online support	84	34%	34	14%
Inclusion in remediation programs	53	21%	29	12%
Language development instruction	37	15%	9	4%
Overall/offered at least one service	168	68%	52	21%

Percentages are derived from districts that have students in 11th and 12th grades (n = 247).

Exhibit B4
Supplemental and Online Curricula Used by Districts in the Learning Assistance Program

Accelerated Math	Highpoint	ReadWell
Agile Minds	K-PALS	REWARDS
ALEKS	Math Whizz	Rocket Math
Bridge to Algebra	My Sidewalks-ERI	Rode to the Code
Carnegie Math	NovaNet	Second Shot
Cognitive Tutor	Number Worlds	Skillbuilders
Connected Mathematics	Odyssey	Soar to Success
Corrective Reading	Origo Mathematics	Step Up to Writing
Destination Math	Pinpoint Math	Study Island
EDUSS	PLATO	SuccessMaker
Essentials for Algebra	READ 180	System 44
Every Day Math	Read Naturally	TeenBiz
Fast Track	Read Right	Treasures
First Steps	Read to Achieve	Triumphs
Greenway Learning	Reading Mastery	Waterford Early Learning
Growing with Math	Reading Recovery	

Exhibit B5
District Measures Used to Determine Student Eligibility for LAP Services

State Assessments. The state assessments are the Measurements of Student Progress (MSP) and the High School Proficiency Exam (HSPE). These assessments are administered each spring in grades 3–8 (MSP) and grade 10 (HSPE). Over 90% of districts that receive LAP funds use the state assessment as at least one measure to identify students in need of services. Districts or schools who use LAP funding in K–2 rely on other measures; MSP is not administered until 3rd grade.

Measures of Academic Progress (MAP). The MAP is a commercial assessment system developed by the Northwest Evaluation Association and is used in several districts around the state as a screening and progress monitoring tool. MAP is the most commonly mentioned non-state assessment used to identify students for LAP services across grade levels, with approximately one in three districts reporting its use. This exam is administered three to four times per year, and many districts report using its results to move students in and out of the LAP program on an on-going basis.

Dynamic Indicators of Basic Early Literacy Skills (DIBELS). The DIBELS system is an exam developed by the University of Oregon Center on Teaching and Learning. This assessment is most commonly used to identify struggling learners in grades K–2, but is also used in other elementary grades. About half of districts in the state report using this measure to identify students at the elementary level. Similar to MAP, this assessment is often administered a few times per year to monitor student progress.

Other Assessments. Districts use a variety of other assessments in addition to the systems already discussed. Sixty-nine percent of districts use one or more other assessments at the elementary level, while about half of districts use other assessments in secondary schools. In most cases, these systems are purchased from commercial vendors, such as the STAR[1] assessments used by 15% of districts at the elementary level and 10% at the middle school level. Some assessments are developed at the local level or are derived from state standards, such as classroom and curriculum based assessments. A sample list of other assessments used can be found in Appendix B.

Teacher Recommendations and Parental Referrals. Many districts use anecdotal or qualitative data as one way to identify students for LAP-funded services. This can include teacher reports on classroom performance, as well as recommendations by teachers and staff based on behavior, attendance, or other non-academic issues. In addition, several districts consider requests or recommendations from parents. Generally, recommendations are used to identify possible LAP students, and then screening assessments are administered to determine eligibility. Recommendations were mentioned as one measure used in about one-third of districts for elementary and middle schools, and one in five districts for high school.

High School-Specific Measures. Districts can use LAP funds to help grade 11 and 12 students at-risk of not meeting graduation requirements. Current state standards require at least 19 credits to graduate, though many districts have additional credit requirements. Students must also pass the state assessment or an approved alternative.[1] About 27% of districts reported using LAP funds to assist students at-risk of not graduating due to credit deficiency or other factors, while about 17% reported using specific course grades, GPA, and general classroom performance to identify students in need.

Exhibit B6
District Measures Used to Determine Student Eligibility for LAP Services, Grades K–6

Type of Measure	# Districts*	% Districts**
Measurements of Student Progress (MSP)	239	94%
Other Assessments* **	175	69%
Dynamic Indicator of Basic Early Literacy Skills (DIBELS)	127	50%
Recommendations	91	36%
Measures of Academic Progress (MAP)	84	33%
Classroom and/or Curriculum Based Assessments	44	17%
Developmental Reading Assessment (DRA)	40	16%
STAR (Reading, Early Literacy, Math)	39	15%

* Most districts use multiple measures. ** Percentages are derived by excluding districts (n = 27) who do not allocate funds at this level or left this section blank. *** A sample list of these assessments can be found in Exhibit B8.

Exhibit B7
District Measures Used to Determine Student Eligibility for LAP Services, Grades 7–8

Type of Measure	Number of Districts*	Percentage of Districts**
Measurements of Student Progress (MSP)	243	98%
Other Assessments* **	129	52%
Measures of Academic Progress (MAP)	92	37%
Recommendations	78	31%
Classroom and/or Curriculum Based Assessments	54	22%
STAR (Reading, Early Literacy, Math)	26	10%
Dynamic Indicator of Basic Early Literacy Skills (DIBELS)	24	10%

* Most districts use multiple measures. ** Percentages are derived by excluding districts (n = 34) who do not allocate funds at this level or left this section blank. *** A sample list of these assessments can be found in Exhibit B8.

Exhibit B8
District Measures Used to Determine Student Eligibility for LAP Services, Grades 9–12

Type of Measure	Number of Districts*	Percentage of Districts*
High School Proficiency Exam (HSPE)	219	97%
Other Assessments* **	113	50%
Measures of Academic Progress (MAP)	71	31%
At Risk of Not Graduating/Credit Deficiency	62	27%
Recommendations	48	21%
Grades/GPA/Classroom Performance	38	17%
Classroom and/or Curriculum Based Assessments	31	14%

* Most districts use multiple measures. ** Percentages are derived by excluding districts (n = 56) who do not allocate funds at this level or left this section blank. *** A sample list of these assessments can be found in Exhibit B8.

Exhibit B9

Sample List of Other Assessments Used to Identify Participating LAP Students

Academy of Math	Group Mathematics and	NovaNet
Accelerated Reader	Diagnostic Evaluation	Number Corner
AIMSweb	Harcourt Math	Open Court Assessment
Analytical Reading Inventory	Harcourt-Brace Placement	Options Reading Indicators
Basic Early Assessment of	Holt Math	PLATO
Reading	Houghton-Mifflin	Qualitative Reading Inventory
Brigance	Informal Math Inventory	Quick Phonics Screener
Burns-Roe Reading Inventory	Informal Reading Inventory	READ 180
Concepts About Print	Iowa Test of Basic Skills	Reading A-Z
CORE Diagnostic	Iowa Tests of Educational	Reading Recovery
Degrees of Reading Power	Development	Readwell Inventory
Diagnostic Decoding Survey	Key Math	San Diego Quick Assessment
Early Math Diagnostic	Kirwan Assessment	Scholastic Reading Inventory
EDUSS	Language Assessment Scales	Shaw-Hiehle
Excel Math	Language for Learning	Stanford 10 Total Reading
Fountas/Pinnell Reading	Math Alert	Teacher's College Quick
Benchmark	Math Basic Skills Assessment	Assessment
Gates-MacGinitie Reading	Math Facts	Test of Silent Reading Fluency
Tests	Math Skills Inventory	Wide Range Achievement Test
GRADE		

Exhibit B10
Example iGrant Application for 2010-2011 School Year

218 Learning Assistance Program
Fiscal Year:
Milestone:

District:
Organization Code:
ESD:

Page 1 Basic Program Elements

Chapter 28A.165 RCW requires submission of a district Learning Assistance Program (LAP) plan, which includes any significant changes to a previously submitted and approved application, to OSPI by July 1 of each year.

A. Provide a brief description of the district's Learning Assistance Program (limit 500 words).

B. How will the district measure the use of the Learning Assistance Program in improving student achievement (limit 200 words)?

(Q.1) Explain district assessment/data trends for the prior three years and describe how the district will use this information to design LAP programs in reading, writing, mathematics, and/or readiness in those subjects.

Grades K–6
Grades 7–8
Grades 9–12

(Q.2) Describe the processes used for identifying eligible students to be served by the Learning Assistance Program.

Grades K–6
Grades 7–8
Grades 9–12

(Q.3) Accelerated Student Learning Plans – Indicate if these four required elements are included in the accelerated learning plans.

Student achievement goals:
Roles of students, parents, teachers:
Communication procedures regarding student accomplishment:
Review of the learning plan/process for adjustment as needed:

(Q.4) Describe how focused and intentional instructional strategies are identified and implemented in the LAP program.

(Q.5) Describe how the district will develop and support the most highly qualified instructional staff to work with LAP students in each building.

(Q.6) Describe how LAP is coordinated with other state, federal, district, and school resources in the district's strategic plan and in school improvement plans.

(Q.7) Describe the process to be used for evaluating the LAP program plan each year to determine its direction for the following school year.

(Q.8) Describe the extended learning opportunities for eligible eleventh and twelfth grade students who are not on track to meet local or state graduation requirements.

Page 2 Allowable Expenditures

LAP legislation outlines six areas of allowable expenditures. Districts may select any of the categories for delivery of services.

Describe how the schools will provide program activities to increase opportunities for student success in meeting state standards for academic achievement. Fill in any of the following that apply. Also indicate amount of the budget allocated to each category **in the box to the right.**

Description	Amount
(1) Extended learning time opportunities occurring before or after the regular school day, on Saturday, and beyond the regular school year:	
(2) Services for grades 11 and 12 to provide extended learning opportunities to eligible students which can include, but are not limited to: • Individual or small group instruction; • Instruction in English language arts and/or mathematics needed by eligible students to pass all of part of the WASL; • Inclusion in remediation programs, including summer school; • Language development instruction for English language learners; • Online curriculum and instructional support, including programs for credit retrieval and WASL preparatory classes	
(3) Professional development for certificated, classified, and volunteer staff, focusing on (a) the needs of a diverse student population, (b) specific literacy and math content and instructional strategies, (c) the use of student work to guide instruction, (d) utilization of ESD resources:	
(4) Consultant teachers (TOSA's, reading/math coaches, etc.) to assist in implementation of effective instructional practices by teachers serving participating students:	
(5) Supplemental instruction (certificated, classified, and volunteer staff, tutors, specialists) to provide additional learning services to low-performing students	
(6) Family outreach and support for parents of participating students:	
Subtotal:	
Indirects (MUST match budget)	
Total:	

Page 3 Student Information (Grades K–12)

Enter the total number of eligible students **served** by using LAP (head count) data.

Head Count:

	Select Yes or No	Grade Level	Number Served
Reading			
Math			
Language Arts			
Readiness			
Total Served (Duplicated Count):			

Page 4 LAP – Public School Breakdown

Building Name	Building Number	Grade Span	Building Enroll	Y/N LAP Served	LAP Allocation	Y/N Title I Served	Y/N Comment?

Total LAP Allocated:

APPENDIX C: SCHOOL INTERVIEW DETAILS

This appendix contains details regarding 28 interviews conducted with teachers, principals, and administrators representing 30 schools around the state (some individuals discussed more than one school). The interviews were conducted in April and May 2012 and averaged 30 minutes in length. The interviews focused on the remediation strategies implemented in a sample of schools that receive state Learning Assistance Program (LAP) funds. We also solicited the perceptions and recommendations of school teachers and program administrators. Interview participants were selected via a random sample of schools who received LAP funds in 2009-10 and represent districts of varying sizes, demographic characteristics, and locations around the state. Exhibit C1 lists the schools interviewed and Exhibit C2 shows the geographic location of the districts included in the sample. Exhibit C3 provides a copy of the interview questions.

Exhibit C1
Schools Interviewed

School District	School Name	Enrollment*	% FRPM*	LAP Allocation**
Bethel	Frontier Junior High School	616	24.8%	$101,835
Bethel	Graham Kapowsin High School	1,222	21.7%	$56,496
Central Kitsap	Silver Ridge Elementary	526	26.2%	$68,519
Central Valley	Central Valley High School	1,864	32.9%	$99,125
Eastmont	Kenroy Elementary	392	60.2%	$75,558
Eastmont	Sterling Intermediate School	654	50.9%	$90,846
Edmonds	Edmonds Woodway High School	1,648	24.4%	$21,141
Edmonds	Hilltop Elementary	555	23.8%	$98,923
Fife	Endeavour Intermediate School	544	51.7%	$166,970
Grandview	McClure Elementary	619	87.2%	$100,000
Highline	Aviation High School	410	20.7%	$37,107
Highline	Hilltop Elementary	603	83.6%	$116,682
Mount Adams	Mount Adams Middle School	153	94.8%	$47,716
Nespelem	Nespelem Elementary	155	74.8%	$41,122
Nooksack	Sumas Elementary	212	49.5%	$61,593
Northshore	Arrowhead Elementary	341	17.9%	$39,000
Port Angeles	Stevens Middle School	606	49.3%	$87,618
Puyallup	Ferrucci Junior High School	725	34.3%	$121,920
Renton	Renton Park Elementary	491	67.0%	$56,150
Richland	Jason Lee Elementary	563	53.8%	$60,951
Ridgefield	South Ridge Elementary	521	32.8%	$78,000
Soap Lake	Soap Lake Middle/High School	157	100%	$55,676
Spokane	Ferris High School	1,560	36.0%	$192,670
Spokane	Finch Elementary	573	51.0%	$138,305
Spokane	Sacajawea Middle School	736	32.3%	$149,300
Tonasket	Tonasket Elementary	524	68.3%	$104,772
Tonasket	Tonasket High School	341	58.4%	$72,176
Toppenish	Lincoln Elementary	418	99.5%	$144,261
Warden	Warden Middle School	240	76.3%	$115,274
Wenatchee	Washington Elementary School**	551	44.8%	$0**

* Enrollment levels and percentage of students who qualify for free or reduced price meals (FRPM) as of May 2011.
** LAP allocation as reported in district applications for the 2010-2011 school year. Schools were selected based on prior year (2009-10) allocation status. Washington Elementary School received LAP funds in 2009-10 but not 2010-11.

Exhibit C2
Locations of School Districts with Schools Included in LAP Interviews

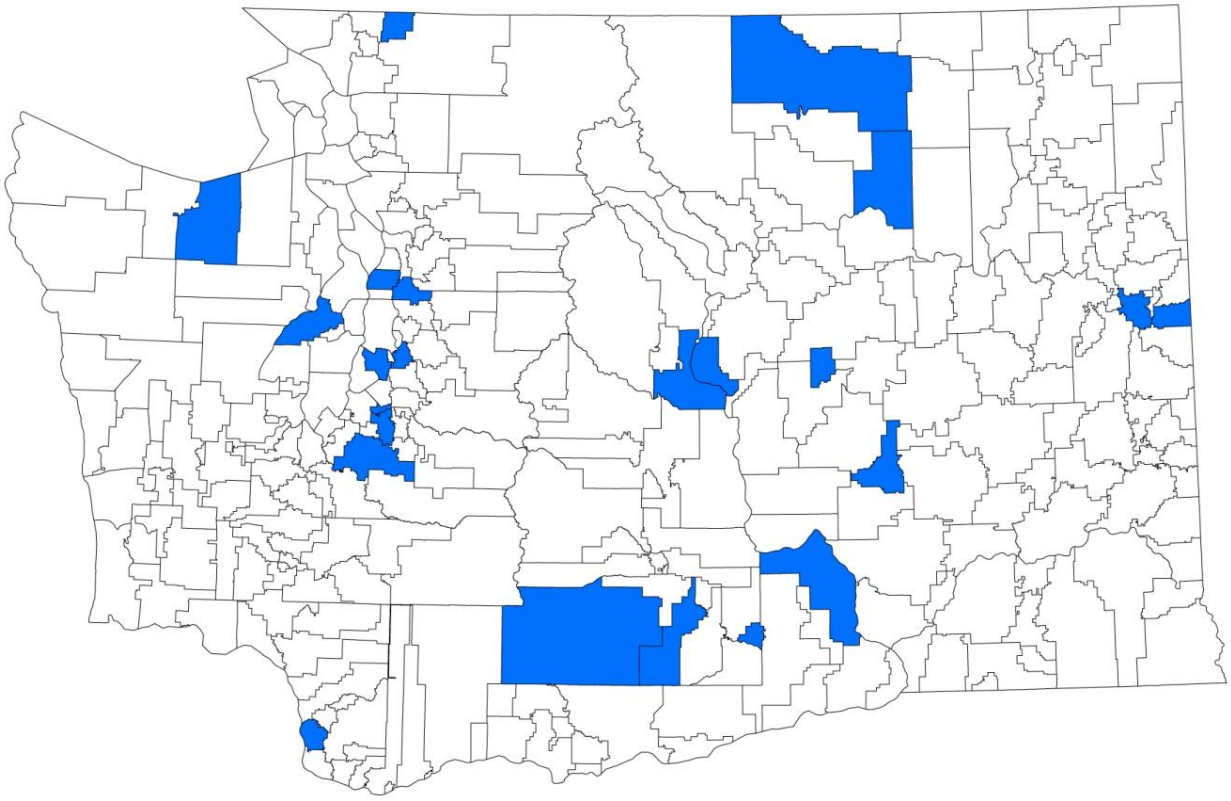

Exhibit C3
LAP Interview Questions

1. Often there are more at-risk students than available resources. Which students do you target for LAP assistance? What is the rationale for focusing on these students?

2. Describe the services that are supported by LAP funds in your school. Why have you chosen to implement those particular strategies?

3. In your school, how are LAP services coordinated with other supplemental programs (e.g. Title I Part A, Transitional Bilingual Instructional Program, Special Education)?

4. How do you determine if the LAP-funded strategies in your district/school are effective?

5. If you had additional LAP funding, how would you use it?

6. Do you have any recommendations for policymakers on how to improve LAP?

APPENDIX D: OTHER STATE PROGRAMS SIMILAR TO LAP

This appendix presents a summary of state programs similar to the Learning Assistance Program (LAP). Each of the states in Exhibit D1 distributes supplemental funding for school districts to provide struggling students with extra instructional assistance. The information was found on websites of state education departments. Seventeen states besides Washington provide funding streams similar to LAP. Other states offer additional assistance for certain subgroups of students (such as those at risk of dropping out of high school) or run competitive grant programs; those states are not included in the Exhibit.

Exhibit D1
Other State's Programs Similar to LAP

State	Program Name	Funding Allocated by: *Low-income status?*	Funding Allocated by: *Student performance?*	Program Purpose
AL	Alabama Student Assistance Plan: State At-Risk		X	Develop an assistance program at each school for at-risk students performing below the standards set by the State Board of Education
AR	National School Lunch Student Categorical Funding	X		Funds educational support programs for low-income students (eligible for the federal free or reduced price meals).
CA	Economic Impact Aid	X		Supports programs in grades K–12 designed to assist educationally disadvantaged students meet state standards
FL	Supplemental Academic Instruction Program		X	Academic intervention and dropout prevention program to provide supplemental strategies such as modified curriculum, reading instruction, and extended day services
GA	Early Intervention Program	X	X	Additional instructional resources to help K-5 students who are below grade level obtain necessary academic skills to reach grade level performance
KS	At-Risk Pupil Assistance Program	X		Provides at-risk students additional educational opportunities and instructional services to close the achievement gap
KY	Extended School Services Program	X	X	Assists students who are having difficulty in one or more content areas with services provided beyond the regular school day
MA	Academic Support Services Program		X	For students in grades 8-12 who have not yet passed the 10th grade English language arts, mathematics, and science MCAS tests
MI	At-Risk Pupils Program	X		Funding to districts for supplementary instructional/ support services for pupils who meet at-risk criteria specified in legislation, incl. low achievement on state assessments
MN	Compensatory Education Revenue	X		Used to meet the educational needs of pupils who enroll under-prepared to learn and are not meeting state or local standards or age-appropriate levels
NY	Academic Intervention Services		X	For students struggling to meet standards in English language arts and mathematics in K–12 and social studies and science in 4-12.
NC	Disadvantaged student supplemental funding	X		Meet the educational needs of disadvantaged students not achieving grade level proficiency
OK	Reading Sufficiency Act		X	Ensures that each child attains the necessary reading skills by completion of the third grade.
PA	Educational Assistance Program		X	Support for tutoring services for students who do not meet proficiency standards
UT	At-Risk Students Program	X	X	To improve achievement of at-risk pupils, low-performance, poverty, limited English proficiency, and mobility.
VA	Remediation programs		X	Programs funded to assist students at risk of not passing the state assessment.

APPENDIX E: STATISTICAL ANALYSIS METHODS AND RESULTS

This appendix presents results from 18 alternative statistical models we use to estimate the effect of the Learning Assistance Program (LAP) on student outcomes. We use school-level enrollment and assessment data from the Office of Superintendent of Public Instruction (OSPI) report card website for school years 2008-09, 2009-10, and 2010-11.[23] We limit the analysis to these years because these are the only years that school-level LAP funding data are available. Information about LAP and Title I, Part A funding is from the OSPI Title I, Part A and Learning Assistance Program Office.

Ideally, because LAP is designed to assist individual students in need of remediation, an outcomes study would use individual-level data to measure impacts only on those students who got the "treatment." However, state data do not indicate which grade levels or students get LAP-funded services within each school. Therefore, we use school-level LAP spending and outcomes data. The use of school-level data imposes a significant constraint in the analysis, because one would not expect school-level rates to change substantially based on services provided to a relatively small proportion of students. In the analysis described in this appendix, we make adjustments to our regression coefficients in order to interpret the findings within the context of other K–12 research.

We describe the Ordinary Least Squares (OLS) models and then our preferred OLS models with fixed effects (FE). The OLS models do not account for possible omitted-variable bias, while the FE models attempt to take this issue into account.[24]

Ordinary Least Squares Estimation

The ordinary least squares model (Model 1) takes the following form:

$O = f(L, e)$

The model estimates school-level student outcomes, *O*, as a linear function of the amount of LAP per-pupil funding (L) and an error term, *e*. We analyze school-level assessment outcomes for all Washington public schools that could be classified as an elementary or middle school with at least 50 students who took the state assessment.[25] We also analyze graduation rates for public high schools in Washington State that are not categorized as "alternative" and include at least 100 students in the graduation rate calculation.[26] *L* represents the amount of LAP funding each building receives, divided by total enrollment in the school and in log form.[27]

Outcome Measures. Reading and math school-level student outcomes, *O*, are defined four ways, with the first two based on test scores (1) the percent of students who "met standard" (scored at least 400 points or above "level 2") on the statewide assessments; and (2) the percent of students who scored above "basic" or "level 1" on the statewide assessments.[28] The third and fourth outcome measures are graduation rates: (3) the percent of high school students who graduate "on-time" (within four years) and (4) the percent of high school students who graduate within five years (the "extended" rate).

For each of the outcomes, we present three models. In the detailed results table (Exhibit E4), the first column (model 1) presents results from the simple linear relationship between logged LAP per-pupil funding and school-level student outcomes. The second column (model 2) adds a vector of covariates, *X*, which includes variables typically found in the education research literature and available at the school level for all years included in the analysis. Model 2 takes the following form:

$O = f(L, X, e)$

[23] http://reportcard.ospi.k12.wa.us/DataDownload.aspx
[24] Wooldridge, J. M. (2010). *Econometric Analysis of Cross Section and Panel Data*, *2nd Edition.* The MIT Press.
[25] In our sample, 29 schools in 2010-11 had less than 50 students who took the reading assessment for the main reading test score analysis. Schools could be classified as elementary or middle schools if their grade spans fell within specified ranges (e.g., K-5, K-6, 6-8, or 7-8).
[26] In our sample, 10 high schools in 2010-11 had less than 100 students included in the graduation rate calculation.
[27] We use total enrollment (as of October in each school year) as the denominator because we do not know how many students receive LAP-funded services in each school. We also tested the models using total LAP funding for each building, as well as unlogged per-pupil expenditures, and had similar results.
[28] We include the second measure because LAP is intended to serve students at the lower end of the assessment spectrum (those struggling to meet state learning standards). In the 2008-09 school year, the statewide assessment was the Washington Assessment of Student Learning (WASL). In 2009-10 and 2010-11, the statewide assessment was the Measures of Student Progress (MSP). The assessments measure whether students meet the same underlying standards (the Essential Academic Learning Requirements or EALRs).

Covariates. Covariates for this analysis are: Title I per-pupil funding;[29] total school enrollment;[30] the percentage of students who are male, eligible for free/reduced price meals, American Indian, African American, Asian, Hispanic, Pacific Islander, an English language learner (in the state transitional bilingual instructional program), or in special education; the percentage of teachers who have a master's degree or higher; and average years of teaching experience.[31] The reading and math models include the prior year's met standard rate as an additional "value-added" control, and the graduation rate models include the prior year's rate as a control. Exhibits E1 and E2 display the means and standard deviations for all of the variables included in the statistical models.

Exhibit E1

Means and Standard Deviations for Elementary and Middle Schools in the Test Score Analysis

Variable	Mean	Standard Deviation
Reading percent met standard	69.7	13.3
Reading percent above level 1	91.0	5.8
Math percent met standard	57.7	15.9
Math percent above level 1	77.9	11.6
Prior year reading percent met standard	70.5	12.9
Prior year reading percent above level 1	91.2	5.6
Prior year math percent met standard	57.2	15.8
Prior year math percent above level 1	78.3	11.7
LAP per-pupil funding	$103.3	$127.9
Title I per-pupil funding	$214.4	$255.6
Total school enrollment	479.3	180.1
Percent male	51.6	2.6
Percent free and reduced price meals	46.5	23.9
Percent American Indian	2.6	6.9
Percent African American	5.7	8.3
Percent Asian	7.9	8.9
Percent Hispanic	17.2	19.3
Percent Pacific Islander	0.9	1.5
Percent English language learners (ELL)	10.3	13.0
Percent in special education	13.8	4.7
Percent of teachers with at least a master's degree	63.9	13.1
Average years of teaching experience	12.3	2.7

Number of observations = 3,381; Number of schools = 1,127

[29] Title I, Part A, per-pupil funding is calculated the same way as LAP per-pupil funding (total building allocation divided by total enrollment, in log form).
[30] We also include a squared term for this variable to account for a potentially non-linear relationship.
[31] We also include a squared term for this variable to account for a potentially non-linear relationship.

Exhibit E2
Means and Standard Deviations for High Schools in the Graduation Rate Analysis

Variable	Mean	Standard Deviation
On-time graduation rate	82.8	11.2
Extended graduation rate	87.2	9.8
Prior year on-time graduation rate	82.1	11.4
Prior year extended graduation rate	86.2	10.4
LAP per-pupil funding	$117.6	$122.9
Title I per-pupil funding	$19.3	$69.6
Total school enrollment	1054.8	588.4
Percent male	51.6	3.2
Percent free and reduced price meals	38.5	20.3
Percent American Indian	2.9	6.9
Percent African American	5.7	8.5
Percent Asian	7.9	8.9
Percent Hispanic	15.3	19.4
Percent Pacific Islander	.66	1.4
Percent English language learners (ELL)	4.6	6.7
Percent in special education	10.5	2.8
Percent of teachers with at least a master's degree	66.0	10.6
Average years of teaching experience	12.2	2.3

Number of observations = 650; Number of schools = 218

Fixed Effects Estimation

OLS models run the risk of omitted variable bias.[32] We implement fixed effect (FE) analysis to address this potential problem. This approach relies on the idea that schools have time-invariant characteristics such as school culture, discipline policies, or quality of instruction that are unobserved in the covariates but affect outcomes. Any unobserved variables that are constant over time are accounted in each school's "fixed effect," *S.* We also include separate year variables, *T*, to take any statewide time trends into account. Model 3 takes the following form:

$O = f(L, X, S, T, e)$

All regressions are run with White robust standard errors.

In all the regressions, the LAP and Title I spending variables are logged. The results of the regressions are shown in Exhibit E4. In the simple Model 1, the coefficient is negative for every test score outcome. In Model 2, when the controls are added, the coefficients either become positive or close to zero. When fixed effects are added in Model 3, the coefficients are positive and larger than in Models 1 and 2. The magnitude of the coefficients is relatively small, as expected; the reason to expect small coefficients relates to the limitation of having only school-level data available for our analysis. That is, school-level test score outcomes are the dependent variable in the equations, but most students (nearly 90%) do not receive LAP-funded services. Therefore, due to these data limitations, one would expect the coefficients to be small and probably not statistically significant.

To check the robustness of our results, we also examined alternative measures of LAP and Title I, using total building funding (rather than per-pupil) and binary (yes/no) variables, and had similar results.

To test the reasonableness of the regression results in light of the limitations of using school-level data, and to compare the results with the research evidence of the effectiveness of per-pupil expend in general, we adjusted the results from Exhibit E4. In Exhibit E3, we show these adjustments. First, we converted our preferred Model 3 coefficients into elasticities by taking each coefficient and dividing by the mean outcome measurement, since the

[32] Wooldridge, J. M. (2009). *Introductory Econometrics: A Modern Approach.* South-Western College Publishing.

models are in a linear-log format. Second, we provide a rough adjustment to approximate the level of resources applied to LAP students, relative to the level of resources applied to all students in a typical school. For the adjustment, we divide the LAP elasticities by the proportion of LAP funding to total funding at the state level (1.2%). The adjustment could be more precise if school-level total expenditure data were available. The result of this adjustment gives us an elasticity of 0.023 for the average effect across all four test score outcomes.

The elasticities estimate the percentage change in an outcome given a percentage change in funding. This allows us to compare results for LAP, which is one way to increase spending on students, to other research that examines the more general question of the impact of per-pupil expenditures on student outcomes. In a forthcoming Institute report, we review the most credible research from the United States and elsewhere on the effect of per-pupil expenditures on student outcomes.[33] Our preliminary results indicate an annual elasticity of 0.021, which is directly comparable to the average of the four test score results for LAP (0.023). Thus, our results for LAP indicate that this funding stream has similar impacts on student outcomes as per-pupil expenditures in general. Again, this finding is just an approximation given the current data constraints.

Recent improvements to the state data system will allow future research to determine whether the impact of LAP is larger than measured here, because the analysis will be able to focus on the students who receive LAP-funded support. By the close of 2015, three years of individual-level data will be available to replicate our analytical models with more precision.

Exhibit E3
Impact of LAP Per-pupil funding on School-level Outcomes
Elasticities based on coefficients from fixed effects analysis (Model 3)

	Reading		Math		Graduation Rates	
	Met standard	>level 1	Met standard	>level 1	On-time	Extended
Coefficient	0.022	0.009	0.027	0.016	-0.024	0.012
Mean outcome	69.7	91.0	57.7	77.9	82.8	87.2
Percent LAP funding	1.2%	1.2%	1.2%	1.2%	1.2%	1.2%
Adjusted elasticity	**0.026**	**0.008**	**0.039**	**0.017**	**-0.024**	**0.011**
Average		*Test Scores*			*Graduation Rates*	
		0.023			*-0.006*	

[33] Aos, S., & Pennucci, A. (Forthcoming, 2012). *K-12 Spending and Student Outcomes: A Review of the Evidence*. Washington State Institute for Public Policy.

Exhibit E4
Impact of LAP Funding on School-level Outcomes
Detailed Results from Fixed Effects Models

	Reading % Met Standard			Reading > Level 1		
	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE
Log LAP per pupil funding	-0.116***	-0.003	0.022	-0.038***	0.002	0.009
	(0.02)	(0.009)	(0.017)	(0.009)	(0.005)	(0.009)
Log Title I per pupil funding		0.027**	-0.001		0.033***	0.019
		(0.011)	(0.026)		(0.006)	(0.013)
Total enrollment		0.004	-0.001		0.001	-0.009*
		(0.003)	(0.01)		(0.001)	(0.005)
Total enrollment^2		0.000*	0.000		0.000	0.000
		(0)	(0)		(0)	(0)
Prior year results		0.744***	-0.049*		0.591***	-0.113***
		(0.016)	(0.029)		(0.019)	(0.032)
Percent male		-0.041	-0.025		-0.012	-0.003
		(0.042)	(0.063)		(0.022)	(0.034)
Percent free and reduced price meals		-0.096***	-0.034		-0.059***	-0.029
		(0.011)	(0.034)		(0.005)	(0.019)
Percent American Indian		-0.084***	0.047		-0.103***	-0.042
		(0.018)	(0.186)		(0.014)	(0.092)
Percent African American		-0.050***	-0.081		-0.051***	-0.036
		(0.018)	(0.073)		(0.012)	(0.037)
Percent Asian		0.038***	-0.045		0.004	0.005
		(0.015)	(0.076)		(0.009)	(0.034)
Percent Hispanic		-0.035***	-0.048		-0.022***	-0.003
		(0.012)	(0.058)		(0.007)	(0.031)
Percent Pacific Islander		-0.012	-0.172		0.004	-0.181**
		(0.078)	(0.152)		(0.047)	(0.086)
Percent ELL		-0.004	-0.306***		0.002	-0.088**
		(0.017)	(0.08)		(0.012)	(0.038)
Percent in special education		-0.034	-0.268***		-0.051***	-0.203***
		(0.024)	(0.055)		(0.013)	(0.033)
Percent of teachers w/ master's degree		-0.003	0.014		-0.012***	0.002
		(0.008)	(0.023)		(0.005)	(0.012)
Average years of teaching experience		0.068	0.125		0.120	-0.200
		(0.201)	(0.487)		(0.102)	(0.199)
Average years of teaching experience^2		0.000	0.009		-0.003	0.014
		(0.008)	(0.019)		(0.004)	(0.009)
Adjusted R^2	0.009	0.836	0.892	0.005	0.719	0.838
Number of Schools	1132	1132	1132	1132	1132	1132
Number of Observations	3382	3381	3381	3385	3385	3385

* p < .10, ** p < .05, *** p < .01. Robust standard errors in parentheses.

Exhibit E4, continued

	Math % Met Standard			Math > Level 1		
	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE
Log LAP per pupil funding	-0.122***	-0.004	0.027	-0.09***	0.004	0.016
	(0.023)	(0.012)	(0.019)	(0.017)	(0.008)	(0.015)
Log Title I per pupil funding		0.008	0.012		0.009	0.005
		(0.014)	(0.028)		(0.01)	(0.021)
Total enrollment		0.002	-0.013		0.001	-0.012
		(0.003)	(0.012)		(0.002)	(0.009)
Total enrollment^2		0.000	0.000		0.000	0.000
		(0)	(0)		(0)	(0)
Prior year results		0.738***	0.008		0.711***	0.029
		(0.014)	(0.031)		(0.014)	(0.032)
Percent male		-0.029	-0.032		-0.023	-0.018
		(0.054)	(0.077)		(0.039)	(0.061)
Percent free and reduced price meals		-0.106***	-0.038		-0.075***	-0.040
		(0.013)	(0.034)		(0.008)	(0.028)
Percent American Indian		-0.117***	-0.186		-0.127***	-0.077
		(0.017)	(0.121)		(0.021)	(0.108)
Percent African American		-0.104***	-0.218***		-0.102***	-0.141**
		(0.022)	(0.078)		(0.019)	(0.066)
Percent Asian		0.064***	-0.056		0.029**	-0.045
		(0.018)	(0.091)		(0.013)	(0.071)
Percent Hispanic		-0.037**	-0.241***		-0.045***	-0.164***
		(0.014)	(0.067)		(0.012)	(0.055)
Percent Pacific Islander		0.293***	0.445**		0.279***	0.407***
		(0.084)	(0.177)		(0.066)	(0.143)
Percent bilingual		0.040*	-0.098		0.028*	-0.054
		(0.02)	(0.086)		(0.017)	(0.073)
Percent in special education		-0.008	-0.150**		-0.041**	-0.212***
		(0.029)	(0.064)		(0.021)	(0.056)
Percent of teachers w/ master's degree		0.008	0.031		0.001	0.016
		(0.011)	(0.026)		(0.009)	(0.018)
Average years of teaching experience		0.335	0.740		0.218	0.056
		(0.269)	(0.546)		(0.26)	(0.334)
Average years of teaching experience^2		-0.014	-0.020		-0.010	0.002
		(0.011)	(0.021)		(0.011)	(0.015)
Adjusted R^2	0.007	0.822	0.887	0.007	0.826	0.874
Number of Schools	1132	1132	1132	1132	1132	1132
Number of Observations	3382	3381	3381	3385	3385	3385

* p < .10, ** p < .05, *** p < .01. Robust standard errors in parentheses.

Exhibit E4, continued

	On-time graduation rate			Extended graduation rate		
	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE	Model 1: Simple	Model 2: Controls	Model 3: Controls + FE
Log LAP per pupil funding	-0.186***	0.003	-0.024	-0.143***	0.010	0.012
	(0.05)	(0.027)	(0.039)	(0.044)	(0.031)	(0.053)
Log Title I per pupil funding		0.051	-0.073		0.007	-0.116
		(0.053)	(0.076)		(0.061)	(0.084)
Total enrollment		0.001	0.000		-0.001	0.010
		(0.002)	(0.013)		(0.002)	(0.013)
Total enrollment^2		0.000	0.000		0.000	0.000
		(0)	(0)		(0)	(0)
Prior year results		0.618***	-0.095		0.498***	-0.110*
		(0.039)	(0.057)		(0.044)	(0.062)
Percent male		-0.143	0.061		-0.128	0.235
		(0.104)	(0.203)		(0.109)	(0.254)
Percent free and reduced price meals		-0.064**	0.075		-0.101***	0.033
		(0.031)	(0.095)		(0.032)	(0.097)
Percent American Indian		-0.224***	-0.170		-0.196***	-0.508**
		(0.067)	(0.192)		(0.054)	(0.237)
Percent African American		-0.184***	-0.124		-0.124*	-0.170
		(0.068)	(0.273)		(0.075)	(0.322)
Percent Asian		0.110**	0.210		0.093**	0.057
		(0.044)	(0.285)		(0.043)	(0.286)
Percent Hispanic		-0.013	-0.307		0.005	-0.341
		(0.036)	(0.214)		(0.038)	(0.259)
Percent Pacific Islander		-0.251	-0.219		-0.208	-0.183
		(0.348)	(0.504)		(0.359)	(0.587)
Percent bilingual		-0.049	-0.165		0.006	-0.143
		(0.106)	(0.378)		(0.114)	(0.409)
Percent in special education		-0.050	0.148		-0.021	0.331
		(0.113)	(0.265)		(0.118)	(0.308)
Percent of teachers w/ master's degree		-0.017	0.078		-0.021	0.092
		(0.032)	(0.071)		(0.031)	(0.077)
Average years of teaching experience		0.758	0.951		1.059**	0.843
		(0.548)	(1.344)		(0.531)	(1.354)
Average years of teaching experience^2		-0.028	-0.030		-0.042*	-0.024
		(0.023)	(0.058)		(0.023)	(0.058)
Adjusted R^2	0.016	0.686	0.807	0.012	0.536	0.69
Number of Schools	218	218	218	218	218	218
Number of Observations	651	650	650	651	650	650

* p < .10, ** p < .05, *** p < .01. Robust standard errors in parentheses.

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