

Evaluation of
Supplemental
Education Services
2010-2011

Technical Report

Prepared for
Michigan Department of Education

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Introduction

This report offers a technical overview of the implementation of an evaluation of Supplemental Education Services (SES) providers in Michigan for the 2010-2011 school year. This report presents detailed information on the data sources and methods serving the evaluation. The primary products of the evaluation were provider report cards for public display and for Michigan Department of Education (MDE) use. All provider report cards are available online by MDE.

This report is one in a series of annual technical reports related to the assessment of the SES providers in Michigan and the performance of the students that they have served. The evaluation is conducted by Public Policy Associates, Incorporated (PPA), under contract to the MDE.

Under the No Child Left Behind Act (NCLB), the responsibilities of states are laid out for responding to schools that do not meet Adequate Yearly Progress (AYP). One of the activities intended to remediate the lack of AYP, under certain circumstances, is the provision of SES. The Michigan Department of Education is responsible for approving and monitoring the providers of SES, and ensuring that providers meet quality standards. The SES provider evaluation is conducted in support of MDE's goal of monitoring the effectiveness and quality of providers. The MDE disseminates the performance data obtained through the evaluation by posting it to its Web site, and providing it to school districts in the state, which must in turn ensure that parents have this information to support their decision making in selecting a provider.

The evaluation framework and the data streams used carry over from previous evaluations. The instruments and administration of the data collection were, for the most part, unchanged from the prior year of evaluation, save the District Coordinator survey.

The evaluation methodology required the use of the following data sources:

- Michigan Educational Assessment Program (MEAP) scores. These data were used to estimate the impact of SES on student achievement in mathematics and English language arts/reading (ELA).
- A survey of parents, which focused on perceived changes in student behaviors, SES provider communication, and overall satisfaction with tutoring.
- A survey of teachers regarding the extent and quality of provider communications, perceived improvements in student performance, and an overall assessment of providers.
- A survey of district SES coordinators in terms of how well providers met administrative requirements of their contracts, and perceptions of program implementation and program fidelity.

The report is organized according to the following outline.

- *Introduction.* In this first section, an overview of the report is presented.
- *Survey Process.* This section of the report describes the source data, and the development and administration of parent surveys, teacher surveys, and District Coordinator surveys.
- *Michigan Educational Assessment Program (MEAP) Scores.* The second section of the report offers an account of the analyses and reporting of MEAP data used in a statistical exploration of the impact of SES delivered in 2009-2010 on participants' 2010 math and reading MEAP scores.
- *Provider Report Cards.* This section recounts the development of analyses of multiple data streams used in the development of provider report cards.
- *Recommendations.* Finally the report concludes with some recommendations relevant to the evaluation process and MDE data systems that are drawn upon to inform the evaluation.

Survey Process

Source Data

Information on Supplemental Education Services (SES) participants statewide is, for the most part, stored in the Center for Educational Performance Information (CEPI) statewide data-collection system. Some districts alternately use relational database software to manage the SES program service data. Most of these districts use the Cayen system, which is a database designed to integrate information on student enrollment and provider services, and to support related administrative functions, such as invoice processing. For CEPI, districts typically manually enter case-level information—i.e., each student’s information—into the CEPI database via an online data-entry system, but larger districts are more likely to provide a download file to the Michigan Department of Education (MDE) instead due to the impracticality of entering a large volume of cases which can be more easily extracted from their own databases.

The MDE staff communicated protocols to districts for entering their data in CEPI, providing a download, or submitting a download of Cayen data. This data was due in March 2011 for each student enrolled in SES. Together, these data files formed the sample frame for the teacher and parent surveys. The CEPI system only functions to capture case data on SES participants, and districts use it only for reporting to the MDE; it is not used for their own internal sample management. The Cayen system, as noted above, also supports districts’ internal functions, and the data for the sample frame was provided directly from the districts to MDE. The data was pulled as late as feasible in the school year in order to get the most recent information possible.

The CEPI data elements used in the evaluation include student name, State of Michigan unique identification code (UIC), date of birth, gender, grade, district name and code, building name and code, provider name, tutoring subject, and the actual service hours for tutoring in mathematics and English Language Arts (ELA). Cayen data that was requested from districts mirrored these data elements.

As in prior years, the downloaded case-level CEPI and Cayen data files had minor issues such as incomplete cases, duplicate cases, and variably entered providers’ names. These issues were resolved with successive updated data files, but prevented fielding the parent and teacher surveys sooner.

The MDE is credited with making the evaluation possible by housing the CEPI data collection system, delivering the CEPI data for use in the sample frame, and enlisting the cooperation of districts in entering data and participating in the evaluation. Nonetheless, because the SES service-delivery was both dynamic and ongoing at the time the districts entered data into CEPI and delivered the Cayen data, the resulting sample file expressed notable inaccuracies. For example, the data files provided did not signal cases in which students changed providers; students signed up but dropped out before services were delivered; students lost providers because the provider had decided not to pursue delivery of services; or students who were identified as eligible, tested, but offered SES late in the spring or during summer. Districts

varied widely in the timeline with which they implemented SES, and in some areas, that meant that the case-level data was preliminary; i.e., districts where services were offered mainly during summer.

Service Hours

Service hour data were gathered from what districts had reported to CEPI and through Cayen downloads. The initial universe of SES cases consisted of the following:

- 19,117 cases of students who had enrolled in SES, pulled from CEPI and Cayen in spring 2011. Of this initial universe:
 - 6,643 cases had missing or zero hours of service; these cases represent students who enrolled at some point, but did not get services, in the initial sample frame.
 - 12,474 de-duplicated cases, with non-zero service hour data. Of these, 2,049 had greater than zero but fewer than 2.1 hours of service

Of cases in the initial universe of enrolled students, 35% of cases did not receive services. This demonstrates the limitations of a point-in-time capture of enrollment. To overcome this limitation, the MDE requested districts to update the final number of actual service hours at the end of summer 2011.

Initial Sample Frame

Building on past experience and interviews with District Coordinators, PPA used the service hour data to focus the sample frame for the parent and teacher surveys. For the 2010-2011 surveys, only cases in which at least 2.1 hours of service were provided were included in the initial sample frame. Additional criteria were applied to fine-tune the sample for the parent survey, and the teacher survey. These are discussed in the relevant section below.

Parent Survey

Instrument

The parent survey instrument was unchanged from the prior year, and focused on:

- Communication between the tutor and parent
- Perceived student improvement
- Overall satisfaction with the tutoring services

The survey began with screening questions to determine whether the student had enrolled in SES and had actually received tutoring, and if not, why tutoring did not take place. It also asked parents to verify whether the provider name embedded in their survey was correct. Responses to these questions formed a skip pattern that led parents whose child did not receive services to

return the survey with only the screening questions answered. These screening questions were used to determine which surveys were appropriate to use in the analyses.

Sample Frame

For the 2010-2011 school year, the sample frame was 10,425. Included were all of the cases where the student had been enrolled with a specific provider program and the provider had logged a minimum of 2.1 hours of service¹, as of April 22, 2011.

Administration Process

In an effort to increase parent responsiveness, the team updated the parent survey protocols from prior years. Changes included the use of an advance letter to parents, a reminder post card mailing, and the translation of all parent contact materials into Arabic and Spanish versions.

Another change in protocol was the direct mailing of all materials from PPA or the PPA vendor to the household. This was made feasible due to the gathering of household contact information from the Michigan Student Data System (MSDS). In prior years, this resource had not been accessible, which had necessitated the cooperation of small districts in mailing the packages, with variable results, and uncertain delivery.

A printing services company provided address matching / verification,² printing services and physically packaged the English version of the advance letter, the post card reminder, and the survey mailing which included a cover letter and a PPA pre-paid business reply envelope in a sealed standard-sized envelope with a machine-printed PPA return address. The envelope was personalized "To the Parent/Guardian of STUDENT NAME." PPA prepared all the Arabic and Spanish versions in-house.

The timeline for mailings was as follows.

- Advance letter mailed 5-18-11 (English)
- Advance letter mailed 5-17-11 and 5-18-11 (Spanish; Arabic)
- Survey mailed 5-25-11 (English)
- Survey mailed 5-20-11 (Spanish; Arabic)
- Survey mailed 5-26-11 (Corrections to Spanish and Arabic; changed to English)³
- Postcard mailed 5-31-11 (English)
- Postcard mailed 6-2-11 (Spanish; Arabic)

As expected, some addresses were not current, and this resulted in undeliverable returned mail. Compared to previous years, the volume of returned mail was considerably less. A total of 102 parent surveys were returned as undeliverable, while 900 advance letters were similarly returned. The disparity of returns between parent surveys and advance letters is likely explained by errors in the manner in which the printing services vendor addressed the advance letters.

¹ Districts offering SES were required to report the number of hours of service received by each child.

² NCOALink® and CASS Certified™

³ Some households that were sent Spanish or Arabic language materials contacted PPA to indicate that they did not speak that language.

Technical assistance was provided to parents, with invitations in cover letters to contact the team via a direct-dial and toll free number to the PPA offices. In the English language cover letter, a statement in Spanish was included directing Spanish-speaking parents to call PPA's toll-free number to receive assistance in completing the survey if needed. The team was well prepared to provide technical assistance, based on prior experience, and was able to field parent questions and concerns, and to refer them as needed to the district or the MDE for concerns about specific providers. Most questions and comments pertained to the student's status with a given provider.

The instrument was machine-readable using Remark®, a scanning software program, and was personalized using mail merge fields. The reading levels of survey materials were kept as low as feasible, and were measured at a 5th grade level for the survey and an 8th grade level for the cover letter. The parent survey responses were exported from the scanning program into SPSS, where they were analyzed.

Usability and Response Rates

After dropping cases with undeliverable addresses, a total of 10,099 surveys were mailed to student households. Of those, 1,002 were completed and returned, which is a raw return rate of 9.9%. Of those returned, 889 were usable, which represents an 8.8 % usability rate.

Some parent surveys could not be used in the analysis for the provider report cards. When parents or guardians did not respond to eight or more of the 12 substantive items in the survey, the entire case was excluded from analyses. Typically, these surveys were those where the parent had reported in the screening portion that the student in question had not actually received services, or they were unsure whether tutoring took place. Nonetheless, the analysis team verified that all cases retained were documented by the district to have had the minimum 2.1 hours of service.

The proportion of usable parent surveys by district is shown in Table 1.

Table 1: Usable Parent Surveys by District

Districts	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per District
Albion Public Schools	42	8	19.0%
Beecher Community School District	88	6	6.8%
Buena Vista School District	1	1	100.0%
Casa Richard Academy	6	1	16.7%
Center for Literacy and Creativity	7	1	14.3%
Covert Public Schools	20	5	25.0%
Detroit Public Schools	9,007	706	7.8%
Detroit Academy of Arts & Sciences	55	14	25.5%
Detroit Midtown Academy	8	4	50.0%
Flint City School District	290	48	16.6%

Table 1: Usable Parent Surveys by District

Districts	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per District
George Washington Carver Academy	14	6	42.9%
Grand Rapids Public Schools	9	0	0.0%
Inkster Public Schools	44	4	9.1%
Lansing Public School District	94	15	16.0%
Michigan Health Academy	7	0	0.0%
Pontiac City School District	19	4	21.1%
Pontiac Academy for Excellence	65	14	21.5%
River Rouge School District	63	9	14.3%
Taylor School District	174	29	16.7%
Weston Preparatory Academy	1	0	0.0%
Westwood Community Schools	25	4	16.0%
Westwood Heights Schools	23	0	0.0%
Willow Run Community Schools	21	6	28.6%
Wyoming Public Schools	16	4	25.0%
Total	10,099	889	

The proportion of parent surveys returned varied by district, ranging from zero to 100% participation within districts. Four districts did not have any parents participating. The nonparticipating districts offer services to a very small group of students (ranging from 1 to 23 students each) compared to participating districts. With the exception of Beecher Community School District and Inkster Public Schools, and the four non-responding districts, parents in the other small districts were very responsive. As for districts with the largest number of students in SES, DPS had a 7.8% usable response rate, the City of Flint was at 16.6%, and the Taylor School district was at 16.7% for usable surveys returned.

In regards to representativeness across districts, returns of the parent survey by district were roughly proportionate to districts' parts in the sample frame (not shown in table). The Detroit Public Schools (DPS) district was slightly under-represented as it comprised approximately 90% of all surveys mailed and 79.4% of the usable parent surveys. Several communities were slightly over-represented; an example is Flint Community Schools which comprised 2.9% of all surveys mailed to parents and 5.4% of usable surveys. Others included Detroit Academy of Arts & Sciences, Lansing Public School District, Pontiac Academy for Excellence, River Rouge, and the Taylor School Districts.

In the table below, the number and proportion of parent responses are shown according to providers. Of primary interest is the proportion of surveys within provider, because the analytic unit for deliverables is the provider. The table shows that for 19 of 92 providers, no parent survey responses were available. These providers represent 3.1% of the cases in the student sample frame. For 33 of the 92 providers, the response rate was less than 10% per provider, which is less than ideal.

Providers that netted no survey response from parents:

- Academic Aerobics, LLC
- Academic Alliance, LLC
- Academic Tutoring / On Line (McCully's online)
- Ace it! powered by Sylvan Learning of West Michigan
- Beyond the Basics
- City Camp
- Club Z In-Home Tutoring
- Education Fundamentals
- GPS Educational Services
- HTC Tutoring
- Instant Student Academic Achievement Centers
- Ivy League Tutor
- Kidz University Educational Tutoring Services
- Mathnasium of Plymouth-Canton
- Sylvan Learning of Grand Rapids
- Total Education Solutions (formerly Michigan Special Education Solutions)
- Tutorial Services
- Vanguard Community Development Corporation, LLC
- Vision Academics, LLC

In regards to the overall distribution of responses across providers, returns of the parent survey were roughly proportionate to providers' parts in the sample frame. In some cases, providers were slightly over-represented. For example, 1 to 1 Tutor comprised 5.2% of surveys mailed and 8.5% of the usable parent surveys. Rocket Learning represented 3.0% of surveys mailed and 4.6% of useable surveys. Other providers were slightly under-represented. For example, Michigan Learning Unlimited comprised 6.2% of surveys mailed to parents and 3.5%.

Table 2: Usable Parent Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
"Ace It! " Sylvan Learning, Dearborn, Lincoln Park, Livonia, N. Canton	34	8	23.5%
1 to 1 Tutor	523	76	14.5%
AAA Resource Learning Center	47	5	10.6%
Academic Achievement Tutoring Services, LLC	104	11	10.6%
Academic Aerobics, LLC	36	0	0.0%
Academic Alliance, LLC	62	0	0.0%
Academic Tutoring / On Line (McCully's online)	6	0	0.0%
Academic Tutoring/McCully's	235	38	16.2%

Table 2: Usable Parent Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
ACCESS Educational Services	34	1	2.9%
Ace it! powered by Sylvan Learning of West Michigan	10	0	0.0%
Achieve HighPoints	82	14	17.1%
Achieving 180, LLC	93	6	6.5%
Achieving Maximum Potential (AMP), LLC	336	23	6.8%
Advanced Tutoring by the Ministry & Community Ctr	39	6	15.4%
Alkebu-lan Village Tutorial Program	25	1	4.0%
American Tutoring Services	22	1	4.5%
ATS Educ. Cons. Serv.-Proj. Success	40	9	22.5%
ATS Project Success (High School)	32	3	9.4%
AVANCEMOS!	465	62	13.3%
Beyond the Basics	20	0	0.0%
C&B Tutoring, LLC	101	8	7.9%
Carter, Reddy & Associates	443	9	2.0%
City Camp	3		0.0%
Class Act Tutoring and Educational Services	235	26	11.1%
Club Z In-Home Tutoring	7	0	0.0%
CTBC Educational Center	29	5	17.2%
Educate Online (formerly Catapult Online)	30	5	16.7%
Education Advantage!, LLC	128	6	4.7%
Education Empowerment Foundation, Inc.	256	18	7.0%
Education Fundamentals	60	0	0.0%
Educational Escapades	183	34	18.6%
Edulations	155	21	13.5%
EduTech Cognitive Therapy & Tutorial Services	44	5	11.4%
EduTech Mobile Learning Center	284	19	6.7%
ELS Development Services	127	7	5.5%
Empowerment Learning Services, LLC	63	5	7.9%
ESRP ComfortZone Tutorial Program	8	2	25.0%
Exceptional Learning	182	24	13.2%
Flaggs and Associates Educational	167	15	9.0%

Table 2: Usable Parent Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
Services			
Future Foundations	395	32	8.1%
Gateway	135	7	5.2%
Global Learning Solutions	95	9	9.5%
Globutronic Educational Group LLC	65	4	6.2%
GPS Educational Services	2	0	0.0%
Grade A+	182	9	4.9%
Higher Ground Program	377	26	6.9%
HTC Tutoring	33	0	0.0%
iLEARNED Online, LLC	124	7	5.6%
IMAGE Personal Success Training Institute	47	6	12.8%
Instant Student Academic Achievement Centers	2	0	0.0%
International After School Program	440	49	11.1%
Ivy League Tutor	30	0	0.0%
Kenniss Academics	60	3	5.0%
Kidz University Educational Tutoring Services	22	0	0.0%
Know 2 Grow Learning LLC	13	4	30.8%
Know 2 Grow Online, LLC	34	5	14.7%
Learning Center of Southwest Flint	3	1	33.3%
Learning Disabilities Clinic	33	12	36.4%
Learning Land	68	5	7.4%
Learning Specialists	59	6	10.2%
M.A.D.E. Training and Consulting, Inc.	481	15	3.1%
Making the Grade	2	1	50.0%
Math Savvy Institute	137	11	8.0%
Mathnasium of Plymouth-Canton	1	0	0.0%
McCall Educational Services	266	11	4.1%
Metropolitan Certified Teachers Association, LLC	123	10	8.1%
MI Learning Unlimited	625	31	5.0%
Much Success Tutoring Services	86	7	8.1%
New Era Institute of Learning	189	5	2.6%
Pontiac Academy for Excellence SES Provider	47	11	23.4%
Priority: My Education	100	1	1.0%

Table 2: Usable Parent Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
Rencher Educational Solutions	12	2	16.7%
Results Mentoring	151	19	12.6%
Rocket Learning	298	41	13.8%
Saturday School of Excellence, The	59	9	15.3%
Skills of Success Tutoring Services	7	1	14.3%
Super Achievers	30	3	10.0%
Sylvan Auburn Hills	29	8	27.6%
Sylvan Auburn Hills - ACE IT	14	2	14.3%
Sylvan Learning Center - Dearborn, Lincoln Park, Livonia, N. Canton	15	6	40.0%
Sylvan Learning Center Brownstown, MI	8	3	37.5%
Sylvan Learning of Grand Rapids	1	0	0.0%
Sylvan Learning of Grandville	4	2	50.0%
Sylvan Learning of Lansing	21	6	28.6%
The Learning Center	56	2	3.6%
Total Education Solutions (formerly Michigan Special Education Solutions)	2	0	0.0%
Tutorial Services	3	0	0.0%
Vanguard Community Development Corporation, LLC	3	0	0.0%
Vision Academics, LLC	8	0	0.0%
W Salome Consultants	324	23	7.1%
Your Financial Insight, LLC	5	1	20.0%
Youth Enrichment Services, Y.E.S.	23	8	34.8%
Total	10,099	889	

Teacher Survey

Instrument

The teacher survey was used to obtain an assessment of progress for each selected student in the sample frame. Each “teacher survey” requested that the teacher consider a particular dyad of student and provider. The teacher survey used the same instrument as the previous year. The instrument items asked about their role in relation to the student; type of communications received from provider; changes in student behavior, demeanor, and performance; whether any changes might be attributable to the provider; and whether they would recommend the provider.

Sample Frame

For the 2010-2011 school year, the teacher sample frame was developed starting from the core sample frame of 10,425 cases, reflecting the student body that had been enrolled with a specific provider program and the provider had logged a minimum of 2.1 hours of service, as of April 22, 2011. Additional criteria were then applied to exclude cases where the student building could not be determined, and, in DPS, where a teacher could not be identified for the student. Criteria were applied to ensure that virtually all of the student cases were retained where the household primary language was not English.⁴

The teacher sample was crafted to select cases proportional to provider cases per building. The selection of cases for the final teacher sample frame included all cases in seven buildings that had a small number of students enrolled in SES, and all cases served by thirty-three providers that served a small number of students. For four providers that served an exceptionally large number of students, a proportion of cases were randomly retained. Results were examined, and then adjustments were made to include or exclude a proportion of cases by provider within building, until the cases selected were roughly proportional to provider caseload or building caseload, with a floor and ceiling caps for service volume.

Administration Process

A secure Web site was used to collect the teacher survey data. This Web site was hosted and maintained by a subcontractor. The database structure and interface were similar to the prior years. Minor modifications were implemented in 2011, to improve administration, readability, and reporting features.

Assignment and Invitations

For teacher surveys, the goal was to gather feedback on students enrolled in SES from a teacher that was knowledgeable about a particular student's progress. As noted previously, a sampling of students was implemented to lessen the burden on both teachers and Building Coordinators,⁵ although in districts, feedback was sought on every student enrolled in SES. District Coordinators and Building Coordinators played a key role in the both the assignment of teachers to particular cases and the distribution of the survey invitations.

While the teacher survey data was collected online, the distribution mode of invitations to participate varied by the availability of teacher e-mail addresses. All DPS teachers were invited electronically, using DPS addresses. Similarly, For Grand Rapids and Flint, PPA also received a data set that identified the appropriate teacher for most students, and their e-mail addresses, allowing for electronic invitations to be sent to teachers in those districts. Survey invitations, as well as log-in credentials, were then delivered via e-mail for all cases with an identified teacher. Teachers with known e-mail addresses received a single e-mail request, regardless of the number

⁴ Exceptions were made in the case of providers that served an exceptionally large number of students from non-English speaking households. For these three providers, a proportion of cases were selected.

⁵ Building Coordinators (BC) are staff that are specific to Detroit Public Schools, needed due to the number of schools participating in SES. Each BC is assigned a specific school building to support the role of the DPS SES District Coordinator.

of students assigned to them, to log on to the secure Web site and participate in the survey process.

For the remaining districts, survey invitations were generated in hard copy and disseminated to teachers via the District Coordinators.⁶ The hardcopy invitations and log-in credentials were delivered to District Coordinators along with instructions for their distribution. Instructions for completing the surveys were also included in the bodies of both the electronic and hardcopy invitations.

The written instructions given to the District Coordinators asked them to assign the appropriate teacher for each student on their student list and deliver to that teacher the hardcopy survey invitation for each student assigned to them. Each teacher was also given credentials to allow them access to the online survey system. Teachers were required to change their password when logging in for the first time.

District and Building Coordinators were given log-in information for administrative access to the secure site, which allowed them to monitor the progress of the teachers in their district/building. Their level of access also allowed them to assign and reassign student cases to teachers who were already in the system as well as enter teacher information to make assignments where teachers did not already have an account set up or had not already been given hardcopy invitations.

The timeline for administering the Teacher Survey was as follows.

- Site was launched on May 13, 2011, with e-mail invitations sent to teachers and DCs.
- Monitoring and minor adjustments to the system were made on an ongoing basis.
- Weekly automated reminders were sent to non-responsive teachers.
- Follow up telephone calls to District and Building Coordinators were conducted throughout the process.

Interface

In the Web-based system, as mentioned above, a teacher account was set up in advance for each identified teacher, i.e., for those who were affiliated with a specific student and for which PPA had contact information. Accounts were also set up for District and Building Coordinators to provide a management interface permitting access to teacher account information as well as the status of each survey in their building/district. Management rights included the ability to create teacher accounts, assign surveys to accounts, and reassign surveys to another teacher as needed. PPA staff access to the system included the right to view survey status, create Coordinator accounts, assign surveys, and reassign teachers. PPA staff were responsible for securely communicating with all parties their credentials.

Teacher Interface. The teacher interface included the following functions: listing of all the students assigned to their account with the status of each survey; ability to add students to their list by referring to any hardcopy invitations; and ability to answer a survey for each student. Regardless of invitation method, the first time that teachers logged on to the system, they were required to change their passwords.

⁶ This method was also used in Grand Rapids and Flint, for cases where the teacher contact was unknown.

Building and District Coordinator Interface. When Coordinators logged in to the system they were presented with several possible actions. Coordinator administrative rights gave them the ability to view the status of all assigned student surveys in their building/district, view the list of unassigned students, assign students to teachers, and create new teacher accounts.

There were two options for Coordinators to communicate new survey invitations. If a teacher was added and the Coordinator had an e-mail address for that teacher, an invitation could be sent electronically. If the Coordinator did not have an e-mail address for a given teacher, then the Coordinator was able to print out hardcopy invitations as well as credentials to deliver to the teacher.

All District and Building Coordinators had the option—where teacher e-mail addresses were available and Coordinators willing—of adding teacher accounts and automating invitations electronically, in lieu of hardcopy invitations.

Eligibility and Reassignment

Conflict of interest was a salient factor in assigning teachers to surveys. Therefore, the first survey items were designed to identify whether it was appropriate for the teacher to actually complete the survey for the student in question. To this end, teachers were asked to respond to the following statements:

- I have a conflict of interest that prevents me from objectively evaluating the provider.
(Examples: I am working for the SES provider organization or have done so in the last two years; I am on the SES provider organization’s board of directors; I have family or personal ties to the SES provider organization’s leadership; etc.)
- This student is not enrolled in this school.
- This is not one of my students.
- This student rarely attends my class.
- I know for certain that this student rarely attended SES.
- I know for certain that this student was not enrolled in SES.

A “true” response to any of these statements prompted an automated process in which (1) the survey for that student case was automatically terminated and the student dropped from that teacher’s list of assigned students, (2) the case was coded as a “return,” (3) the reason for return was recorded, and (4) the Coordinator received an e-mail alerting her that a student case needed reassignment to another teacher. Online, Coordinators were able to view the return cases, the reason these cases were returned, and when appropriate, reassign the case to another teacher.

Technical Assistance

Using the Web-based system, PPA was able to monitor building-specific response rates from surveys and to communicate progress to Coordinators as needed. PPA provided technical assistance via telephone and e-mail to both teachers and Coordinators during the data-collection phase, and offered a contact number in the e-mail invitations, hardcopy invitations, and on the Web site. PPA worked in collaboration with the Coordinators to address issues on an as-needed basis.

There were disadvantages to distributing hardcopy invitation letters, most notably that PPA did not know which teachers were invited to participate unless they did as requested and set up a user account. Unless teachers had accounts, automated follow-up reminders could not be sent via e-mail. Another disadvantage was that no paper trail existed that could demonstrate whether papers had been successfully distributed by District Coordinators.

On the other hand, a main benefit of using e-mail invitations was the ability to automate e-mail reminders from the Web host. It also was convenient for teachers to reach PPA staff for technical assistance via e-mail inquiry. By necessity, district staff were asked to maintain a role in the tracking and follow-up contact with individual teachers. This effort was met with varying degrees of commitment and consistency.

Usability and Response Rates

The teacher survey responses were imported into and analyzed in SPSS.

A total of 3,487 survey invitations were sent to teachers. In 1,363 cases, teachers responded to the invitation, reflecting a 39% raw response rate. In 438 of these cases, however, responses to the screening questions indicated a potential conflict of interest or student ineligibility, and therefore these teachers were not allowed to continue on past the screener to complete the survey. Accordingly, a total of 925 (post-screening) surveys were processed online, which is a 26.5% rate of return of those responding and eligible.

Upon inspection of data, some cases were discarded from analyses where teachers had left 8 or more of 11 survey items incomplete. After these exclusions, 827 surveys were considered usable and were included in the provider report card analyses. These represent 23.5% of the survey requests distributed, 60.2% of the raw responsiveness, and 88.8% of completed surveys.

The distribution of usable surveys within school districts is shown in Table 3, below. The proportion of teacher surveys returned varied by district, ranging from zero to 100% participation within districts. Three districts had zero teacher participation (Buena Vista School District, Center for Literacy and Creativity, and Westwood Heights School).

In regards to representativeness of teacher returns across districts, the two largest school districts in the sample were slightly under-represented (not shown in table). The Detroit Public School district was under-represented as it comprised approximately 77.4% of all survey invitations and 59.5% of the usable teacher surveys. In addition, the Flint City School represented 4.7% of surveys and 1.3% of useable returned surveys.

Table 3: Usable Teacher Surveys by District

Districts	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
Albion Public Schools	42	34	81.0%
Beecher Community School District	53	20	37.7%
Buena Vista School District	1	0	0.0%
Casa Richard Academy	6	2	33.3%
Center for Literacy and Creativity	7	0	0.0%
Covert Public Schools	20	19	95.0%
Detroit Public Schools	2698	492	18.2%
Detroit Academy of Arts & Sciences	55	16	29.1%
Detroit Midtown Academy	8	5	62.5%
Flint City School District	163	11	6.7%
George Washington Carver Academy	14	10	71.4%
Grand Rapids Public Schools	9	3	33.3%
Inkster Public Schools	44	42	95.5%
Lansing Public School District	64	12	18.8%
Michigan Health Academy	7	6	85.7%
Pontiac City School District	19	3	15.8%
Pontiac Academy for Excellence	64	48	75.0%
River Rouge School District	57	29	50.9%
Taylor School District	70	48	68.6%
Weston Preparatory Academy	1	1	100.0%
Westwood Community Schools	25	13	52.0%
Westwood Heights Schools	23	0	0.0%
Willow Run Community Schools	21	3	14.3%
Wyoming Public Schools	16	10	62.5%
Total	3,487	827	

In the table below, the number and proportion of teacher responses are shown according to providers. Of primary interest is the proportion of surveys within provider, because the analytic unit for deliverables is the provider. The table shows that for 11 of 92 providers, no teacher survey responses were available.⁷ An additional 15 of the 92 providers had a teacher response rate of less than 10% per provider.

⁷ City Camp; Club Z In-Home Tutoring; iLEARNED Online, LLC; Instant Student Academic Achievement Centers; Kidz University Educational Tutoring Services; Learning Center of Southwest Flint; Making the Grade; Mathnasium of Plymouth-Canton; Skills of Success Tutoring Services; Sylvan Learning of Grand Rapids; and Your Financial Insight, LLC.

Table 4: Usable Teacher Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
"Ace It! " Sylvan Learning, Dearborn, Lincoln Park, Livonia, N. Canton	34	15	44.1%
1 to 1 Tutor	136	34	25.0%
AAA Resource Learning Centers	47	8	17.0%
Academic Achievement Tutoring Services, LLC	26	15	57.7%
Academic Aerobics, LLC	36	27	75.0%
Academic Alliance, LLC	37	7	18.9%
Academic Tutoring / On Line (McCully's online)	6	2	33.3%
Academic Tutoring/McCully's Educational Resource Center	92	55	59.8%
ACCESS Educational Services	34	5	14.7%
Ace it! powered by Sylvan Learning of West Michigan	10	8	80.0%
Achieve HighPoints	50	14	28.0%
Achieving 180, LLC	43	27	62.8%
Achieving Maximum Potential (AMP), LLC	222	65	29.3%
Advanced Tutoring by the Ministry & Community Cent	35	2	5.7%
Alkebu-lan Village Tutorial Program	25	5	20.0%
American Tutoring Services	22	2	9.1%
ATS Educ. Cons. Serv.-Proj. Success	40	9	22.5%
ATS Project Success (High School)	32	7	21.9%
AVANCEMOS!	116	7	6.0%
Beyond the Basics	20	1	5.0%
C&B Tutoring, LLC	53	10	18.9%
Carter, Reddy and Associates, Inc.	83	7	8.4%
City Camp	3		0.0%
Class Act Tutoring and Educational Services	62	20	32.3%
Club Z In-Home Tutoring	7		0.0%
CTBC Educational Center	29	1	3.4%
Educate Online (formerly Catapult Online)	30	11	36.7%
Education Advantage!, LLC	51	9	17.6%
Education Empowerment Foundation, Inc.	46	3	6.5%

Table 4: Usable Teacher Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
Education Fundamentals	42	1	2.4%
Educational Escapades	32	3	9.4%
EduLutions	42	6	14.3%
EduTech Cognitive Therapy & Tutorial Services	44	15	34.1%
EduTech Mobile Learning Center	43	4	9.3%
ELS Development Services	42	2	4.8%
Empowerment Learning Services, LLC	39	3	7.7%
ESRP ComfortZone Tutorial Program	8	7	87.5%
Exceptional Learning	46	5	10.9%
Flaggs and Associates Educational Services	40	19	47.5%
Future Foundations	40	5	12.5%
Gateway	36	16	44.4%
Global Learning Solutions	44	6	13.6%
Globutronic Educational Group LLC	41	5	12.2%
GPS Educational Services	2	2	100.0%
Grade A+	59	10	16.9%
Higher Ground Program	161	21	13.0%
HTC Tutoring	33	6	18.2%
iLEARNED Online, LLC	54		0.0%
IMAGE Personal Success Training Institute	47	12	25.5%
Instant Student Academic Achievement Centers	2		0.0%
International After School Program	38	7	18.4%
Ivy League Tutor	30	2	6.7%
Kenniss Academics	32	13	40.6%
Kidz University Educational Tutoring Services	22		0.0%
Know 2 Grow Learning LLC	13	7	53.8%
Know 2 Grow Online, LLC	34	11	32.4%
Learning Center of Southwest Flint	3		0.0%
Learning Disabilities Clinic	32	19	59.4%
Learning Land	45	9	20.0%
Learning Specialists	44	10	22.7%
M.A.D.E. Training and Consulting, Inc.	44	6	13.6%

Table 4: Usable Teacher Surveys by Provider

Provider	Number of Survey Invitations	Number of Useable Surveys Returned	Percentage of Useable Surveys Per Provider
Making the Grade	2		0.0%
Math Savvy Institute	37	7	18.9%
Mathnasium of Plymouth-Canton	1		0.0%
McCall Educational Services	42	9	21.4%
Metropolitan Certified Teachers Association, LLC	40	13	32.5%
MI Learning Unlimited	66	16	24.2%
Much Success Tutoring Services	62	15	24.2%
New Era Institute of Learning	47	6	12.8%
Pontiac Academy for Excellence SES Provider	47	34	72.3%
Priority: My Education	39	2	5.1%
Rencher Educational Solutions	12	2	16.7%
Results Mentoring	41	5	12.2%
Rocket Learning	76	13	17.1%
Saturday School of Excellence, The	41	10	24.4%
Skills of Success Tutoring Services	7		0.0%
Super Achievers	30	3	10.0%
Sylvan Auburn Hills	29	8	27.6%
Sylvan Auburn Hills - ACE IT	14	7	50.0%
Sylvan Learning Center - Dearborn, Lincoln Park, Livonia, N. Canton	15	10	66.7%
Sylvan Learning Center Brownstown, MI	8	7	87.5%
Sylvan Learning of Grand Rapids	1		0.0%
Sylvan Learning of Grandville	4	2	50.0%
Sylvan Learning of Lansing	21	2	9.5%
The Learning Center	37	18	48.6%
Total Education Solutions (formerly Michigan Special Education Solutions)	2	2	100.0%
Tutorial Services	3	1	33.3%
Vanguard Community Development Corporation, LLC	3	2	66.7%
Vision Academics, LLC	8	4	50.0%
W Salome Consultants	66	18	27.3%
Your Financial Insight, LLC	5	0	0.0%
Youth Enrichment Services, Y.E.S.	20	3	15.0%
Total	3,487	827	

District Coordinator Survey

Instrument

The District Coordinator survey was a hardcopy survey that District Coordinators were asked to complete for each provider contracted by their district during the 2010-2011 school year. The unit of analysis for this instrument was the provider *contract*.

The instrument was updated from previous years' based on MDE staff input, the nature of information that DC ideally would have available, and the nature of data that would be valuable in assessing provider effectiveness. The survey instrument first focused on each of a provider's efforts to meet administrative requirements. A series of questions were posed regarding implementation and the fidelity of provider services, most of which were new to the instrument. Each facet of inquiry began by determining whether the district had had an opportunity to observe, review, or otherwise measure or assess specific elements of the provider management and program. Opportunity was couched as observation of instruction; any method of review of provider's student assessment practices; any method of review of parent and teacher communication practices; any method of documentation of program content by district staff. Only when the district was in a position to assess said element, were they asked to do so. For example, items assessing the tutor-student ratio and whether the environment was conducive to learning were only required of those district that indicated they had actually observed the provider instruction.

Administration Process and Sample Frame

Each District Coordinator was given a number of blank surveys equal to the number of providers in his or her district as reported by districts in CEPI or in their Cayen system. The hardcopy surveys were not personalized with the provider or district name, but District Coordinator were to fill in this information, and a list of providers in the district was included for reference. The instructions included the contact information of PPA staff who could assist with questions.

The surveys were fielded at the beginning of May 2011, and due to be completed early in June. Reminder e-mails were sent on May 25 and telephone calls were made beginning on June 9 to a handful of District Coordinators who had not yet returned surveys, requesting a reply as to their status. A final reminder telephone call to outstanding districts was made during the third week of June.

The timeline for the DC survey was as follows:

- DC packets sent via Fed-Ex on 5-11-11
- TA outreach began on 5-17
- TA incoming began on 5-13.
- DC responses received through the end of June.

Usability and Response Rates

Surveys were sent to 25 SES districts in which districts had contracted with at least one provider and at least one provider had logged at least 2.1 hours of service, covering a total of 227 provider contracts. Of the districts receiving surveys, 21 districts responded to the invitation, returning 203 completed surveys. This represents an 89.4% response rate for contracts, with 84.0% of districts responding. In some cases, districts completed surveys for providers that did not actually provide services. These surveys were not included in the analysis. A total of 190 surveys were analyzed, which represents 93.6% of returned surveys.

Survey Reliability

Standard error rates, or margins of error, are traditionally reported for survey data. The method for calculating margins of error is based strictly on the number of completed surveys and does not consider important indicators of survey accuracy including response rates. With this caveat, the margins of error associated with each of the usable survey data streams are as follows:

- *Parent survey: ±3.2%*
- *Teacher survey: ±3.3%*
- *District Coordinator survey: ±2.9%*

In addition to the quantity of surveys and response rates, there are some factors affecting data quality that are less easily quantified, such as the quality of the sample frame.

In the case of the District Coordinator survey, a majority of surveys were completed and returned, which is a positive indication of sample quality, and with this margin of error, responses are a highly reliable representation of the perceptions of District Coordinators.

Analysis of the Impact of SES on Michigan Educational Assessment Program Scores

Analysis Overview

Unlike other elements of the SES Evaluation for the 2010-2011 school year, analysis of the impact of SES on Michigan Educational Assessment Program (MEAP) scores focused on services delivered in the *prior* school year (i.e., 2009-2010). Evaluation of the impact of SES on MEAP scores requires both a pre- and post-services MEAP score, and for students receiving SES in the 2010-2011 school year, no post-services scores were available until the fall 2011 MEAP tests had been taken and processed. Based on the necessary timeline for various products of the MEAP analysis, the 2009-2010 school year was the most recent instance of SES delivery that could be evaluated.

The analysis of the impact of SES on MEAP scores was restricted to those students who were in grades 3 through 7 as of fall 2009. Students in other grades did not take MEAP tests in math and English language arts/reading in both 2009 and 2010 and, therefore, could not be included in the analysis.

The analysis was conducted using a hierarchical linear modeling (HLM) approach relying on a matched group of students that did not participate in SES. HLM is the most appropriate form of analysis in many types of educational research as it accommodates “nested” data: that is, where students are grouped into classrooms, school buildings, and districts and these settings are expected to influence student outcomes. Additional information about HLM and the execution of the analysis for the SES evaluation is provided in the sections that follow.

Source Data

Source data for the MEAP analysis included extracts from the 2009 and 2010 statewide research files, containing:

- Scaled MEAP scores for individual students.
- Student identifying information including name, unique identification code (UIC), and school-issued student identification number (where such existed).
- Names and codes of the building and district in which the student was enrolled.
- The student’s grade level.
- Demographic information including economic disadvantage status, Limited English Proficiency (LEP) status, special education status, Former Limited English Proficiency (FLEP) status (all coded “yes” or “no”), gender, and race.

These data were provided by the MDE for students in grades 3 through 8 in 2009 (702,286 cases) and for the same grades in 2010 (697,759 cases).

The statewide research file does not include information on whether a student received SES. As part of the broader ongoing SES evaluation, PPA had compiled a data file with data on 16,043 students receiving SES in the 2009-2010 school year. The file information included the student name and UIC, grade, date of birth, and SES provider name. For most districts, data on participating SES students were reported to the State of Michigan’s Center for Educational Performance Information (CEPI) data collection, and subsequently extracted from that collection for PPA’s use in conducting the evaluation. The Detroit Public Schools had initiated use of the Cayen SES program for management of its SES data, and provided an extract to MDE directly.

The 2009 and 2010 statewide research files with MEAP scores were matched to one another on the basis of the student UIC. Subsequently, the SES student data was matched to the consolidated statewide research file to connect SES participants to their MEAP data.

Identifying the Sample

Many of the 16,043 SES recipients in 2009-2010 could not be considered in the analysis. Table 5 lists exclusion factors and the number of SES students dropped from the analysis at each stage.⁸

Table 5: Exclusion Factors for Analysis of SES Impact on MEAP Scores	
Factors	Number of SES Recipients Dropped <i>(Total Reported SES Participants = 16,043)</i>
Hours of reported SES is zero, blank, or less than one	4,176
No UIC associated with student record	20
Student not in grades 3 – 7 in 2009	8,555
Student grade cannot be identified	663
No MEAP record in 2009*	188
No MEAP record in 2010*	127
Retained, double-promoted, or other (2194) nonstandard grade change	120

⁸ The table describes the process of eliminating students that could not be considered in the analysis, but readers interested in data limitations should note that for many students excluded, more than one factor could have been responsible. For example, a student who was retained between 2009 and 2010 might also have had missing MEAP data and been the only SES recipient with a given provider in his or her grade and building. The table describes the number of students excluded at each stage rather than the full count of students to which each exclusion circumstance applied.

Table 5: Exclusion Factors for Analysis of SES Impact on MEAP Scores

Factors	Number of SES Recipients Dropped <i>(Total Reported SES Participants = 16,043)</i>
<i>Missing MEAP data in 2009 or 2010 for subject in question**</i>	
Reading	38
Math	29
<i>Only student with named provider in grade/building**** or no match available***</i>	
Reading	637
Math	560
<i>Total available for analysis</i>	
Reading	1519
Math	1605

*This condition refers to the absence of any MEAP record for the student for the given year

**This condition refers to missing math or English Language Arts (ELA) MEAP scores, although other scores may be present.

***The matching protocol matched one unique student to one unique SES recipient. In some cases, SES students in the building and grade outnumbered nonparticipants, and the available pool of students for matching was exhausted before all SES participants could be assigned a match.

****The HLM analysis of provider-specific results, controlling for school building, cannot be performed in situations where there is only one SES student in a given building and grade.

As Table 5 shows, only approximately 10% of SES recipients could be considered in the MEAP score analysis, down from 11% the prior year. Twenty-six percent of SES registrants identified by MDE were eliminated because their reported hours of participation in SES were zero or missing. This exclusion factor was not used in prior years of analysis.

Continuing a trend established in prior years, the most important exclusion reason was student grade, which eliminated 53% of the SES participants (59% were eliminated for this reason in the analysis for the 2005-2006 school year, 76% for 2006-2007, 65% for 2007-2008, and 80% for both 2008-2009 and 2009-2010). An additional 21% of SES registrants excluded due to missing data on hours of service, or a report of zero hours were in grades K-2 or 8 and above; thus 74% of reported participants were in grades not eligible for analysis of achievement impacts as demonstrated on the MEAP.

Four percent of SES students did not have an assigned grade in their records and were not matched to the 2009 or 2010 MEAP data, suggesting they too were not in grades 3-7. Another 2% had missing MEAP data (5% were eliminated for this reason for the 2006-2007 analysis, 12% in 2007-2008, and 2-3% in 2008-2009 and 2009-2010) and 3%-4% were eliminated due to requirements of the analytic approach, which focused on both provider and building factors. Modest numbers of students were retained, double-promoted, or showed other nonstandard change of grade between the first and second years of the analysis.

The final count of SES students used in the analysis is shown in Table 6, below, by grade and subject.

Table 6: Final Count of Useable SES Student Records for MEAP Analysis

Grade	Useable SES Student Records	
	<i>Math</i>	<i>Reading</i>
3 rd grade	257	263
4 th grade	246	242
5 th grade	277	274
6 th grade	323	322
7 th grade	502	418
Totals	1605	1519

Matched Control Group

The analysis relied on a matched control group drawn from the residual population in the merged 2009-2010 statewide research file. The raw data, including SES students, consisted of 702,286 student records for 2009 and 697,759 student records in 2010. Several exclusions were implemented to the combined database to eliminate students inappropriate for matching, many of which were acknowledged in the section immediately prior describing the rationales for the exclusion of SES students from the analysis. Exclusions for the pool of potential matches included:

- SES students
- Students retained or promoted more than once between 2009 and 2010
- Duplicate records (based on UIC)
- Records with missing UICs
- Students not attending a school building with at least one SES student in their grade
- Students with missing data for the MEAP scores in question
- Records with a notation in the “unethical” field

These exclusions reduced the number of records available for matching to 15,205 for the analysis of math scores and to 15,457 for the analysis of ELA scores.

The matching protocol was originally developed in 2007, in consultation with the MDE, and considered students’ grades, buildings, baseline scaled math/reading MEAP scores, economic disadvantage status, LEP status, and special education status. This year, additional qualifications were inserted related to student race/ethnicity and gender. The protocol was implemented separately for math and ELA, resulting in different groups of matching students for each subject-matter area.

In order to develop the matched comparison group, Each SES participant was, by definition, matched to a student in the same grade attending the same building. Within this pool, the matching protocol prioritized all students with a 2009 scaled MEAP score within two points,

plus or minus, of the SES student's score (math and ELA considered separately).⁹ If no match was available with a scaled score within two points, plus or minus, of the SES student's score, that student with the closest score was selected. Where two or more potential matches offered the same quality of match on the baseline MEAP, the process proceeded as follows:

- If more than one student was available, the protocol selected the student with the same economic disadvantage status.
- If more than one student remained available, the protocol selected the student with the same special education status.
- If more than one student remained available, the protocol selected the student with the same LEP status.
- If more than one student remained available, the protocol selected the student with the same race/ethnicity.
- If more than one student remained available, the protocol selected the student with the same gender.
- If more than one student remained available, the first available match was selected without further discrimination between available cases.

These priorities reflect the findings of analysis conducted in 2007 focused on the strength of bivariate correlations between the variables and the outcomes of interest—the 2006 scaled math and ELA MEAP scores. That analysis found an extremely strong correlation between the baseline and post-services scaled scores and modest relationships for the remaining variables.

No non-SES student was matched to more than one SES student and matches were implemented in the order of the SES students' 2009 scaled scores, with those scoring lowest matched first and those scoring highest matched last. The protocol was implemented using a macro written for SPSS.

Table 7, below, compares the characteristics of the SES population, by grade and MEAP subject matter, to the characteristics of the matched sample. Table entries in *bold italics* highlight the differences between the groups of four percentage points or greater, or, in the case of baseline MEAP scores, two points or more.

For the first time, the matching protocol yielded discrepant results among SES participants and matched controls on the economic disadvantage variable. 98% or more of SES students in each grade, for both analyses, were economically disadvantaged, as compared to 91%-96% of the matched students. For the second year in a row, MEAP scores also varied between the SES and comparison groups, with differences of two points or more apparent for students grades 3 through 6 in both analyses. The SES group included a higher proportion of special-education

⁹ For the 2007 evaluation, the matching protocol selected the student(s) with the closest baseline MEAP score, then matched on the basis of other characteristics: if a potential match had an identical MEAP score but differed from the SES participant on other qualities, the protocol preferred that match to one in which a one-point MEAP difference existed but other qualities considered were identical.

The change was implemented in 2008 in an effort to increase the likelihood that matching students would be comparable on demographic characteristics including economic disadvantage, special education status, and English proficiency, as well as comparable on the baseline MEAP score.

students for analyses at the 4th grade (reading), 5th grade (math), and 7th grade (both) levels. All such discrepancies persistently resulted in SES groups with lower baseline achievement and higher proportions of the cohort being special education students.

Table 7: Comparison of Participants and Matched Control Group on Variables Used to Construct the Match

Subject/Grade	Percentage of Group Members With Given Characteristic								2009 Mean MEAP Scores	
	<i>Economic Disadvantage</i>		<i>Special Education</i>		<i>Limited English Proficiency</i>		<i>Male</i>			
	<i>Match</i>	<i>SES</i>	<i>Match</i>	<i>SES</i>	<i>Match</i>	<i>SES</i>	<i>Match</i>	<i>SES</i>	<i>Match</i>	<i>SES</i>
Math										
3 rd grade	95	99	11	11	19	21	44.0	47.1	319.33	316.19
4 th grade	93	98	13	15	11	10	54.1	46.3	417.00	411.10
5 th grade	91	99	10	14	9	9	51.3	48.0	506.04	502.36
6 th grade	94	99	15	18	14	14	48.9	52.9	599.43	597.26
7 th grade	96	99	17	21	9	9	51.0	51.6	699.25	698.88
Reading										
3 rd grade	96	99	13	11	19	20	45.2	50.2	320.00	313.36
4 th grade	93	98	12	18	10	10	50.0	47.1	414.79	408.87
5 th grade	91	99	14	12	10	9	52.6	48.5	510.80	507.62
6 th grade	93	99	15	18	13	14	51.2	53.4	610.63	608.58
7 th grade	93	99	15	22	11	11	51.2	52.2	698.98	698.08

Exploratory Analysis

A limited exploratory analysis was conducted to confirm that the independent variables had a linear relationship with the dependent variables, to confirm that the dependent variables were normally distributed, and to identify outliers in the data. Scatterplots and histograms were reviewed for evidence of nonnormal distributions, curvilinear relationships, and outliers. All histograms revealed reasonably normal distributions in the independent variables and scatterplots revealed presumptively linear relationships between independent and dependent variables. No outliers of a magnitude suggesting exclusion from the analysis were observed.

Hierarchical Linear Modeling

The analysis of the impact of SES on student academic achievement was conducted using HLM 6.04, a software program developed exclusively for hierarchical linear modeling. Michigan's SES program represents a cross-nested structure, where students are grouped in school buildings and with SES providers. Yet, all students in a school building do not necessarily use the same provider, and SES providers can and do work with numerous school buildings and districts.

Accordingly, the analysis relied on the program’s HCM2 model for cross-classified linear models.

The level-one model was specified in two versions, as follows:

1. $MATHSS_10 = B_{0jk} + B_{1jk}(MATHSS) + B_{2jk}(SES) + B_{3jk}(SE) + e_{ijk}$
2. $MATHSS_10 = B_{0jk} + B_{1jk}(MATHSS) + B_{2jk}(SESHOURS) + B_{3jk}(SE) + e_{ijk}$

■ Where:

- j = the student’s home school building
- k = the student’s SES provider
- B_0 = the intercept term
- $B_{1,2,3}$ = the estimated impact (coefficient) associated with each independent variable
- e = a residual or error term
- $MATHSS_10$ = the scaled score for math in 2010 (the dependent variable)
- $MATHSS$ = the scaled score for math in 2009¹⁰
- SES = a dummy variable set to 1 for SES participants and 0 for non-SES matching students in the version 1 equation
- $SESHOURS$ = the hours of SES service for SES participants, used in the version 2 equation
- SE = a dummy variable set to 1 for special education students and 0 for other students¹¹

The level 2 model was specified as follows:

$$B_{0jk} = \theta_0 + SCHOOLCODE_{00}$$

$$B_{1jk} = \theta_1 + SCHOOLCODE_{10}$$

$$B_{2jk} = \theta_2 + PROVIDER_{20}$$

$$B_{3jk} = \theta_3$$

■ Where:

- θ_0 = the model intercept
- $SCHOOLCODE_{00}$ = the unique increment to the intercept associated with the student’s building
- θ_1 = the model estimate for the impact of 2009 scaled scores on 2010 scaled scores
- $SCHOOLCODE_{10}$ = the unique increment to the estimate of the impact of 2009 scaled scores on 2010 scaled scores associated with a specific school building
- θ_2 = the model estimate for the impact of SES participation

¹⁰ This term was grand-mean centered in the analysis.

¹¹As in the analysis for 2009-2010, special education was included in each equation, and, in all but the 4th grade equations, had a statistically significant, negative relationship to 2010 MEAP scores. (The fourth grade equation showed negative impact with $p < 0.10$, a looser but not uncommon standard for statistical significance in the social sciences.)

- $PROVIDER_{20}$ = the unique increment to the estimate of the impact of SES participation associated with a specific provider
- θ_3 = the model estimate for the impact of special education status

More generally stated, at level 2, the intercept term was specified with random school effects, the 2009 MEAP score (prior achievement) was specified with random school effects, SES participation was specified with random provider effects, and special education status was modeled independently, without mediation by schools or providers.¹² Although other demographic variables were presumed controlled as a function of the matched control group, special education and the baseline MEAP score were incorporated into the model.

The analysis was conducted using standard default settings in HLM.

Provider Coefficients

One of the recognized benefits of using an HLM approach was that it would specify unique coefficients associated with each provider, i.e., the impact of individual providers on post-services academic achievement. These estimates are generated by HLM, but must be tested for statistical significance through additional calculations in SPSS or another appropriate software package.

HLM generates an empirical Bayes (EB) parameter estimate and an associated posterior variance (pv) for each column-level variable (here, each specific provider) in the course of executing the model analysis. Confidence intervals around the EB estimate may be generated by multiplying the desired Z score by the square root of the posterior variance and both adding and subtracting the resultant figure from the EB estimate. The equation for a 95% confidence interval is thus:

$$EB \pm (1.96 * \sqrt{pv})$$

Where both the minimum and maximum associated with the confidence interval exceeded zero (positive impact) or both the minimum and maximum were less than zero (negative impact), the provider was deemed to have a significant impact on the MEAP scores of SES students in attendance.

Results of these analyses to date have found very limited identifiable impact of individual providers' delivery of SES on subsequent MEAP scores.¹³ In consultation with the MDE, an

¹² The 2007 analysis included an interaction term between the baseline MEAP score and SES participation—a slope effect for SES participation. An examination of the proportional reduction in error associated with each of the terms in the model demonstrated that there were virtually no explanatory gains associated with the interaction term. Accordingly, the term was dropped from all analyses, and was not reintroduced for subsequent analyses.

¹³ The original protocol, developed in consultation with the MDE, was to identify providers with significant impacts at the 95% level of confidence and classify them based on the magnitude of the estimated impact: providers with impacts in excess of 7.50 points (one-half of a standard deviation on the MEAP) would be rated as “A” providers, providers with impacts between 3.75 and 7.50 points (one-quarter to one-half of a standard deviation) would be rated as “B” providers, providers with no measurable positive or negative impacts would be rated as “C”

analysis protocol was developed in which statistically significant provider effects were identified using a range of confidence intervals: the categories considered included “possible impact” (50% confidence interval), “plausible impact” (67% confidence interval), “probable impact” (80% confidence interval) and “highly probable impact” (95% confidence interval). The equations used to generate the upper and lower bounds for each provider-specific parameter were as follows:

- 80% confidence interval: $EB \pm (1.28 * \sqrt{pv})$
- 67% confidence interval: $EB \pm (0.975 * \sqrt{pv})$
- 50% confidence interval: $EB \pm (0.675 * \sqrt{pv})$

Analysis of provider-specific coefficients associated with SES participation identified 9 providers and 14 instances where specific providers were associated with statistically significant impacts on their students’ MEAP scores. The incidences of definable impact returned to the prevailing pattern after a modest increase for the 2009-2010 year. Six statistically significant provider-level impacts were based on fewer than 10 students and were not published on provider report cards.

Such impacts were seen with respect to 5th and 7th grade math, and 5th and 6th grade reading; all other subject matter/grade combinations had no measurable impacts on MEAP performance for any measured provider. Twelve of the fourteen instances of provider-specific, grade-specific impacts were associated with 5th grade students.

Of the 9 providers with any measurable SES impacts:

- 1 was associated with positive impacts in two subject-matter/grade combinations,
- 2 were associated with positive impacts in one subject-matter/grade combination,
- 1 was associated with positive impacts in two subject-matter/grade combinations and a negative impact in one subject-matter/grade combination
- 1 was associated with both one positive and one negative impact,
- 3 were associated with a negative impact in one subject-matter/grade combination, and
- 1 was associated with a negative impact in two subject-matter/grade combinations.

Eight associations were identified using 50% confidence intervals, 2 with 67% intervals, 4 with 80% intervals, and 0 with a 95% interval.

providers, and so on into the negative ranges of coefficient estimates. Initial results showed fewer than ten instances where providers had any measurable impact for a given grade and subject level. After a review of the data, MDE hoped to find a means that better discriminated among providers, and ultimately recommended a new approach relying on looser confidence standards and different verbiage to describe the nature of the impact. This approach was retained in subsequent annual analyses.

Overall Model Results

The tables below show the results of the analyses for all grades and subjects. The first table (Table 8) shows results when SES participation is specified by the hours of service or participation. The second table (Table 9) shows the results when SES is specified dichotomously, as a condition that is present or absent.

The impact of baseline (pre-services) MEAP scores on post-program scaled scores was persistent and highly significant. Coefficients range from 0.28 to 0.72, indicating that for every point scored above the mean at baseline, students earned 0.28 to 0.72 points above the mean in the post-program period. The magnitude of coefficients for this variable was persistently higher for reading than for math.

The impact of SES was negligible and not significant in any equation. This was true regardless of whether SES was specified as a linear variable (measuring hours of service) or as a dichotomous variable (i.e., present or absent). The only estimates approaching conventional levels of statistical significance were for 4th and 7th grade reading under the hourly specification of SES, for which both estimated impacts were negative.

Special education status was associated with a sizeable and statistically significant drop in the post-services scaled reading score, on the order of 5.2 to 8.7 points, or 0.35 to 0.58 of a standard deviation. Special education status also was associated with reduced scaled math scores, with magnitudes of between 3.0 and 4.8 points.

Table 8: Results of HLM Analyses, All Grades and Subjects, Hourly Specification

Grade in 2009/Subject	Intercept		2009 Scaled Score		SES Recipient		Special Education Status	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Math								
3 rd Grade	410.54	.000	0.48	.000	0.02	.565	-4.84	.010
4 th Grade	502.01	.000	0.52	.000	0.01	.731	-3.87	.080
5 th Grade	603.62	.000	0.28	.000	0.03	.426	-4.46	.016
6 th Grade	702.63	.000	0.46	.000	-0.02	.403	-3.03	.026
7 th Grade	797.13	.000	0.38	.000	0.02	.404	-3.47	.001
Reading								
3 rd Grade	409.70	.000	0.61	.000	-0.02	.504	-8.69	.002
4 th Grade	511.94	.000	0.57	.000	-0.08	.102	-5.16	.080
5 th Grade	603.40	.000	0.54	.000	0.03	.463	-5.95	.012
6 th Grade	699.53	.000	0.72	.000	-0.04	.415	-5.82	.008
7 th Grade	803.00	.000	0.54	.000	-0.05	.112	-5.61	.001

**Table 9: Results of HLM Analyses, All Grades and Subjects,
Dichotomous Specification**

Grade in 2009/Subject	Intercept		2009 Scaled Score		SES Recipient		Special Education Status	
	<i>Coeffi- cient</i>	<i>P-value</i>	<i>Coeffi- cient</i>	<i>P-value</i>	<i>Coeffi- cient</i>	<i>P-value</i>	<i>Coeffi- cient</i>	<i>P-value</i>
<i>Math</i>								
3 rd Grade	410.84	.000	0.48	.000	-0.07	.949	-4.86	.010
4 th Grade	501.66	.000	0.52	.000	1.14	.474	-3.72	.093
5 th Grade	603.77	.000	0.28	.000	0.68	.597	-4.58	.014
6 th Grade	702.57	.000	0.46	.000	-0.55	.570	-3.04	.025
7 th Grade	797.15	.000	0.38	.000	0.48	.532	-3.45	.001
<i>Reading</i>								
3 rd Grade	409.64	.000	0.61	.000	-0.96	.586	-8.64	.002
4 th Grade	511.32	.000	0.57	.000	-1.71	.394	-5.22	.077
5 th Grade	603.12	.000	0.54	.000	1.56	.358	-5.92	.012
6 th Grade	699.53	.000	0.72	.000	-1.21	.458	-5.71	.009
7 th Grade	803.05	.000	0.53	.000	-1.45	.194	-5.74	.000

Provider Report Cards

For each of the Supplemental Education Services (SES) providers approved for 2011-2012 a profile was generated, formatted as a provider report card, which was to be distributed publicly and used by the MDE in-house.

The report card included general information obtained from the providers' applications to serve in 2011-2012, such as the tutor contact information, a description of the program, and places of service. If the provider served students in 2009-2010, and surveys were returned, results from the parent, teacher, and District Coordinator surveys were reported. An overall rating, in the form of a letter grade, was calculated for each provider based on responses to several parent and teacher survey questions. In addition, results of the analysis of the provider's impact on the MEAP math and reading scores in 2010 for students in each of grades 3 through 7 were included.

The number of respondents and the overall results were reported for each parent, teacher, and District Coordinator survey question. For these questions, the results were presented in their original units (i.e., percent "agreeing" or "strongly agreeing," average letter grade for program quality offered by parents) and required no manipulation. However, the overall rating was constructed from several parent and teacher questions, and the teacher letter grade for effects on classroom performance was constructed from seven teacher survey items. The methods used to calculate these two items were as follows:

- *Letter Grade from Teachers for Effects on Classroom Performance.* The letter grade was derived from responses to seven scaled survey questions:
 - During the time tutoring was provided, did this student's attitude toward class improve, stay the same, or worsen?
 - During the time tutoring was provided, did this student's homework improve, stay the same, or worsen (e.g., quality, timeliness, or frequency)?
 - During the time tutoring was provided, did this student's classroom achievement improve, stay the same, or worsen?
 - During the time tutoring was provided, did this student's class attendance improve, stay the same, or worsen?
 - During the time tutoring was provided, did this student's math grades improve, stay the same, or worsen?
 - During the time tutoring was provided, did this student's ELA grades improve, stay the same, or worsen?

Response choices for each of the above questions were "improved," "somewhat improved," "stayed the same," "somewhat worsened," and "worsened." For the analysis, responses of "improved" or "somewhat improved" were coded as 1, and all other responses coded as zero. The mean across all seven items was calculated for each respondent (the mean for cases with partial missing data was developed on the basis of the available responses), and these respondent-specific means were then averaged at the provider level. Providers in the top 20% of the distribution were assigned an "A" or 4.0, the next 20% were assigned a "B" or 3.0, and so on.

- **Overall Provider Letter Grades.** The overall provider letter grade was a weighted function of the following items:
 - Parent survey:
 - ◆ “Overall, are you satisfied with this tutor?”
 - Parents could respond “yes,” “no,” or “not sure.” The item grade was based on the percentage of “yes” responses; 90%–100% was graded as “A” or 4.0, 80%–89% was graded as “B” or 3.0, 70%–79% was graded as “C” or 2.0, 60%–69% was graded as “D” or 1.0, and below 60% was graded as “E” or 0.0.
 - ◆ “What overall grade would you give your child’s tutor?”
 - Parents were asked to provide a grade for the tutor’s performance overall, with response options of “A,” “B,” “C,” “D,” or “E – Failing.” Responses were converted to a four-point scale and averaged for each provider.
 - ◆ The teacher letter grade for effects on classroom performance was derived as described in this section, above.
 - Teacher survey:
 - ◆ “This tutor is positively impacting this student’s learning.”
 - Response options included “strongly agree,” “agree,” “disagree,” and “strongly disagree.” The percentage of respondents choosing “agree” or “strongly agree” was calculated and providers in the top 20% of the distribution were assigned an “A” or 4.0, providers in the next 20% were assigned a “B” or 3.0, and so on.
 - MEAP analysis:
 - ◆ *Subject/grade-specific grades:* Increases or decreases that were statistically significant at the 50% or 67% confidence levels were associated with a 0.50 point increase or decrease (as appropriate) on the 4-point scale (e.g., a C became a C+). Increases or decreases that were statistically significant at the 80% or 95% levels were associated with a 1.0 point, full-grade increase (e.g., a C became a B).
 - ◆ *Overall grade:* All providers were initially assigned a letter grade of “C” (2.0) for MEAP performance overall (including those without any data on MEAP impacts¹⁴). Any single statistically significant finding of positive impact on the MEAP score for any subject at any grade level resulted in a one-grade increase (from “C” to “B” or 3.0). Additional findings of positive impact resulted in an additional one-grade increase (from “B” to “A”). Statistically significant finding of negative impact were similarly managed with grade reductions imposed for each instance of a negative finding. The one exception to this rule was that, where findings of statistically significant impact were based on a 50% confidence interval—an exceedingly weak standard—provider grades were increased or reduced by a half-grade (0.5 on a four-point scale).

For the survey-based items, no minimum number of surveys was established; one completed survey was sufficient to establish a grade.

¹⁴ The purpose of assigning providers without any data a “C” or 2.0 was to ensure that providers without MEAP data were not advantaged by this fact. MEAP ratings for those providers with useable MEAP data were typically a “C,” and in the absence of a comparable statistic for providers without data, would have exerted negative pressure on their overall grades relative to providers without useable MEAP data.

The data elements were combined as follows:

- All five items were weighted at 20%.
- No grade was calculated for providers lacking either parent or teacher survey data, or for providers with fewer than 5 total surveys between parent and teacher responses.
- Resulting average ratings on a four-point scale were converted back to letter grades using the following protocol:
 - 3.6 – 4.00 = A
 - 3.33 – 3.59 = B+
 - 3.00 – 3.32 = B
 - 2.67 – 2.99 = B-
 - 2.34 – 2.66 = C+
 - 2.00 – 2.33 = C
 - 1.67 – 1.99 = C-
 - 1.34 – 1.66 = D+
 - 1.00 – 1.33 = D
 - 0.67 – 0.99 = D-
 - Below 0.67 = Failing

Recommendations for Change

The Michigan Department of Education and the PPA team have long recognized the importance of ongoing assessment of the evaluation process and methods, and the application of those lessons to future iterations of the SES provider evaluation. Over the course of the evaluation, the team was able to recommend and implement a series of changes. These included: improving the functionality of the Web-based teacher survey; improving the clarity of district instructions; implementing multiple-contact protocols for parent surveys; accessing household contact information via MDE data sources; and coaching districts to improve their access to teacher contact information.

A summary of additional lessons and recommendations that are based on experiences to date are outlined in this final section. These reflect the importance of data quality, multiple facets of “effectiveness,” and reducing burden on districts and evaluation participants.

Improve the ability to identify in real-time the pool of students who are enrolled in SES.

- Identification of the students enrolled in SES in real-time is a critical capability that has implications for both services and the evaluation of services. As noted in previous years, this is a keystone that relates to data quality and low burden to survey participants. Because the CEPI data system is a static system that is periodically updated, the case data can include students who have dropped out, who never received any service at all, or who are assigned to providers who have dropped out. Consequently, a precise picture of services is not possible. In fact, about 35% of the initial sample this year, for example, never received services. Alternative actions to deal with better identification of SES students include the following.
 1. The optimal solution is to establish a real-time database to capture case-level SES data; however, it is unlikely that this path can be pursued at this time.
 2. A second option would be for the MDE to facilitate district access to a software such as the Cayen system. The larger districts have already undertaken this effort, and the use of such resources may not be defensible where a database is less urgent due to a smaller caseload.
 3. Given the current context, the most important effort that MDE should put fourth is to make concerted efforts to gain district compliance in inputting and updating data in the CEPI system to improve timeliness of data. This would require inputting not just the students enrolled, but the actual service hours to date as well.

Identify and implement ways to improve parent participation in the survey.

- The parent response rate has been unfavorably low over the course of the evaluation. However, the rate increased to 9.9% (raw responses, or 8.8% of usable responses) in 2011, due to updated protocols in administration of the surveys, which included changes to the defining the sample frame, access to household address, improved data on household language, and increased communication with parents.
- Access to household address information was a significant improvement instituted this year for the first time. This permitted surveys to be sent directly from PPA rather than engaging

the districts to do so, thereby un-burdening districts, and resolving the uncertainty of delivery.

- While this MSDS resource should continue to be made available to the evaluation team, it should be noted that its utility is constrained severely by the lag in the data capture at the beginning of the school year and its use at the end of the school year. For this particular information, district data is considered more up to date and therefore accurate.
- An improvement this year was sending out all parent survey communications in a language appropriate to the household. This year, materials were in Arabic, Spanish, and English. Available information permits that Arabic speaking households made up at least 0.8% of the sample frame and Spanish speaking households comprised at minimum 7.2% of the sample frame.
 - This approach yielded a stronger response compared to prior years. The response rate for Spanish-speaking households was 10.2%, and was 15.4% for Arabic-speaking households..
 - ◆ This protocol was made possible for this first time due to access to MSDS household language fields. The utility of this was constrained by the significant amount of missing language data—73.8%. Procedurally, the missing data was treated as English, but the degree to which this skews the response rate findings by language is unclear.
 - ◆ Nonetheless, the team recommends continued access and use of household language information, in order to reach appropriate language surveys to non-English speaking households of SES students.
 - ◆ Obtaining case-level household data from districts other than DPS does not appear feasible at this point. Aside from MSDS, only the DPS district has been able to share these language data easily, and, historically this field has had a large amount of missing data.
- Another improvement this year was increasing the amount of communication to the target audience. Efforts included an advance letter, a survey mailing a reminder postcard to nonresponsive parents.
 - In the early years of the evaluation, these protocols had been set aside in favor of reining in the costs of hardcopy surveys; nonetheless, the response rates signaled that adherence to standard practices in survey administration needed to be instituted.
- The team recommends continuing the use of said protocols, to improve parent response rates and data quality. It will be critical for MDE to continue the trend and even improve the response rate in future years, to ensure data quality.
 - Clearly a sample frame of SES participants that is clean and up-to-date would improve the accuracy of the denominator and hence the response rate.
 - Aside from this, the protocols used in 2011 are recommended for use in future evaluations to net an acceptable parent response rate.
- It should be noted that an essential feature of data quality is it not strictly the total volume or overall response rate, but the *parent response rate per provider*. Because the provider is the unit of analyses for the key deliverable—report cards—it is critical that future sampling selection and responses need to be assessed in terms of the volume of information netted per provider.

Identify and implement measures to improve teacher participation in the survey.

- The teacher response rate had been low over the course of the evaluation, however, the rate increased to 23.5% in 2011. This was due partly to updated protocols in the administration of the surveys, which included changes to defining a sample frame, and limiting the requests to teachers. This improvement can also be attributed to a cleaner sample frame of SES participants, where all student cases had documented a minimum of 2.1 hours of service to be included in the sample frame, and a random selection of cases based on proportionality of the services. This protocol resulted in positive changes:
 - It decreased the number of survey requests for a given teacher, which presumably would make the request more palatable to teachers.
 - Increased the accuracy of the response-rate calculation because the denominator would be a more accurate reflection of true student participation in SES.
- Recommendations for the future include strong efforts to continually improve the processes for identifying and inviting teacher participation, the quality of communication to teachers, and the quality of communication to District Coordinators. Specific paths to this end have been documented in past reports. Another core task for the future will be to maintain the high-quality, technical assistance that has been offered to teachers.

Continue to use multiple data streams to assess provider effectiveness.

- While enhanced student performance is the ultimate goal of any learning intervention, the difficulty in both measuring changes, and attributing causality of changes, highlight the limitation of using standardized tests as a sole criterion of provider effectiveness.
 - It should be noted that there are many stakeholders in a program such as SES, each of whom is invested in student improvement. Nonetheless, stakeholders tend to have additional interests in programmatic intervention with students. For example, teachers have an interest in two-way communication with the provider, around student goals and progress. Districts have an interest in contracting with vendors with a solid business model who can offer accurate and timely feedback on their services. Parents have an interest in working with a provider who engages in clear communication about the learning goals, progress, and even logistics of accessing the tutoring.
 - For such reasons, it is recommended that the framework for assessing provider effectiveness continue to rest on the elements that have been employed to date: administrative compliance, customer satisfaction, and student performance.

Consider alternatives to standardized tests upon which student progress is gauged.

- This simple recommendation belies the enormous difficulties that are inherent in identifying, planning, and implementing alternative measurement of individual student progress that is more immediately and directly tied to the goals of the student. Because this could not be implemented quickly nor easily, the team suggests that MDE undertake a structured analysis to identify the prerequisite resources, practices, knowledge, and logistical elements that would need to be in place before an alternative could be implemented. As stated in previous reports, tests that use pre- and post-service measurement of specific skills targeted in the Individual Learning Plan would be one appropriate measure to estimate provider effectiveness.