



Coordinator

Name Cathy Dutcher

Planning

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Program Description

Purpose or Mandate

The purpose of the Purchase of Service (POS) program is to provide intensive therapy, services, and academic instruction in a safe environment that is more therapeutic than is available in a public school setting.

Summary Description of Program

I.E.P. teams determine the level of service a student requires to receive a free and appropriate public education. Special School District has contracts with six agencies approved by the Department of Elementary and Secondary Education (DESE) to provide services in cases where the I.E.P. team determines a student requires an intensive therapeutic program due to emotional needs, or a specialized program not offered in partner districts or in Special School District schools.

Which specific CSIP goals and PCF processes does this Program support?

- CSIP 1.1 Ensure achievement for all students
- PCF 5.2 Plan and manage student and stakeholder relationships and engagement strategies
- PCF 13.8 Design and implement alternative education and interventions

Who are the Customers/Stakeholders?

- Students
- Parents
- Staff
- Administrators
- Board of Education
- Taxpayers
- Other: Purchase of Service agencies

What are the Customer/Stakeholder requirements?

Students are entitled to receive a Free and Appropriate Public Education (FAPE) that meets their needs. Stakeholders expect that some students, in order to be successful, may require an alternative educational environment that provides therapeutic services and instruction in social-emotional-behavioral skills. Stakeholders also expect that POS staff will collaborate closely with agencies to promote conditions and practices that lead to positive student outcomes. The Board requires that the POS program reports progress on key objectives twice annually (POS I is the initial of the two annual reports).

What is this program expected to accomplish?

The program is expected to provide therapeutic interventions and instruction in social-emotional-behavioral skills so that students can develop competencies and ultimately experience success in a less restrictive environment.

Briefly describe how this Program works

The program begins when an IEP team has determined that the school is unable to meet the needs of the student in a less restrictive environment utilizing all services, supports and accommodations available to the team. If the student fails to show progress when provided the highest level of services, supports, and accommodations available in the school, then an IEP decision on change of placement is made. SSD staff in partner districts may refer students to separate public separate schools or separate private schools. Public separate schools may refer students to private separate schools if all intervention options have been exhausted. Families may also request an IEP meeting to consider a more restrictive level of service.

Upon referral to a separate private school or POS agency, the student completes an intake and orientation process involving assessment of functioning, interviews, and goal setting. Therapeutic services and coping skill-building involves achieving “buy-in” from students and families. Academic instruction is provided to students. SSD POS staff and agencies collaborate to monitor student progress. If sufficient progress is made in changing behavior and overcoming barriers that led to placement in the POS agencies, then SSD staff coordinate with agency staff and the family to develop a plan for the student to return to a less restrictive environment.

What resources (type and quantity) are required to execute this plan?

At each step of the referral process, therapeutic support, family support and additional supervision, in the case of aggressive students, can help the student remain in a less restrictive environment. Upon referral to the POS agencies, funding is required to purchase services. Family engagement is often a prerequisite for student behavioral improvements. Additionally, an SSD administrator and SSD teacher monitor and collaborative with agency administrators and teaching staff to support student success in the agency. This may result in the SSD administrator collaborating with the agency to provide training, and/or coordinating consultation between the agency and SSD effective practice specialists. SSD staff dedicated to the POS program include one full-time administrator, one full-time teacher, and a .5 secretary.

Action Plan Summary

Previous Cycle Goals and Measurable Objectives

2013-14 Overall Goals

Goal 1: Students will progress academically

Goal 2: Describe the Characteristics of the POS Agencies

2013-14 Measurable Objectives

- 1.1 STAR¹ scores for Reading will improve from beginning of the year.
- 1.2 STAR scores for Math will improve from beginning of the year.
- 1.3 90% of students will have attendance of 90% or higher at each agency.
- 1.4 MAP Performance Index (MPI) will improve from year to year.
- 2.1 Descriptive. Percent of students attending POS agencies who are also in residence at the agency and whose residential costs are paid by Adoption Subsidy, Division of Family Services, or Department of Mental Health.
- 2.2 Descriptive. Percent of students at each agency who are referred from SSD.
- 2.3 Descriptive. Percent of students attending POS agencies by disability.
- 2.4 Percent majority and minority of SSD students in POS agencies.
- 2.5 Percent male and female of SSD students in POS agencies.
- 2.6 Percent of students eligible for Free or Reduced lunch of SSD students in POS agencies.

¹ The **STAR** Renaissance Assessments are administered to SSD school students three times per year. STAR scores include scaled scores and grade equivalency scores in Reading and Mathematics. See <https://www.renaissance.com/products/star-assessments>

Current Cycle Goals and Measurable Objectives

2014-15 Overall Goals

Goal 1: Students will progress academically

Goal 2: Describe the characteristics of students attending POS agencies

2014-15 Measurable Objectives

1.1 STAR scores for Reading will improve from beginning of the year.

1.2 STAR scores for Math will improve from beginning of year.

1.3 90% of students will have attendance of 90% or higher at each agency.

1.4 MAP Performance Index (MPI) will improve from year to year.

2.1 Report the distribution of SSD students attending POS agencies by disability category.

2.2 Report the racial distribution of SSD students attending POS agencies.

2.3 Report the gender distribution of SSD students attending POS agencies.

Current Cycle (2014-2015) Action Plans

Short-term (within the next school year)

Work with agencies to find ways to improve attendance.

Medium-term (1-2 years)

Continue to work with agencies to improve instruction.

Examine possible scenarios for adding resources to the separate public schools so that some students may be retained in a less restrictive environment (LRE).

Long-term (3 years and more)

None

Evaluation Plan Summary

Program Evaluation Authority

The Purchase of Service program evaluation is required by the Board of Education of SSD. At present, two separate reports on the status and progress of POS are provided to the Board annually.

Qualitative Measures - Evaluation questions to be used

- What are the major accomplishments or benefits of this program?
- How well did this program fulfill its purpose or mandate?
- What do customers and other stakeholders consider to be the strengths and opportunities for improvement /weaknesses of the program?
- How well-aligned are the program's processes with the goals of the program?
- What is the level of deployment of this program's services?
- How should resources be changed to improve this program?
- How should goals be changed, added, or removed?
- Additional (if any)

Quantitative Measures - Evaluation questions to be used

- What is the status of the program's progress toward achieving its goals?
- What are the actual costs of this program, and how do they compare to planned costs?
- What is the estimated actual benefit-cost or cost-effectiveness of this program?

Quantitative Measures – Criteria for Evaluation

Measure to be used	2014-2015 Target
1.1 STAR scores for reading will improve from beginning of the year.	75% of students will improve (72.7% improved in 2013-14)
1.2 STAR scores for math will improve from beginning of year.	60% of students will improve (51.5% improved in 2013-14)
1.3 90% of students will have attendance of 90% or higher at each agency.	90% (64% achieved 90% attendance as reported in 2014-15 POS I evaluation)
1.4 MAP Performance Index (MPI) will improve from year to year for students attending POS agencies.	267 for both reading and math (an MPI of 267 equates to an equal number of students performing at achievement levels Proficient, Basic, and Below Basic; MPIs in 2013-14 were 190.3 for reading and 164.3 for math)
2.1 Report the distribution of students attending POS agencies by disability category.	n/a
2.2 Report the racial distribution of SSD students attending POS agencies.	n/a
2.3 Report the gender distribution of SSD students attending POS agencies.	n/a



Coordinator Name

Cathy Dutcher

Planning Team

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Evaluation Summary

Purpose or Mandate

The purpose of the Purchase of Service (POS) program is to provide intensive therapy, services, and academic instruction in a safe environment that is more therapeutic than is available in a public school setting. POS supports CSIP 1.1 (Ensure achievement for all students), PCF 5.2 (Plan and manage student and stakeholder relationships and engagement strategies), and PCF 13.8 (Design and implement alternative education and interventions).

Program Description

IEP teams determine the level of service a student requires to receive a free and appropriate public education. Special School District currently has contracts with six agencies approved by the Department of Elementary and Secondary Education (DESE) to provide services in cases where the IEP team determines a student requires an intensive therapeutic program due to emotional needs, or a specialized program not offered in partner districts or in Special School District schools. One agency utilized in 2014-15 and prior years (Epworth School) discontinued providing services at the end of last school year.

What were the major accomplishments or benefits of this program?

Students attending POS agencies receive intensive therapeutic supports. When appropriate, students participated in benchmark testing via the STAR assessment multiple times over the 2014-2015 school year. Students have been afforded increased academic instruction time as a result of reduced periods of suspension. Agencies have been offered the opportunity to participate in training provided through SSD on topics such as transition and standards-based IEPs. SSD and agencies have continued to develop strong partnerships.

How well did this program fulfill its purpose or mandate?

Inadequate Approaching Satisfactory Satisfactory Excellent

What factors made essential contributions (+/-) to this rating?

Agencies are making a concerted effort to monitor attendance, which represents an obstacle for many students due to mental health challenges. Attendance is an ongoing agenda topic during POS/Agency meetings, and we continue to problem solve around solutions for increasing attendance. Broader participation in STAR testing among students provides an indicator of academic growth along with data to inform instructional programming and planning decisions.

What is the general level of customer or stakeholder satisfaction with this program?

Not at all Satisfied Somewhat Satisfied Very Satisfied Completely Satisfied

What factors made essential contributions (+/-) to this rating?

Parents report favorable relationships with agencies, and frequently during meetings cite that their children are making progress as evidenced by fewer removals from school and disciplinary phone calls home. Agency directors report appreciating the opportunity to participate in trainings offered by SSD. Agency directors also report open and timely communication with SSD.

Evaluation Results

What is the status of the program's progress toward achieving its goals?

Goal 1: Students will progress academically.

Measurable Objective 1.1:	STAR scores for Reading will improve from the beginning of the year.
<p>Results: STAR Reading data is depicted in Table 1. Generally the STAR is completed by students receiving services under higher incidence disability categories; students with significant impairments typically do not complete the assessment. Ideally students would complete three STAR "benchmark" assessments throughout the year, one each in fall, winter, and spring. However, and due to a variety of factors including attendance and placement changes, students often completed less than three benchmark assessments (approximately half of students attending POS agencies completed at least one STAR assessment in 2014-15, and fewer completed more than one). In addition, there was considerable variance in the specific benchmark tests completed that allow for comparisons and an evaluation of growth over time (i.e., some students may have completed only the fall and winter tests, others only the winter and spring tests, others only the fall and spring tests, and still others only one of the three tests). For this reason, STAR improvements over time are provided for three different time segments: Fall to spring, fall to winter, and winter to spring (students with only one score across the year were excluded from these calculations). Note that the groups are not mutually exclusive (i.e., the scores of a student who completed all three tests would be included in the calculations for all three periods), and each of the three was somewhat different in student makeup.</p> <p>The STAR assessment provides a number of different score types, including Scaled Scores¹ and Normal Curve Equivalent (NCE)² scores. Scaled Scores provide a consistent indicator of the extent of growth over time for a particular student or group of students. It can be useful to interpret Scaled Score level and growth in the context of typical growth for students across the year at a particular grade level. Alternately, the NCE is a normative score, ranging from 1 to 99 (with a median of 50) and derived in reference to the score of other students in a grade level. Thus, an NCE gain from one benchmark period to another of greater than zero indicates that a student increased their relative standing (in comparison to the standardization sample); a decrease in NCE indicates that a student's relative standing against the standardization sample declined. The NCE has somewhat limited value in analyzing growth for students performing so significantly below grade level that their scores fall at the first NCE (i.e., a student's Scale Score improvement over time may not also be reflected in an increased NCE unless the level of growth was substantial). Note that this well-below grade level of normative performance (NCE=1) was true of a number of students attending POS agencies that completed the STAR.</p> <p>The average Scaled Score change across the year in reading for students who had both <i>fall and spring</i> scores was 128.3. This generally exceeds the typical fall-spring gains reported in the STAR normative data (though normative growth rates differ by grade level, tending to be highest in the early elementary grades, and lesser at upper grade levels; STAR norms are available upon request). In general, students made greater gains over the first half of the year (mean Scale Score increase of 122.9) than they did in the second half of the year (mean Scale Score increase of 24.5). 75% of students with year start and end scores showed Scaled Score improvements from fall to spring.</p>	

Average NCE score improvements from fall to spring of 2.56, and from fall to winter of 5.63, indicate that, collectively, students in POS increased STAR reading scores at a greater rate than was typical among students in the standardization sample. Note that the NCE scores of 54.2% of students increased from fall to spring.

Measurable Objective 1.2:	STAR scores for Math will improve from beginning of year.
<p>Results: A summary of STAR Math trends for students who were served through POS can also be found in Table 1. In the aggregate, scores indicate that students made gains across the year in math (the mean Scale Score gain from fall to spring was 46.9, the mean NCE gain 0.84). Cross year increases in math were somewhat less than those in reading. Math score increases were greatest over the second half of the year (mean NCE score change of 3.11). 50% of students with fall and spring scores demonstrated an increase in NCE.</p>	

Table 1
STAR Reading and Math Results

	Reading			Math		
	Fall-Spring	Fall-Winter	Winter-Spring	Fall-Spring	Fall-Winter	Winter-Spring
Number of Students Assessed	24	28	30	28	29	31
Avg. Scale Score Change	128.3	122.9	24.5	46.9	-4.4	58.1
% Students with Improved Scale Score	75%	64.3%	63.3%	67.9%	44.8%	74.2%
Avg. NCE Score Change	2.56	5.63	-2.22	0.84	-1.35	3.11
% Students with Improved NCE*	54.2%	57.1%	33.3%	50.0%	31.0%	45.2%

Measurable Objective 1.3:	80% of students will have attendance of 90% or higher at each agency.
<p>Results: 111 students attended private separate schools through the POS program at any point over the course of the 2014-15 school year. As of 11/19/15, 83 students were being served through the POS program.</p> <p>50.5% of students (56/111) attended at a rate of 90% or higher during their time at POS sites over the 2014-15 school year (extended school year is excluded from this calculation). However, 83% of students attended at a rate of 80% or higher. Figure 1 depicts the attendance percentage for each POS student, ordered from lowest to highest. Table 2 provides the attendance percentage for each individual POS site. Note that 7 students attended more than one POS agency over the course of the year.</p> <p>The overall POS percentage using DESE's <i>proportional percentage formula</i> (whereby the attendance of students is "weighted" based on the proportion of time they are enrolled at an individual school) was 46.5% in 2014-15 (note that this is calculated by school, so students who attended more than one school have segments of their attendance factored into the calculation). The proportional attendance rate reported in the prior year's POS I program evaluation was 64.8%.</p>	

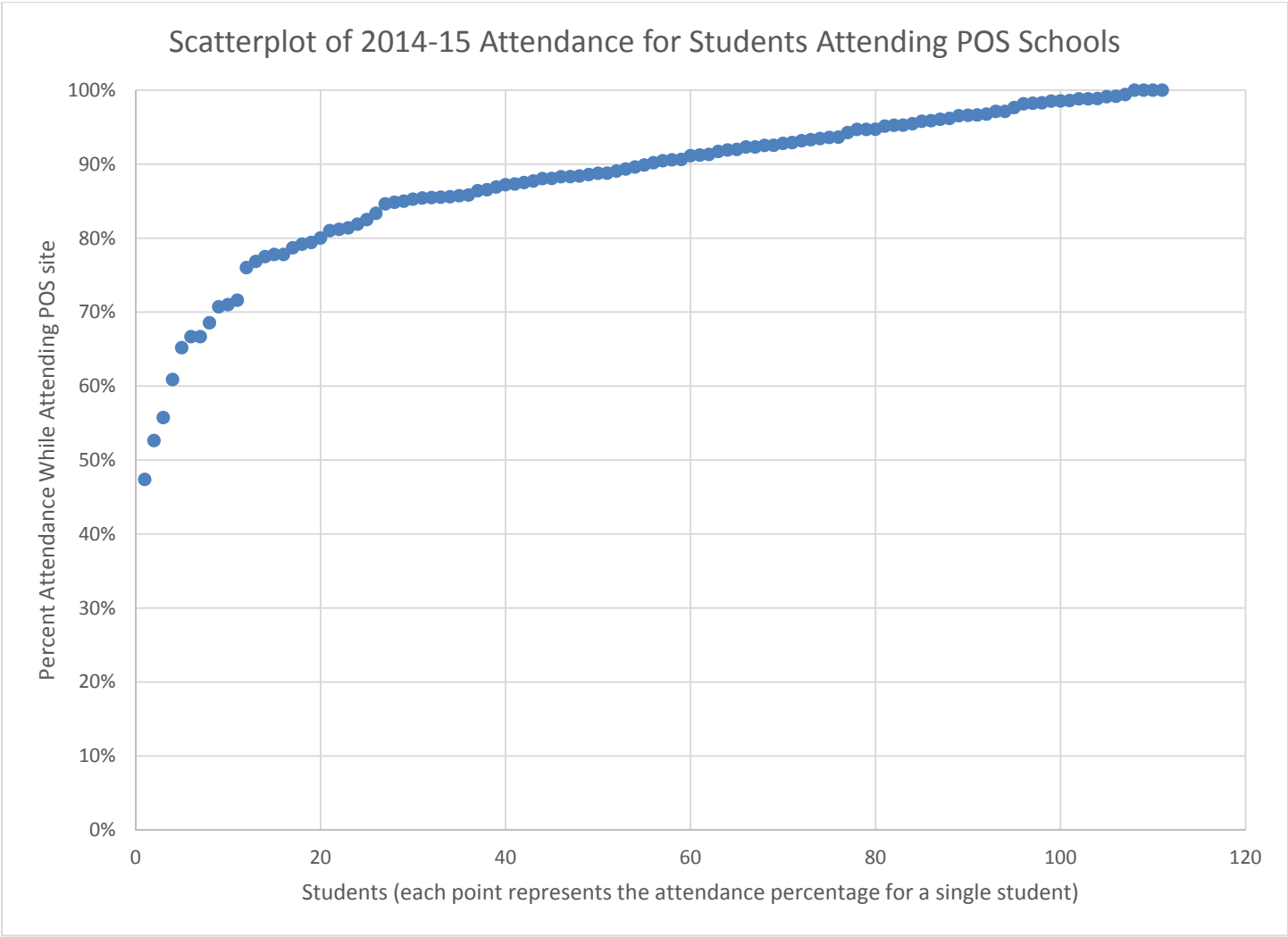


Figure 1. Attendance percentage of students attending POS sites in 2014-15, ordered from lowest to highest attendance rate. Note that several students attended multiple POS sites. The data reflects attendance only during the students' time attending a POS site.

Table 2
Attendance percentages for each POS site in 2014-15, ordered from highest to lowest (note that students who attended more than one POS site over the course of the year are counted in the attendance numbers for each of those schools based on their time there).

Row Labels	Students	90% or higher	Under 90%
Marygrove	9	88.9%	11.1%
Logos	24	58.3%	41.7%
Great Circle	43	53.5%	46.5%
Center for Autism	2	50.0%	50.0%
Giant Steps	6	50.0%	50.0%
Every Childs Hope	18	38.9%	61.1%
Epworth	17	29.4%	70.6%

Measurable Objective 1.4:	MAP Performance Index (MPI) ³ will improve from year to year.
<p>Results: Table 3 displays 2014-15 ELA and Math results for each state assessment type (MAP, MAP-A, and EOC).</p> <p>In 2015, students in grades 3-8 completed entirely new accountability assessments in the areas of English Language Arts (ELA) and Mathematics that were developed through the Smarter Balanced Assessment Consortium. In addition, a new Alternative MAP assessment (in the form of Dynamic Learning Maps) was introduced in 2015 for the content areas of English Language Arts and Mathematics. Furthermore, achievement level cut-scores in ELA and Math were entirely reconfigured. Therefore, although test results from 2015 appear alongside those from prior years in the figures provided, readers should interpret cross-year trends with caution given the significant changes to the assessment system.</p> <p>The ELA MPI for students who completed a valid state assessment ($n=45$) was 168.9. The combined ELA MPI for POS students in 2014 (using a different test) was 190.3.</p> <p>The Mathematics MPI for students who completed a valid state assessment ($n=39$) was 115.4. The 2014 Mathematics MPI for POS students was 164.3.</p>	

Table 3

State assessment performance of students who attended a POS site in 2014-15. Percentages of row totals are shown in parentheses.

Communication Arts

Test Type	Below Basic	Basic	Proficient	Advanced	Total
MAP	26 (81.3%)	3 (9.4%)	3 (9.4%)	0 (0%)	32
MAPA	4 (80.0%)	1 (20.0%)	0 (0%)	0 (0%)	5
EOC	3 (37.5%)	2 (25.0%)	2 (25.0%)	1 (12.5%)	8
Grand Total with Scores	33 (73.3%)	6 (13.3%)	5 (11.1%)	1 (2.2%)	45
No Test/Score					66

Mathematics

Test Type	Below Basic	Basic	Proficient	Advanced	Total
MAP	28 (90.3%)	2 (6.5%)	0 (0%)	1 (3.2%)	31
MAPA	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4
EOC	4 (100%)	0 (0%)	0 (0%)	0 (0%)	4
Grand Total with Scores	36 (92.3%)	2 (5.1%)	0 (0%)	1 (2.6%)	39
No Test/Score					72

Note. Secondary students make up the majority of those without scores, and EOC subject area tests are administered only at select grades. Thus, many of those without state test data were likely not scheduled to take an ELA or Math EOC in 2014-15.

Goal 2: Describe the characteristics of students attending POS agencies.

Measurable Objective 2.1:	Report the distribution of SSD students attending POS agencies by disability category.
Results: See Table 4. Emotional Disability (55%) was by far the most widely represented primary eligibility category among students attending POS agencies in 2014-15. Those receiving services under the categories of Autism (21.6%) and Other Health Impairment (14.4%) were also common among students attending POS.	

Table 4

Primary special education eligibility category of students attending POS agencies in 2014-15.

	Special Education Eligibility Category							Total
	Hearing Impairment	Learning Disability	Multiple Disabilities	Intellectual Disability	Other Health Impairment	Autism	Emotional Disability	
Count of Students	1	2	2	5	16	24	61	111
Percent of Students	0.9%	1.8%	1.8%	4.5%	14.4%	21.6%	55.0%	100.0%

Measurable Objective 2.2:	Report the racial distribution of SSD students attending POS agencies.
Results: See Table 5. White students made up 55.9% of those attending POS sites in 2014-15, while 41.4% of students were black. The racial composition of students attending POS sites was very similar to that of SSD schools as a whole (54.0% white and 40.7% black) in 2014-15.	

Table 5

Racial distribution of students attending POS agencies in 2014-15.

	Racial Category					Total
	Asian	Hispanic	Multi-Racial	Black	White	
Count of Students	1	1	1	46	62	111
Percent of Students	0.9%	0.9%	0.9%	41.4%	55.9%	100.0%

Measurable Objective 2.3:	Report the gender distribution of SSD students attending POS agencies.
Results: As shown in Table 6, the majority of students attending POS agencies in 2014-15 were male (73%).	

Table 6

Gender distribution of students attending POS agencies in 2014-15.

	Gender		Total
	Female	Male	
Count of Students	30	81	111
Percent of Students	27.0%	73.0	100.0%

What do customers and other stakeholders consider to be the strengths and opportunities for improvement /weaknesses of the program?

<p>Strengths</p> <ul style="list-style-type: none">• <i>Many students made gains in reading and math over the school year as evidenced by the STAR assessment results.</i>• <i>Many students approached 90% attendance.</i>• <i>Parents and agency representatives report satisfaction with the program.</i>
<p>Opportunities/Weaknesses</p> <ul style="list-style-type: none">• <i>The extent to which students are assessed consistently across the year using the STAR assessment can be increased.</i>• <i>Many students performed at the Below Basic level on the state MAP assessment.</i>• <i>POS staff will continue to collaborate with agencies to identify/develop methods to increase student attendance.</i>• <i>Though not a focus of the current evaluation, POS staff can continue to promote improvement in agency knowledge and capacity around implementation of transition planning and activities for students 16 years and older.</i>

How well aligned are the program's processes with the goals of the program?

<p>The program's processes are well aligned with its goals. Measures have been taken in recent years to improve collaboration and alignment.</p>
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Deployment Level of Program Services

- Little or no deployment of program services.
- The program services are in the early stages of deployment in most areas or schools.
- Services are deployed, although some areas or schools are in early stages of deployment.
- Services are well deployed, although deployment may vary in some areas or schools.
- Services are well deployed, with no significant gaps.
- Services are fully deployed without significant weaknesses or gaps in any areas or schools.

Should resources be changed to improve this program? Yes No

If Yes, describe changes.

Should goals be changed, added or removed? Yes No

If Yes, describe changes.

Evaluation Implications

What are the actual costs of this program, and how do they compare to budget?

Total Annual Expenditures:	\$ <u>2,225,348.66</u>	Total Annual Budget:	\$ <u>unspecified</u>
Staff	\$ <u>188,076.15</u>	Staff	\$ <u>188,076.15</u>
Technology	\$ _____	Technology	\$ _____
Agency Reimbursement	\$ <u>2,037,272.51</u>		\$ _____

Table 7

Reimbursement across Individual Agencies

Center for Autism Education	125,337.65
Great Circle(Edgewood)	760,115.78
Epworth	171,277.94
Evangelical Children's Home	224,521.58
Giant Steps	187,760.39
Logos School	428,834.17
Marygrove	139,425.00
Total	2,037,272.51

What are the major sources and amounts of funds?

General revenue (property taxes)

How many customers (students) are served by this program? 78.2 FTE⁴ in 2014-15

What is this program's annual cost per customer (FTE student)? \$ 26,052.08

Estimated Cost Effectiveness

- Mandated program; costs cannot be significantly reduced.
- Mandated program; costs could be reduced (include in Action Plan, below).
- Benefits greatly outweigh costs.
- Benefits outweigh cost, but improvement appears possible (include in Action Plan, below).
- Costs outweigh benefits (include in Action Plan, below).

Explanation

POS agencies allow for the full continuum of placement options for SSD students. Enrollment of SSD students in POS agencies has leveled following steady reductions between the years 2007 and 2012. Though costly to SSD, data suggest that students generally benefit from the placements, and informally, customer satisfaction with the program is high. See current and future initiatives aimed at enhancing the POS program in the Action Plans section below.

General Recommendation Resulting from this Evaluation

- Continue the program as is. It is meeting or exceeding all expected outcomes.
- Continue the program as is with specific action plans for improvement.
- Expand the program, replicating effective components.
- Streamline, refine, or consolidate elements of the program.
- Redesign the program.
- Reevaluate the purpose and/or goals of the program.
- Discontinue ineffective or nonessential program components.

Discontinue the program.

Action Plans

Review of Action Plan progress since last report.

Action Plan 1

Opportunity for Improvement: Increase Student Academics
Action Plan: Continue to work with Agencies to improve instruction
Progress on Action Plan: Have provided access to SSD trainings. Have shared STAR results with individual agencies to guide programming. Agency directors share strategies for academic improvement during agency meetings.

Action Plan 2

Opportunity for Improvement: Improve attendance
Action Plan: Work with agencies to find ways to improve attendance
Progress on Action Plan: Agency directors have shared strategies to improve attendance during agency meetings. Agency directors review attendance on a regular basis. The POS coordinator reviews attendance monthly.

Action Plan 3

Opportunity for Improvement: Retain students in a less restrictive environment
Action Plan: Examine possible scenarios for adding resources to the separate public schools so that some students may be retained in a less restrictive environment.
Progress on Action Plan: The Assistant Superintendent of Learning and Assessment and Executive Director of Schools have met with building principals to discuss what supports are needed to retain students in a less restrictive environments and what, if any barriers exist.

What specific actions are needed in the next evaluation cycle?

Short-term (within the next school year)

Attendance monitoring and improvement. Continue to monitor individual student attendance and develop supports for student attendance. Continue to make attendance a priority in conversations with agencies.

Medium-term (1-2 years)

Explore sources of funding or collaboration to provide additional therapeutic staff in the public separate schools.

Explore additional avenues for collaboration and partnering with agencies to achieve goals such as maintaining students in the least restrictive environment and expanding short-term, intensive treatment options for students.

Long-term (3 years and more)

None

Notes

1. The STAR Scaled Score (SS) is useful for comparing student performance over time and across grades. A scaled score is calculated based on the difficulty of questions and the number of correct responses. Because the same range is used for all students, scaled scores can be used to compare student performance across grade levels. STAR Reading scaled scores range from 0 to 1400. All norm-referenced scores are derived from the scaled score.

2. The STAR Normal Curve Equivalent (NCE) is a norm-referenced score that is similar to a percentile rank, but unlike percentile ranks, it is based on an equal interval scale. This means the difference between any two successive scores on the NCE scale has the same meaning throughout the scale. NCEs are useful in making comparisons between different achievement tests and for statistical computations - for example, determining an average score for a group of students. NCE scores range from 1 to 99 (with a median of 50) and are mostly used for research. *Note that this is also the method DESE has begun using to track student growth on from year to year on the MAP exam.

3. The MSIP/MAP Index calculation is based on individual student achievement level. Students are assigned an achievement score based on their achievement level for each content area test taken, as follows: Below Basic=1, Basic=3, Proficient=4, Advanced=5. Using those scores, the formula for calculating the MSIP Index for a student group, building, or district is:

$$(\text{Sum of Student Achievement Scores}/\text{Number of Students}) * 100$$

The minimum MSIP/MAP Index Score is 100, and the maximum score is 500. Note that the current MSIP5 formula essentially "penalizes" Below Basic scores. Per the MSIP 5 user guide (revised September 2015), "Assigning one (1) point to the Below Basic achievement level and three (3) points for the Basic achievement level supports Missouri's expectation of placing every child on a path towards Proficiency. The additional point spread is designed to recognize, through year-to-year improvement in the MPI, the movement of students from this least desirable achievement level." To illustrate the impact of this formula, the Index score for a group of 60 students whose scores are equally divided among the categories of Below Basic, Basic, and Proficient, would be 2.67 (not 3.0, which may seem like an intuitive "median" score for this distribution).

4. The number of full time equivalent (FTE) students serving as the denominator in the cost per student calculation represents the sum of the proportional attendance of all 111 SSD students who attended POS agencies in 2014-15.