**Massachusetts Department of Elementary and Secondary Education**

**21st Century Community Learning Centers**

**ELT (Expanded Learning Time) Settings**

 **APAS Tools Implementation Study Summary**

*Prepared for:*

The Massachusetts Department

of Elementary and Secondary Education

*Prepared by:*

National Institute on Out-of-School Time

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September 2013

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*Prepared for:*The Massachusetts Department
of Elementary and Secondary Education

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# Overview

During the spring of 2013, the Massachusetts Department of Elementary and Secondary Education’s (Department’s) 21st Century Community Learning Center Programs (21st CCLC) contracted with researchers from the National Institute on Out-of-School Time (NIOST) to conduct a pilot study of the implementation of the *Survey of Academic Youth Outcomes (SAYO) Evaluation System* in Expanded Learning Time Settings (ELT).

The purpose of the pilot study was to assess the applicability and fit of the *SAYO Evaluation System* tools in ELT settings. ELT in this context refers to schools offering substantially longer school days than is required by the state. The intention of the study was to help inform upcoming evaluation work with the 21st CCLC grantees that were competitively awarded grants for use during an extended school day (as opposed to the historical out-of-school time use only), based on recent flexibility granted from the United States Department of Education. This report summarizes the findings from the study.

During the initial design phases of the SAYO tools more than a decade ago, Dr. Beth M. Miller and Wendy B. Surr of NIOST worked with the Department over a three-year period to develop the *SAYO Evaluation System* in order to assess changes in students linked to their program participation the 21st CCLC funded programs. Results from two rounds of field-testing with over 5,000 students indicated that *the SAYO is a valid and reliable instrument for measuring change in youth*. The system exceeded scientifically accepted levels for both boys and girls.

The SAYO tools are research-based scientifically-tested instruments. They are designed to capture changes in youth that are associated with participation in a high-quality academic enrichment programs and likely to occur over a one-year period.

The *SAYO Evaluation System* includes teacher and program staff surveys (SAYO-T and SAYO-S) and the Assessment of Program Practice Tool (APT). The SAYO uses brief pre-participation and post-participation surveys to collect data from classroom teachers and 21st CCLC program staff.

The APT is a research-based field-tested observation tool The APT includes those program practices which research suggests are related to the outcomes measured by the SAYO. The goal of the APT is to assess the extent to which 21st CCLC programs are implementing practices congruent with their desired SAYO outcomes. The APT is intended to be a tool that assists with continuous program improvement and with identifying areas for professional development.

An invitation to participate in the pilot was sent to Massachusetts 21st CCLC grantees that had at least one ELT school in their district. Four ELT school sites volunteered to participate in the study: Huntington Elementary School in Brockton, Kuss Middle School in Fall River, Longsjo Middle School in Fitchburg, and Salemwood Middle School in Malden. The Department and NIOST would like to extend our appreciation to these districts and schools for agreeing to participate and assisting us with learning about the tools' use in school-day settings. For more information on this study or the 21st CCLC Program, please contact Karyl Resnick, 21st CCLC Coordinator.

#  Methods and Tools

Schools participating in the pilot engaged in three study components: (a) Teachers from each school completed pre- and post-assessments using the teacher version of the Survey of Academic Youth Outcomes (SAYO-T) for a sample of approximately 100 students,
(b) Each school site hosted a NIOST researcher for observation of two to three classrooms using the Assessment of Program Practice Tool (APT), and (3) Teachers participating in the SAYO-T data collection attended a 30 minute focus group at the school facilitated by a NIOST researcher.

Along with the SAYO-T data, student demographic information for the participating sample of students was also collected from each school. Baseline SAYO-T and demographic data was collected between March 5-March 22, 2013 and post-SAYO-T data was collected between
May 22-June 6, 2013. A total of 392 pre-surveys and a total of 394 post-surveys were collected. Students with both a pre- and a post-survey totaled 384 with available demographic information for 382 of these students. Data analyses are based on the pre/post sample of 384 students.

## Tools

The NIOST research staff utilized the APT for observation and to frame and understand approaches, strategies, and practices in delivering learning experiences in formal and informal learning settings. For this pilot study researchers used the Activity section of the APT which includes assessment items on (a) Organization of Activity, (b) Nature of Activity, (c) Staff Promote Youth Engagement and Stimulate Thinking, (d) Staff Positively Guide Youth Behavior, (e) Staff Build Relationships and Support Individual Youth, (f) Youth Relations with Adults,
(g) Youth Participation in Activity Time, and (h) Peer Relations. Additional domains not included in this pilot study are: Arrival, Transition Time, Informal Social Time, and Overall Program Ratings. APT offers a four point scale: 1=Not True, 2=Somewhat True, 3=Mostly True, 4=Very True. Findings represent average scores across all observations conducted in a site.

The SAYO-T includes youth outcome domains for: (a) Academic Performance (Reading and Math), (b) Communication, (c) Initiative, (d) Behavior, (e) Homework, (f) Problem Solving,
(g) Engagement, (h) Relations with Adults, and (i) Relations with Peers. The SAYO-Ts were completed for each participating student by the corresponding teacher/activity leader. The SAYO-T assessments were completed electronically and took approximately seven minutes to complete for each student. Approximately 100 SAYOs were completed for each school.
SAYO-T results are reported as an average percent change from pre- to post-assessment on a
1-5 scale (never, rarely, sometimes, usually, always); 5 being the highest possible score. The academic (ELA and Math) assessments are scored 1-4 with 4 being the highest.

The emphasis for SAYO-T data collection was on the performance of the tool in an ELT setting and not on the actual change in outcomes between pre- and post-assessment given the abbreviated time between the two assessments. However, as school sites expressed interest also in outcome findings, those data are presented here also.

Teachers from three of the school sites participated in a focus group to gather feedback about teacher experience in the pilot. Topics covered in the focus group protocol included: (a) teaching experience in an ELT school versus a traditional day school setting, (b) measurement of
SAYO-T skills, (c) the process of completing the pre/post SAYO-T assessments, and (d) the alignment of the APT tool to teaching practice. The focus groups were digitally recorded and transcribed. Transcripts were thematically analyzed and are presented as part of the findings.

## Sample

Students in the sample are 46 percent male and 54 percent female. Participation in the sample by school (percent of sample) is: Malden=28 percent, Fitchburg=26 percent, Fall River=24 percent and Brockton=22 percent. The majority of the students were in the 6th grade (30 percent), 4th grade (28 percent), or 3rd grade (22 percent), but some SAYO-T data was collected for students in the 5th grade (7 percent), 7th grade (7 percent), and 8th grade (6 percent). School records identify the students as White/Caucasian (41percent) or Black/African American (30 percent), Hispanic/Latino (17 percent), Asian (9 percent), and Biracial/Other (4 percent). Nearly all of the students were documented as Low-Income (83 percent). Ten percent of the sample is identified as Special Education, and 16 percent as English Language Learners.

# Findings

## SAYO-T

### Score Distribution

Most of SAYO-T domain averages for pre- and post-assessment had scores covering each point on the 1 to 5 rating scale. This variability is a positive finding for the fit of the SAYO-T in an ELT setting and is consistent with the use previously demonstrated in Massachusetts 21st CCLC settings. However, the distribution of scale means for most scales were slightly skewed in the positive direction. Some scale averages at both pre- and post-assessment were more skewed more than others, such as Relations with Adults, Relations with Peers, and Behavior. Two SAYO-T scales, Homework and Problem-Solving Skills (pre), showed normal distributions (see Table 1).

### Strength of the Scales: Reliability and Validity

Performance of the scales at both time points was tested for internal consistency, which is typically indicated by an alpha coefficient greater than 0.70. All SAYO-T scales far exceeded the minimum value, ranging from a low of 0.81 to a high of 0.98. Subgroup comparison results conducted for gender, grade category, and race were similar and far exceeded the minimum benchmark ranging from a low of 0.80 to a high of 0.99 (see Table 2).

### Pre-Post Change

Averages were calculated for each outcome area for pre- and post-scores. High levels of significance for positive changes between pre- and post-scores were found across almost all outcome areas, showing that participating youth, on average, were improving from pre- to post-assessment across all SAYO-T outcome areas. Some outcomes showed high levels of significance between pre- and post-scores suggesting that participating youth had sufficient room for growth or improvement in their scores. This indicates that the tool is not suffering from “ceiling effects” and is a valid instrument for measuring change over time. One exception, Relations with Peers, did not reach significance, but did show slight improvement from pre- to post-assessment (see Table 3).

**Table 1. Descriptives of SAYO-Teacher Intermediary Outcome Area Scales (Pre-Post Sample)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **SAYO-Teacher Scale** | **N** | **Mean** | **St. Dev** | **Min**  | **Max** |
| Homework Pre | 384 | 3.18 | 1.12 | 1.00 | 5.00 |
| Homework Post | 384 | 3.39 | 1.13 | 1.00 | 5.00 |
| Behavior Pre | 384 | 3.94 | 0.98 | 1.00 | 5.00 |
| Behavior Post | 384 | 4.04 | 0.98 | 1.00 | 5.00 |
| Initiative Pre | 384 | 3.45 | 1.02 | 1.00 | 5.00 |
| Initiative Post | 384 | 3.79 | 1.06 | 1.00 | 5.00 |
| Engagement Pre | 384 | 3.64 | 0.95 | 1.00 | 5.00 |
| Engagement Post | 384 | 3.85 | 0.99 | 1.00 | 5.00 |
| Problem Solving Skills Pre | 384 | 3.37 | 1.01 | 1.00 | 5.00 |
| Problem Solving Skills Post | 384 | 3.69 | 1.06 | 1.00 | 5.00 |
| Communication Skills Pre | 384 | 3.53 | 0.89 | 1.00 | 5.00 |
| Communication Skills Post | 384 | 3.76 | 0.98 | 1.00 | 5.00 |
| Relations with Adults Pre | 384 | 4.06 | 0.69 | 2.00 | 5.00 |
| Relations with Adults Post | 384 | 4.12 | 0.77 | 1.00 | 5.00 |
| Relations with Peers Pre | 384 | 4.12 | 0.82 | 1.50 | 5.00 |
| Relations with Peers Post | 384 | 4.13 | 0.82 | 1.67 | 5.00 |

**Table 2. Alpha Coefficients for Full Sample and Subgroups (Pre-Post Sample)**

| **SAYO-Teacher Scale Alpha** | **All** N=384 | **Male** N=176 | **Female** N=208 | **Grades 3-5** N=220 | **Grades 6-8** N=164 | **White** N=154 | **Black** N=113 | **Hispanic/ Latino** N=63 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Homework Pre | 0.97 | 0.96 | 0.98 | 0.97 | 0.97 | 0.97 | 0.97 | 0.98 |
| Homework Post | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.97 | 0.98 |
| Behavior Pre | 0.91 | 0.92 | 0.89 | 0.92 | 0.90 | 0.91 | 0.91 | 0.92 |
| Behavior Post | 0.95 | 0.96 | 0.93 | 0.96 | 0.93 | 0.93 | 0.94 | 0.95 |
| Initiative Pre | 0.97 | 0.97 | 0.97 | 0.97 | 0.96 | 0.97 | 0.96 | 0.98 |
| Initiative Post | 0.98 | 0.98 | 0.97 | 0.98 | 0.97 | 0.98 | 0.97 | 0.98 |
| Engagement Pre | 0.94 | 0.94 | 0.94 | 0.96 | 0.91 | 0.94 | 0.96 | 0.92 |
| Engagement Post | 0.96 | 0.96 | 0.96 | 0.97 | 0.95 | 0.97 | 0.96 | 0.96 |
| Prob Solving Skills Pre | 0.97 | 0.97 | 0.98 | 0.98 | 0.97 | 0.97 | 0.98 | 0.97 |
| Prob Solving Skills Post | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.99 | 0.98 | 0.98 |
| Communication Skills Pre | 0.93 | 0.93 | 0.94 | 0.95 | 0.89 | 0.92 | 0.95 | 0.89 |
| Communication Skills Post | 0.96 | 0.97 | 0.96 | 0.97 | 0.95 | 0.97 | 0.96 | 0.95 |
| Relations with Adults Pre | 0.81 | 0.82 | 0.80 | 0.81 | 0.83 | 0.81 | 0.80 | 0.86 |
| Relations with Adults Post | 0.88 | 0.90 | 0.86 | 0.89 | 0.87 | 0.88 | 0.87 | 0.89 |
| Relations with Peers Pre | 0.94 | 0.92 | 0.95 | 0.96 | 0.92 | 0.93 | 0.94 | 0.97 |
| Relations with Peers Post | 0.96 | 0.96 | 0.96 | 0.98 | 0.93 | 0.95 | 0.97 | 0.97 |

**Table 3. Paired Difference Means for Pre-Post Sample**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SAYO-Teacher Scale** | **Sample Size** | **Pre-Test** **Mean** | **Post-Test** **Mean** | **Paired Differences Mean** |
| Homework | 384 | 3.18 | 3.39 | 0.21 | *\*\*\** |
| Behavior | 384 | 3.94 | 4.04 | 0.10 | *\*\** |
| Initiative | 384 | 3.45 | 3.79 | 0.34 | *\*\*\** |
| Engagement | 384 | 3.64 | 3.85 | 0.20 | *\*\*\** |
| Problem Solving Skills | 384 | 3.37 | 3.69 | 0.31 | *\*\*\** |
| Communication Skills | 384 | 3.53 | 3.76 | 0.23 | *\*\*\** |
| Relations with Adults | 384 | 4.06 | 4.12 | 0.06 | *\** |
| Relations with Peers | 384 | 4.12 | 4.13 | 0.01 | *ns* |

*ns*= not significant, *\**p<0.05, *\*\**p<0.01, *\*\*\**p<0.001.

## Focus Group

### SAYO-T Skills

Teachers were asked whether skills such as those measured in the SAYO-T (communication skills, relationships with adults and peers, initiative, problem-solving, etc.) were regularly captured in the traditional school metrics. Additionally, the researchers asked if they thought the SAYO-T was a valuable tool for measuring these types of skills. Although teachers found the initial survey completion process time consuming, many teachers reported that participation in the survey offered a new and refreshing way to consider student growth. Teachers were more reflective on the whole child versus looking at the student as just a performer in a singular subject. Teachers were in agreement that the skills on the SAYO-T align with the general expectations for skill development during ELT and traditional classroom time.

*It made me think of the kids differently because I’m used to just grading them, looking at their academic skills, and their grades…but then I was thinking of…how they interact with each other and how they interact with me. It was different to put that mindset on and think of the kids differently than what they’re academically producing.*

*I think what would be great is if everybody did them [SAYO-T]. Like for incoming students, we could see where they are at the end of the year, and see where they are when they start at the beginning of the year. We would be able to see what is lost between the summers and also see their growth as the years go by.*

### SAYO-T Survey Completion

Researchers reviewed the survey completion process with teachers. For the study, each participating teacher completed approximately 25 surveys. The researchers were interested in feedback on the completion process and the level of difficulty or ease with it. Some teachers used paper copies of the surveys, although most teachers completed them online and found it a user-friendly experience. Throughout the interviews, teachers expressed excitement about the process and thought it would be useful to complete a pre/post survey for each student in the school and to consider a multi-rater approach.

*I think the pre-surveys took me a lot longer to do than the post-surveys. With the pre-surveys I did it in sections, but when I got used to the questions being asked…it was easier to do the post, and it didn’t take me that long.*

*It would be great if the teachers sat down together and talked about [students] and did them [SAYO-T] together because some of the kids I don’t have strong relationships with, whereas other teachers they do. So it would be interesting to see if we all have similar [views] or if we would see them differently in each class.*

*It was kind of nice, to be honest. It would be nice to sit down at the beginning of the year and do this for all the kids. A lot of the time, just the negative takes over, and it would be nice to see that you noticed…their growth, and I think that survey [SAYO-T] would be a great way for you to see how the kids have grown or not and it would be helpful to see what this child needs in place that could help him grow.*

*It was more like 4 hours because it forced me to look at the student, to think about the student and what I had already observed and I wish I could have done that at the end of October when I saw two months [of work/students performance]. I would have been able to say, “Yes, this student needs afterschool tutoring.” For me it was a wakeup call to say this is what I observe about this student.*

### Alignment of APT Tools to School Target Outcomes

During the focus groups, researchers showed teachers the Activity Time section of the APT which researchers had used to observe classes in their schools. The researchers asked for their impressions of the tool and how it aligned with the teaching practices they value. The researchers were also interested in understanding the overall improvement process currently used in their schools, and if there were specific tools utilized.

Teachers explained that each school has professional development days and uses a particular approach to the school improvement process. At one school, teachers collaboratively use a rubric to answer specific questions about lesson delivery, while at another school teachers participated in peer observations. There was broad agreement from teachers that the practices reflected in the APT activity section were aligned to preferred classroom teaching practices, and looking at learning delivery through the lens of the APT was a valuable approach. Teachers agreed that the practices profiled in APT reflect “as much about teaching as youth development.”

*Basically, we meet every other week and we’ve been working on answering open response questions. We come up with a whole lesson together and then we observe each other in the classroom teaching the lesson. There is a tool but it really looks at how the person is staying towards the lesson and looks to see if we need to make modifications to it.*

*I think we do all of this (APT practices) constantly because we are always trying to ask open-ended questions and do activities that engage them and encourage.*

*All of these (APT practices) are all absolutely what a classroom should really be.*

## Summary

The pilot study of the implementation of SAYO-T and APT in ELT settings showed strong promise as to the applicability and fit of the tools. The SAYO-T showed sufficient reliability and validity in field-testing across the four ELT school settings. The instrument’s performance was consistent with findings from its utilization in 21st CCLC out-of-school time sites. Given that the field-testing took place in a short window of the school year (January – June), evidence of change from pre- to post-assessment is very encouraging. Furthermore, teachers in the ELT sites had a positive experience completing the SAYO-T assessments. Teachers consistently reported that the content of the SAYO-T prompted them to consider student strengths and challenges in a new way and across a set of skills related to school success. Teachers agreed that the APT contained appropriate constructs with which to assess the learning experience both in an ELT and also in a traditional classroom setting.

**Next Steps**

During school year 2013-2014, the Department will continue to pilot the SAYO Evaluation Tools in all funded 21st CCLC-ELT schools to determine if future revisions or adaptations will need to be made.