House of Tiny Treasures

***Three-Year Retrospective Evaluation***

2015-2018



***HOUSE OF TINY TREASURES***

***THREE YEAR RETROSPECTIVE EVALUATION 2015-2018***

***INTRODUCTION***

Since 1989, SEARCH has become a leading agency for providing critical services to adults and children dealing with homelessness. Early on, SEARCH recognized that clients, some of whom are also parents looking for work or enrolling in school could be well-served if they were provided access to childcare that would support these efforts while also fostering healthy development and education for their children. With that goal, SEARCH founded the House of Tiny Treasures (HTT) in 1992. HTT has evolved into a nationally-accredited early child development program that offers educational, therapeutic and social skills interventions. The program has been serving children and families facing homelessness or profound poverty.

HTT services include:

* Preschool education
* Psychosocial skills training
* Nutritious meals
* Art therapy
* Play therapy
* Speech therapy

Children participate in the *Teaching Strategies* *Creative Curriculum* (CC) program, a system of early child education that is an evidence-based, outcome-monitored curriculum. Each child is assessed within 90 days of their enrollment and are referred for intensive therapy modalities—art, play or speech, as needed. The assessment includes 6 domains with specific age normed tasks that are scored by teachers based on their observations of students, as follows:

* Social-Emotional
* Physical
* Language
* Cognition
* Literacy
* Mathematics

The program is based on the *Reggio Emilia* model – a system of early child education established in Italy by educator, Loris Malaguzzi. The guiding concept of this model is that child development and learning occur in the context of the network of interactions in which children interact, interpret and communicate about their environments in “one hundred languages.” The method seeks to enhance child development within the context of four principles:

* Children must have some control over the direction of their learning
* Children must be able to learn through sensory and kinesthetic experiences
* Children must have a relationship with the other children and the material items of the world
* Children must always have endless ways and opportunities to express themselves

As this previous list shows, HTT programs are driven by best-practices in each of its service areas. To assure compliance to those practices and assess the impact on children and add to the body of knowledge about early child intervention, SEARCH produces an evaluation report annually. These reports have monitored children’s academic progress, in the contexts of their tenure in the program, rates of attendance, effect of behavioral-based therapies and in comparison to widely-held expectations for typically developing young children.

This year, the staff decided to veer a bit from the previous evaluation process and generate a report that aggregated the data about students over the past 3 years. The goals of doing so were: 1) to review the program with a larger sample size and; 2) to assess the program’s impact from a broader perspective that might ameliorate some of the particular factors that may have skewed the findings in any given year.

Throughout the evaluation study the terms “domains” or “scores” refer to the observations from teachers of students’ progress on the Teaching Strategies Creative Curriculum referenced above. The study includes the following topics:

**Methods**

* + techniques used in analyzing and reporting the findings
  + limitations to the study

**Process Evaluation**

* *Demographics* 
  + age, race, ethnicity, grade
* *Attendance and Length of time in the program*
  + number of days each student attended, by trimester, by year and overall
  + percentages of attendance by trimester, year and overall
  + length of time in program by grade, trimester and gender

**Outcome Evaluation**

* *Overall Domain Scores*
  + - composite domain scores of each domain, over the duration of attendance
    - composite domain scores of each domain, by academic year and trimester
* *Domain scores by Factors*
  + - aggregated and annual domain scores assessed by demographics
    - *Difference Scores*
    - change scores for each student from their first assessment to their last
    - change scores for each student from their first assessment to the highest observed score
* *Attendance Impact*
  + composite domain scores by attendance
  + difference scores by high and low attendance
* *Comparative Scores*
* comparison of scores achieved by HTT students to those reported by Teaching Strategies and labeled “widely held expectations” by grade and trimester
* *Ancillary Therapies*
  + number of students who receive Play Therapy, Art Therapy and/or Speech Therapy
  + number of sessions and time in sessions for students in the therapies
  + difference scores comparison between students who received therapies and those who did not
* *CBCL Assessment*
  + scores on the *Child Behavioral Checklist*, that is administer to students who received play therapy or art therapy
  + therapies accessed by students with clinically significant scores on CBCL
* *Recommendations*
  + - summary
    - programming implications
    - data collection suggestions

The following report presents the findings from this analysis.

**Methods**

*Data storage and analyses*

The evaluation was conducted by an external evaluator using data provided by SEARCH data management, teaching and therapy staff members and contractors. Demographic and academic data were stored in the HMIS data management system. Attendance, CBCL and therapy frequency data were stored in Excel. All data sources were converted to and analyzed in SPSS. These databases and analyses are stored in password protected files in a dedicated, external hard drive maintained by the evaluator. Descriptive and inferential data analyses were conducted, as appropriate, and where there were sufficient data points available.

*Data sources*

Demographic and attendance data were extracted from student records stored in the HMIS database. Therapy data were provided by the individual therapists. Comparative data were downloaded as available from the Teaching Strategies website, “widely held expectations” database.

*Educational Achievement*

As noted above, the basic units of the student educational achievement are the scores recorded by teachers on the Teaching Strategies Creative Curriculum assessment tool. The developmental and educational progress of students who enroll in the CC classes are measured at entry and again at each subsequent quarter of their participation. This progress is measured on six parameters, each of which include observed completion of related tasks. The parameters include:

* Social-Emotional
* Physical
* Language
* Cognitive
* Literacy
* Mathematics

Within the six parameters are 36 tasks that are both observable and measurable. SEARCH teachers have been trained to identify stages of skill acquisition and have demonstrated inter-rater reliability. While the parameters and objectives are the same for both Toddlers and Preschoolers, the demonstration of skill acquisition differs, and is based on age-appropriate tasks. The following details the objectives associated with each of the parameters.

**Social-Emotional**

* Regulates own emotions and behaviors.
* Establishes and sustains positive relationships.
* Participates cooperatively and constructively in group situations.

**Physical**

* Demonstrates traveling skills.
* Demonstrates balancing skills.
* Demonstrates gross-motor manipulative skills.
* Demonstrates fine-motor strength and coordination.

**Language**

* Listens to and understands increasingly complex language.
* Uses language to express thoughts and needs.
* Uses appropriate conversational and other communication skills.

**Cognitive**

* Demonstrates positive approaches to learning.
* Remembers and connects experiences.
* Uses classification skills.
* Uses symbols and images to represent something not present.

**Literacy**

* Demonstrates phonological awareness.
* Demonstrates knowledge of the alphabet.
* Demonstrates knowledge of print and its uses.
* Comprehends and responds to books and other texts.
* Demonstrates emergent writing skills.

**Mathematics**

* Uses number concepts and operation.
* Explores and describes spatial relationships and shapes.
* Compares and measures.
* Demonstrates knowledge of patterns.
* Explores dance and movement concepts.
* Explores drama through actions and language

*~ Child Behavior Checklist*

The Child Behavior Checklist is a widely-used questionnaire that allows both teachers and parents to record observations of potentially maladaptive behaviors in preschool children and in a variation of that questionnaire, of children 4-18. It has been extensively normed, revised to improve cultural sensitivity and has been a component of clinical research for many years. It measures several parameters, as listed below.

* Emotional reactivity
* Anxiety/Depression
* Somatic disorders
* Withdrawing
* Attention issues
* Aggression
* Internalizing
* Externalizing
* Stress
* Autism Spectrum Disorder
* Attention Deficit Hyperactivity Disorder
* Oppositional Defiant Disorder

In this study, students for whom at least 2 administrations were available were included in the analysis.

*Limitations*

It is important to note that the datasets used is this study are not just repetitions of previous studies. Information from a subset of students were used in this study, based on their tenure in the program, completeness of data for each student and differences in data entry. Unfortunately, while this limits to some extent the potential replication of the findings, there is still value in the findings as an overview. The noted limitations will inform changes to data collection, reporting and analysis of future HTT evaluations.

**Process Evaluation**

~ Demographics

The study assesses data from 93 students who attended from 1-9 trimesters between July, 2015 and June, 2018. The youngest student was 19 months old (1.6 years) and the oldest 57 months old (4.8 years). Slightly more than half (52.7%, n=49) were male and 47.3% (n=44) were female.

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| --- | --- | --- | --- | --- | --- | --- |
| **Table 1: Gender by Age** | | | | | | |
|  | **#** | % | **MIN (months)** | **MAX (months)** | **AVERAGE AGE (months)** | **AVERAGE AGE**  **(years)** |
| Male | 49 | 52.7% | 19 | 57 | 36.20 | 3.01 |
| Female | 44 | 47.3% | 20 | 57 | 34.80 | 2.90 |
| Total | 93 | 100.0% | 19 | 57 | 35.50 | 3.00 |

The students were classified in five age/grade groups: 1-2 years old; 2-3 years old; Preschoolers; Pre-kindergarteners and Kindergarteners. Preschoolers were the largest group (57%, n=53). The following table shows the distribution of boys and girls in each classification.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 2: Gender by Grade** | | | | | | | | | | | | |
|  | **<24 mos** | | **2-3 yrs** | | **PRESCHOOL** | | **PRE-K** | | **Kindergarten** | | **TOTAL** | |
| **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** |
| Male | 2 | 66.7% | 10 | 45.5% | 30 | 56.6% | 6 | 46.2% | 1 | 50.0% | 49 | 52.7% |
| Female | 1 | 33.3% | 12 | 54.5% | 23 | 43.4% | 7 | 53.8% | 1 | 50.0% | 44 | 47.3% |
| Total | 3 | 100% | 22 | 100% | 53 | 100% | 13 | 100% | 2 | 100% | 93 | 100% |

The age of children as they enter each grade is listed in the next table. Please note that these are the ages of the children when they came to HTT (not their current grade). For example, 3 of the listed preschoolers were in the program before their second birthday.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 3: Mean Age of Entry by Grade** | | | | |
|  | **Number** | **Percent** | **AVERAGE AGE (months)** | **AVERAGE AGE (years)** |
| 1-2 | 3 | 3.2% | 19.7 | 1.7 |
| 2-3 | 22 | 23.7% | 24.7 | 2.1 |
| Pre-school | 53 | 57.0% | 39.1 | 3.3 |
| Pre-k | 13 | 14.0% | 40.7 | 3.4 |
| Kindergarten | 2 | 2.2% | 51.5 | 4.3 |
| Total | 93 | 100.0% | 35.5 | 3.0 |

As has been seen in previous studies, of the 79 students for whom information about race was available, the vast majority of students are African American or Black (77.2%, n=61). Two students (2.5%) were reported to be more than one race and 3 students (3.8%) had a racial identity not specified. White students are 13.9% (n=11) of the group.

|  |  |  |
| --- | --- | --- |
| **TABLE 4: Race** | | |
|  | **Number** | **Percent** |
| African American/Black | 61 | 77.2% |
| Native Hawaiian/Pacific Islander | 2 | 2.5% |
| White | 11 | 13.9% |
| More than one race | 2 | 2.5% |
| Some other race | 3 | 3.8% |
| Total | 79 | 100.0% |

Ethnic affiliation was provided for 80 of the students (86%). Among these, 82.5% (n=66) were non-Latino/Hispanic and 17.5% (n=14) were Latino/Hispanic.

|  |  |  |
| --- | --- | --- |
| **TABLE 5: Ethnicity** | | |
|  | **Number** | **Percent** |
| Latino | 14 | 17.5% |
| Non-Latino | 66 | 82.5% |
| Total | 80 | 100% |

~ Enrollment, Duration, Attendance

Except for Fall 2017, enrollment each semester ranges from 20-30 students, with the highest rate found in the Winter in each year. The significant drop-off in Fall 2017 is attributable to Hurricane Harvey that devastated sections of Houston. The following table illustrates the number of students in each trimester. The 212 total represents the fact that several students were enrolled for multiple trimesters. Percentages are based on the 212 “duplicated” number of students.

|  |  |  |
| --- | --- | --- |
| **TABLE 6: Enrollment by Trimesters** | | |
|  | **Number** | **Percent of Total** |
| FALL 2015 | 20 | 9.4% |
| WINTER 2015 | 28 | 13.2% |
| SPRING 2016 | 30 | 14.2% |
|  |  |  |
| FALL 2016 | 24 | 11.3% |
| WINTER 2016 | 28 | 13.2% |
| SPRING 2017 | 26 | 12.3% |
|  |  |  |
| FALL 2017 | 9 | 4.2% |
| WINTER 2017 | 24 | 11.3% |
| SPRING 2018 | 23 | 10.8% |
|  |  |  |
| Duplicated | 212 | 100.0% |

In the next table, the classes in which the children in the study were enrolled is displayed. The percentages in bold font show in which grade the greatest concentration of children by trimester were enrolled.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 7: Class Enrollment by Trimester** | | | | | | | | | | |
|  | **1-2** | | **2-3** | | **PRESCHOOL** | | **PRE-K** | | **K** | **Total by semester** |
| **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** |  | **#** |
| FALL 2015 | 1 | 5.0% | 5 | 25.0% | 11 | 55.0% | 3 | 15.0% |  | 20 |
| WINTER 2015 | 3 | 10.7% | 9 | 32.1% | 8 | 28.6% | 5 | 17.9% |  | 28 |
| SPRING 2016 | 1 | 3.3% | 11 | 36.7% | 15 | 50.0% | 3 | 10.0% |  | 30 |
|  |  |  |  |  |  |  |  |  |  |  |
| FALL 2016 | 0 | 0.0% | 7 | 29.2% | 10 | 41.7% | 7 | **29.2%** |  | 24 |
| WINTER 2016 | 2 | 7.1% | 7 | 25.0% | 12 | 42.9% | 7 | 25.0% |  | 28 |
| SPRING 2017 | 0 | 0.0% | 5 | 19.2% | 16 | 61.5% | 5 | 19.2% |  | 26 |
|  |  |  |  |  |  |  |  |  |  |  |
| FALL 2017 | 2 | **22.2%** | 6 | **66.7%** | 1 | 11.1% | 0 | 0.0% |  | 9 |
| WINTER 2017 | 2 | 8.3% | 6 | 25.0% | 16 | **66.7%** | 0 | 0.0% |  | 24 |
| SPRING 2018 | 0 | 0.0% | 3 | 13.0% | 20 | 87.0% | 0 | 0.0% |  | 23 |
| **Total** | **3** |  | **22** |  | **53** |  | **13** |  | **2** | **93** |

Previous HTT evaluations have concluded that both the length of time a student is enrolled in the program as well as attendance within that period affects their rates and degrees of progress. The tables that follow detail the findings about duration—length of tenure in HTT. Nearly one-third (28%, n=26) of the students for whom data were available for this study were enrolled for only 1 trimester, while 19.4% (n=18) stayed for 2 or 3. It will be shown later that even those students progressed. Ten students (10.9%) attended 6 or more trimesters. Most students were enrolled for continuous sessions, though 9 students left for at least one trimesters and later returned.

|  |  |  |
| --- | --- | --- |
| **TABLE 8: DURATION: LENGTH OF TIME IN THE PROGRAM** | | |
|  | **Number** | **Percent** |
| 1 Trimester | 26 | 28.0% |
| 2 Trimesters | 18 | 19.4% |
| 3 Trimesters | 18 | 19.4% |
| 4Trimesters | 11 | 11.8% |
| 5 Trimesters | 10 | 10.8% |
| 6 Trimesters | 2 | 2.2% |
| 7 Trimesters | 4 | 4.3% |
| 8 Trimesters | 2 | 2.2% |
| 9 Trimesters | 2 | 2.2% |
| TOTAL | 93 | 100.0% |

Noted in the next table is the fact that gender was generally not a determining factor in enrollment duration. About one-quarter (both girls and boys) attended for one trimester (27.3%, 28.6% respectively). Six girls (13.5%) and 4 boys (8.2%) participated in the program for more than 5 trimesters. The small number of students that these figures represent limit whether that difference can extrapolated, but it will be worth observing in future years to see if the finding continues as a trend.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 9: DURATION BY GENDER** | | | | |
|  | **GENDER** | | | |
| **Male** | | **Female** | |
| **#** | **%** | **#** | **%** |
| 1 Trimester | 14 | 28.6% | 12 | 27.3% |
| 2 Trimesters | 10 | 20.4% | 8 | 18.2% |
| 3 Trimesters | 9 | 18.4% | 9 | 20.5% |
| 4Trimesters | 7 | 14.3% | 4 | 9.1% |
| 5 Trimesters | 5 | 10.2% | 5 | 11.4% |
| 6 Trimesters | 0 | 0.0% | 2 | 4.5% |
| 7 Trimesters | 2 | 4.1% | 2 | 4.5% |
| 8 Trimesters | 0 | 0.0% | 2 | 4.5% |
| 9 Trimesters | 2 | 4.1% | 0 | 0.0% |
| TOTAL | 49 | 100.0% | 44 | 100.0% |

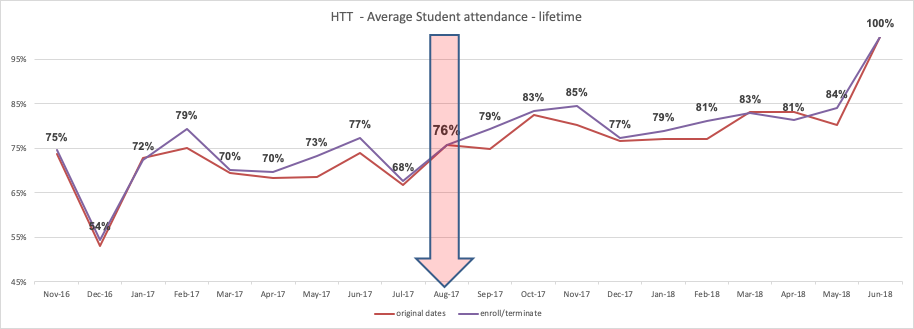
The eight students who participated more than 6 trimesters were from the Preschool and Pre-K class, as might be expected given their ages, and it is these students who show the most progress as later tables reveal.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 10: DURATION BY GRADE** | | | | | | | | | | |
| Number of Trimesters | **1-2** | | **2-3** | | **Preschool** | | **Pre-K** | | **Kinder** | |
| **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** | **#** | **%** |
| 1 | 1 | 33.3% | 9 | **40.9%** | 13 | 24.5% | 3 | 23.1% | 0 | 0.0% |
| 2 | 0 | 0.0% | 4 | 18.2% | 12 | **22.6%** | 2 | 15.4% | 0 | 0.0% |
| 3 | 0 | 0.0% | 5 | **22.7%** | 10 | 18.9% | 2 | 15.4% | 1 | **50.0%** |
| 4 | 0 | 0.0% | 3 | **13.6%** | 6 | 11.3% | 1 | 7.7% | 1 | **50.0%** |
| 5 | 2 | **66.7%** | 1 | 4.5% | 6 | 11.3% | 1 | 7.7% | 0 | 0.0% |
| 6 | 0 | 0.0% | 0 | 0.0% | 2 | **3.8%** | 0 | 0.0% | 0 | 0.0% |
| 7 | 0 | 0.0% | 0 | 0.0% | 4 | **7.5%** | 0 | 0.0% | 0 | 0.0% |
| 8 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 2 | 15.4% | 0 | 0.0% |
| 9 | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% | 2 | 15.4% | 0 | 0.0% |
| TOTAL | 3 | 100% | 22 | 100% | 53 | 100% | 13 | 100% | 2 | 100% |

In addition to duration in the program, student progress can also be predicted by attendance. The next table provides a summary of statistics for attendance for HTT students in the study. Across trimesters, on average, students attended 70.6% of the days enrolled. The most consistent attendance is in the Fall (July-October) and lowest in the Spring (March-June).

The calculations in this table are based on

1. Days Open: number of days in each trimester that the program was open
2. Total enrolled: Number of students enrolled in each trimester over the 3 years (a duplicated number that may count children more than once)
3. Total possible: Number of students multiplied by the days open
4. Total attended: Number of students multiplied by the number of days that they were in attendance
5. Percent attendance: Total attended divided by total possible.



**Chart 1:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 11: ATTENDANCE BY TRIMESTER** | | | | |
|  | **Fall** | **Winter** | **Spring** | **Total** |
| Days Open | 253 | 255 | 241 | 749 |
| Total Enrolled | 242 | 278 | 281 | 801 |
| Total possible | 5,426 | 5,690 | 5,779 | 16,895 |
| Total Attended | 4,055 | 4,044 | 3,833 | 11,932 |
| Percent Attendance | 74.7% | 71.1% | 66.3% | 70.6% |

A separate study on attendance conducted by Dr. Danielle Parrish found similar results (attendance average.) Dr. Parrish’s data is drawn from a subset of the current student data and shows information for students from 2015-2018. The following chart details her findings.

In the next three tables, the attendance statistics per month for each year are presented. Months where attendance exceeded 80% are listed in bold font. In 2015-16 and 2016-2017, that threshold was achieved in 2 months, however, in 2017-2018, after staff initiated an intervention intended to boost attendance, the threshold was reached in 4 months and in an additional 3 months, attendance levels were greater than 78%.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TABLE 12: ATTENDANCE BY MONTH** | | | | | |
|  | **2015-2016** | | | |  |
|  | **Attended** | **Open** | **Enroll** | **Total** | **%** |
| July | 310 | 23 | 19 | 437 | 70.9% |
| August | 310 | 21 | 23 | 483 | 64.2% |
| **September** | **206** | **21** | **12** | **252** | **81.7%** |
| October | 339 | 22 | 22 | 484 | 70.0% |
| November | 325 | 21 | 25 | 528 | 61.6% |
| December | 279 | 23 | 23 | 529 | 52.7% |
| January | 329 | 20 | 22 | 440 | 74.8% |
| **February** | **372** | **21** | **21** | **441** | **84.4%** |
| March | 350 | 23 | 24 | 552 | 63.4% |
| April | 395 | 21 | 26 | 546 | 72.3% |
| May | 418 | 22 | 26 | 572 | 73.1% |
| June | 438 | 22 | 26 | 572 | 76.6% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TABLE 13: ATTENDANCE BY MONTH** | | | | | |
|  | **2016-2017** | | | |  |
|  | **Attended** | **Open** | **Enroll** | **Total** | **%** |
| July | 360 | 21 | 24 | 504 | 71.4% |
| August | 456 | 23 | 26 | 598 | 76.3% |
| **September** | **407** | **21** | **23** | **483** | **84.3%** |
| **October** | **425** | **21** | **24** | **504** | **84.3%** |
| November | 389 | 22 | 24 | 528 | 73.7% |
| December | 311 | 22 | 24 | 528 | 58.9% |
| January | 373 | 22 | 24 | 528 | 70.6% |
| February | 378 | 20 | 25 | 500 | 75.6% |
| March | 425 | 23 | 26 | 598 | 71.1% |
| April | 332 | 20 | 24 | 480 | 69.2% |
| May | 378 | 23 | 26 | 598 | 63.2% |
| June | 326 | 23 | 19 | 437 | 74.6% |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TABLE 14: ATTENDANCE BY MONTH** | | | | | |
|  | **2017-2018** | | | |  |
|  | **Attended** | **Open** | **Enroll** | **Total** | **%** |
| July | 287 | 21 | 21 | 441 | 65.1% |
| August | 284 | 18 | 20 | 360 | 78.9% |
| September | 284 | 19 | 22 | 418 | 67.9% |
| **October** | **387** | **22** | **21** | **462** | **83.8%** |
| **November** | **344** | **19** | **22** | **418** | **82.3%** |
| December | 263 | 16 | 21 | 336 | 78.3% |
| January | 331 | 19 | 23 | 437 | 75.7% |
| February | 361 | 20 | 24 | 480 | 75.2% |
| March | 352 | 21 | 21 | 441 | 79.8% |
| **April** | **392** | **21** | **23** | **483** | **81.2%** |
| **May** | **387** | **21** | **23** | **483** | **80.1%** |

~ Use of Therapies

The data reported for use of therapies covers 6 months of the 2016-2017 academic year. Forty-two children engaged with play, art and/or speech therapists. Of these, 57.1% (n=24) received play therapy, 50% (n=21), art therapy and 45.2% (n=19) speech therapy. In the next column, these calculations are compared to percentages of the entire student group.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 15: NUMBER OF THERAPIES (2016-2017)** | | | |
|  | **#** | **% of those receiving therapy** | **% of entire group** |
| Play | 24 | 57.1% | 25.8% |
| Art | 21 | 50.0% | 22.6% |
| Speech | 19 | 45.2% | 20.4% |
| Total Served | 42 | 100.0% | 45.2% |

As might be anticipated, several students are treated with more than one modality. Over one-third (35.1%, n=13) received all three treatments, as seen below. That represents 14% of the entire student group.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 16: NUMBER OF THERAPIES (2016-2017)** | | | |
|  | **#** | **% of those receiving therapy** | **% of entire group** |
| 1 Therapy | 12 | 28.6% | 12.9% |
| 2 Therapies | 17 | 40.5% | 18.3% |
| 3 Therapies | 13 | 31.0% | 14.0% |
| Total Served | 42 | 100.0% | 45.2% |

The next table details the number of minutes associated with each therapy mode. On average, the mean of play therapy for the group was 157.1 minutes, followed by 62.3 minutes for art therapy and 46 for speech therapy. The table further shows the maximum number of minutes per child as well as the aggregated total number of each therapy afforded to the students

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 17: PROVISION OF THERAPIES BY NUMBER OF MINUTES** | | | |
|  | **Play** | **Art** | **Speech** |
| Mean | 157.1 | 62.3 | 46 |
| Maximum | 586 | 310 | 405 |
| Sum | 5,813 | 2,305 | 1,705 |
| Number | 25 | 22 | 20 |

No statistically significant differences by gender were noted in administration of therapy services. Boys participated in slightly more minutes of play therapy, girls received more minutes of art therapy. More differences were noted in the maximum number of therapy minutes, though again these differences were not statistically significant.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 18: MEAN PROVISION OF THERAPIES IN MINUTES BY GENDER** | | | | |
|  | **Male** | | **Female** | |
| **Mean** | **Max** | **Mean** | **Max** |
| Play | 186.1 | 586 | 174.4 | 560 |
| Art | 67.5 | 310 | 82.1 | 300 |
| Speech | 54.5 | 377 | 56.4 | 405 |
| Number | 16 | | 14 | |

Mean number of play therapy minutes were allocated to Pre-K students followed by the 2 Kindergarten students. Art therapy utilization was highest for Pre-K students, then Preschoolers.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 19: MEAN PROVISION OF THERAPIES IN MINUTES BY CLASS** | | | | | | | | |
|  | **2-3** | | **Preschool** | | **Pre-K** | | **Kinder** | |
| **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** |
| Play | 0 | 0 | 128.9 | 423 | 345.9 | 586 | 222.5 | 280 |
| Art | 6.7 | 20 | 55.3 | 250 | 153.8 | 310 | 0 | 0 |
| Speech | 10 | 20 | 71 | 405 | 53.1 | 285 | 74.3 | 310 |
| Number | 3 | | 17 | | 8 | | 2 | |

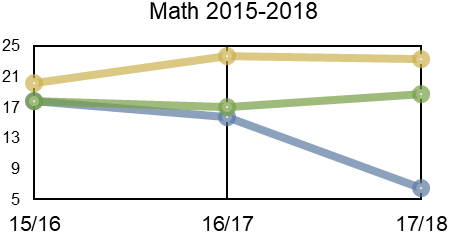
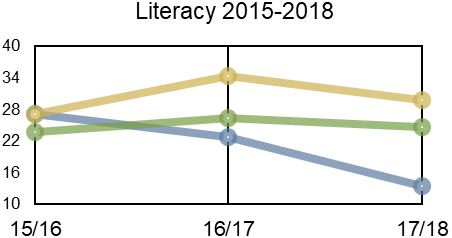
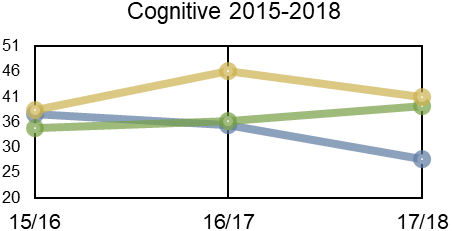
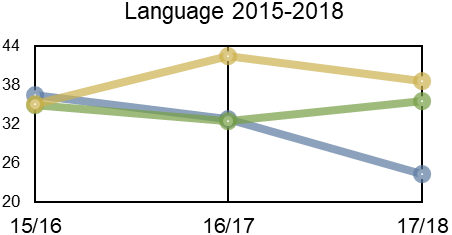
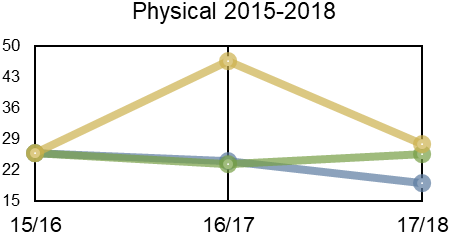
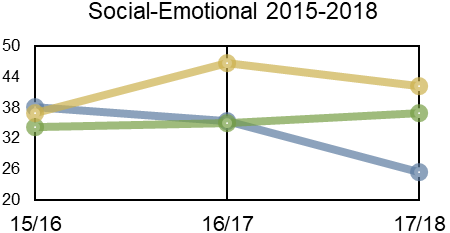
**Outcome Evaluation**

The outcome evaluation reports findings that attempt to assess the effect of the children’s

academic achievement, stabilization of socialization and mental health challenges. The units of measure are the scores on the Creative Curriculum standardized assessment that is usually administered to each student during each trimester in which they are enrolled. Baseline and final scores as well as the highest scores were compared in the several contexts such as: demographics, attendance, duration, participation in therapy. In the first set of analyses, aggregated scores by topic are used. To account for variation in student competencies at baseline, in addition to aggregated scores, differences from baseline were also calculated and used in the analyses.

~ Composite Scores

The following set of charts offers a visual representation of the overall progress that students make over the course of the academic year. The data points show the aggregated scores that children achieved on the Creative Curriculum assessment, (Fall =blue line, Winter = green line, Spring= gold line)



Generally, students are performing at higher levels in Spring than in Fall or Winter trimesters. Several factors may be involved in this. The most obvious is that as children mature, it is expected that their scores might improve. For many HTT children, if that improvement occurs, it is in spite of the challenges that they face and can be at least partly attributed to their participation in HTT. Because children enter and leave in all trimesters, part of the pattern might also be explained by the culture built by teachers, and as it is assimilated by students, they reinforce it with each other increasingly over the course of the school year,

Another interesting feature of the data is that the students’ gains become greater each year. This is noteworthy for several reasons. Few students were enrolled over the 3-year span and thus while growth over time of longer term students is embedded in the data, far more frequent are the scores of students with 1-5 trimester enrollment. Thus, it is possible to suggest that the gains are at least partly accounted for by improvements in teaching, therapy and program features, such as the attendance intervention, mentioned above.

The first set of scores are the cumulative scores earned by the student group across all domains for each trimester of each year. It does not differentiate baseline vs final scores, nor does this analysis consider duration or attendance. Rather, it is an overview of student achievement.

In 2015-16 and 2017-18 the greatest difference in overall scores were in Spring, and in 2016-17, the range was greatest in Winter, though the difference was only 2 points. As

mentioned earlier, the enrollment dip in Fall 17, was due to Hurricane Harvey, this shows those scores a bit skewed by the small sample. Another outlier seems to be the much higher minimum score in Spring 18. This seems to be the result of scores from students who enrolled for more than 4 trimesters by Spring 18.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **TABLE 20: Aggregated Scores for all Children by Trimester** | | | | | |
|  | **#** | **Mean** | **Minimum** | **Maximum** | **Difference** |
| Fall 15 | 21 | 182.4 | 70 | 317 | 247 |
| Winter 15 | 25 | 169.5 | 22 | 273 | 251 |
| Spring 16 | 30 | 179.9 | 68 | 320 | 252 |
|  |  |  |  |  |  |
| Fall 16 | 24 | 165.6 | 20 | 285 | 265 |
| Winter 16 | 28 | 169.6 | 51 | 322 | 271 |
| Spring 17 | 26 | 215.8 | 59 | 328 | 269 |
|  |  |  |  |  |  |
| Fall 17 | 9 | 104.7 | 2 | 146 | 144 |
| Winter 17 | 24 | 180.1 | 98 | 290 | 192 |
| Spring 18 | 23 | 202.2 | 111 | 322 | 211 |

In the next set of tables, the aggregated data from the domains over time are pictured. Greatest gains were shown in all domains in the 2017-2018 academic year and the least in the 2015-2016. However, in several parameters, even in the earlier year, gains that were made from Fall to Spring were statistically significant.

Analysis of scores of student growth across trimesters and domains produced findings that were statistically significant (differences are likely to be related to participation in the program and not the result by chance), as the next table shows

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 21: Average Scores by Trimester N=49** | | | | |
|  | **Fall** | **Winter** | **Spring** | **p=** |
|  | **Mean** | **Mean** | **Mean** |
| Social-emotional | 46.8 | 55.4 | 69.0 | 0.000 |
| Physical | 31.8 | 38.1 | 44.3 | 0.000 |
| Language | 44.4 | 53.6 | 63.6 | 0.000 |
| Cognitive | 46.0 | 56.6 | 66.9 | 0.000 |
| Literacy | 31.9 | 40.7 | 51.4 | 0.001 |
| Math | 21.7 | 29.4 | 37.9 | 0.000 |

To provide a deeper understanding of the findings, the mean scores were determined in each of the 6 domains by year. This analysis does not account for whether a given score is a baseline or final score, but rather gives a cumulative score for the student group in total. The next table illustrates the mean and maximum scores in each domain. Except in 2015-16, highest mean

scores (in bold font), are found in Spring semesters.

The totals for mean scores and maximum scores suggest that students’ accomplishments are highest in Social-Emotional and Cognitive domains. Scores in the Physical domain raises questions about the status of students’ general health and physical development milestones.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 22: Domain Scores by Trimester** | | | | | | | | | | | | |
|  | **Social-Emotion** | | **Physical** | | **Language** | | **Cognitive** | | **Literacy** | | **Math** | |
| **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** | **Mean** | **Max** |
| Fall 15 | 38.0 | 67 | 25.8 | 40 | 36.5 | 60 | 37.1 | 65 | 27.1 | 61 | 17.8 | 37 |
| Winter 15 | 34.2 | 56 | 25.9 | 38 | 34.9 | 53 | 34.3 | 52 | 23.7 | 52 | 17.9 | 37 |
| Spring 16 | 37.0 | 64 | 25.7 | 40 | 35.1 | 60 | 37.9 | 69 | 27.2 | 55 | 20.2 | 43 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fall 16 | 35.4 | 63 | 24.0 | 38 | 32.7 | 58 | 34.8 | 57 | 22.8 | 45 | 15.8 | 29 |
| Winter 16 | 34.9 | 71 | 23.3 | 40 | 32.4 | 63 | 35.7 | 68 | 26.3 | 50 | 17.0 | 31 |
| Spring 17 | **46.8** | 66 | **46.8** | 66 | **42.4** | 58 | **46.1** | 66 | **34.4** | 68 | **23.7** | 38 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
| Fall 17 | 25.3 | 30 | 18.5 | 20 | 24.1 | 34 | 27.9 | 36 | 13.4 | 22 | 6.5 | 14 |
| Winter 17 | 37.0 | 55 | 25.5 | 39 | 35.5 | 32 | 38.8 | 57 | 24.7 | 52 | 18.7 | 24 |
| Spring 18 | **42.2** | 63 | **27.9** | 37 | **38.6** | 57 | **40.6** | 61 | **29.6** | 62 | **23.3** | 23 |

~ Difference Scores

As useful as an analysis of composite scores might be for determination of overall assessment of program impact, understanding the effects on individual children requires an analysis of the differences between each child’ score at baseline and upon final administration of the Creative Curriculum (CC) survey instrument. The next table shows the mean for the first score, last score and differences for 67 of the children for whom that information was available.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 23: Difference Scores** | | | |
|  | **First Score** | **Last Score** | **Difference** |
| Mean | 137.8 | 221.9 | 84.7 |
| Number | 67 | | |

Because some children enter, leave and then return to the program, attend at different rates during their enrollment and can have some variability in their performance on a given day, calculating the first and last administration may not capture the most accurate range of progress that a child makes. Thus, difference scores were calculated between first administration and the highest score achieved on any administration of the CC survey. Although no statistically significant differences were found between final and highest score, both were used at times to represent the gains. The tables in this section use difference scores for the 67 children who had more than one semester of attendance and who underwent more than one CC survey observation. That data is seen in the following table, which compares the two sets of scores by number of trimesters students were enrolled.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 24: Difference Scores by Trimester Enrolled** | | | |
| Number of Trimesters | **Number** | **First—Last** | **First—Highest** |
| **Mean** | **Mean** |
| 2 | 18 | 37.7 | 37.3 |
| 3 | 18 | 67.1 | 67.1 |
| 4 | 11 | 83.1 | 84.8 |
| 5 | 10 | 105.5 | 121.4 |
| 6 | 2 | 143.0 | 143.0 |
| 7 | 4 | 158.5 | 158.5 |
| 8 | 2 | 205.5 | 205.5 |
| 9 | 2 | 242.5 | 242.5 |

As with the scores in aggregate, difference scores were not statistically significantly varying by gender.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 25: Difference Scores- First to Highest by Gender** | | | |
|  | **Number** | **Mean** | **p=** |
| Male | 35 | 84.9 | 0.726 |
| Female | 32 | 89.9 |
| Total | 67 | 87.3 |

Statistically significant changes were noted when comparing students by classes. Because the largest number (1-2 years old class) represented only 2 children, the data for the 2 kindergartners were excluded and a second analysis run. The findings held and again indicated statistically significant differences with Pre-K students exhibiting the largest change scores.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 26: Difference Scores- First to Highest by Class** | | | |
|  | **Number** | **Mean** | **p=** |
| 1-2 | 2 | 152.0 | 0.011 |
| 2-3 | 13 | 62.8 |
| Preschool | 40 | 79.6 |
| Pre-K | 10 | 135.1 |
| Kindergarten | 2 | 97.5 |
| Total | 67 |  |

Differing rates of progress are apparent when the tenure of student enrollment is considered. The next table confirms that the longer the students remain in the program, the greater will be their progress as defined by changes in their CC scores.

|  |  |  |  |
| --- | --- | --- | --- |
| **TABLE 27: Difference Scores- First to Highest** | | | |
| Number of Years | **Number** | **Mean** | **p=** |
| 1 year | 36 | 52.4 | 0.000 |
| 2 years | 23 | 105.8 |
| 3 years | 8 | 191.3 |
| Total | 67 |  |

To parse that finding a bit more, scores were calculated by number of trimesters enrolled. Once again, change scores follow a pattern of increased progress over time.

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 28: Mean Difference Scores by Number of Trimesters Enrolled** | | | |
| **Trimester** | **Number** | **Mean Difference** | **Mean High Difference** |
| 2 | 18 | 37.7 | 37.7 |
| 3 | 18 | 67.1 | 67.1 |
| 4 | 11 | 83.1 | 84.8 |
| 5 | 10 | 105.5 | 121.4 |
| 6 | 2 | 143.0 | 143.0 |
| 7 | 4 | 158.5 | 158.5 |
| 8 | 2 | 205.5 | 205.5 |
| 9 | 2 | 242.5 | 242.5 |
| Total | 67 |  |  |
| p= |  | 0.000 | |

With the exception of the 2015-16 academic year, the largest variation in scores occurred in Spring. It might seem that this would be obvious if it is assumed that students would have been observed 3 times over the course of an academic year. However, that is not always the case. for some students there were only 2 administrations and for others, the time between testing may be have been longer.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 29: Difference Scores in Each Trimester** | | | | |
|  | **Number** | **Mean** | **Minimum** | **Maximum** |
| Fall 15 | 21 | 182.4 | 36 | 317 |
| Winter 15 | 25 | 169.5 | 22 | 273 |
| Spring 16 | 30 | 179.9 | 68 | 320 |
| Fall 16 | 24 | 165.6 | 20 | 285 |
| Winter 16 | 28 | 169.6 | 51 | 322 |
| Spring 17 | 26 | 215.8 | 59 | 328 |
| Fall 17 | 9 | 104.7 | 40 | 272 |
| Winter 17 | 24 | 180.1 | 98 | 290 |
| Spring 18 | 23 | 202.2 | 111 | 322 |

Change scores are affected not only by the duration of time that student is enrolled, but also by the percentage that they attend. For this analysis data were available for 51 students. “High attendance” is defined as an average of 80% attendance in trimesters in which students were enrolled.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **TABLE 30: Difference Scores- First to Highest** | | | | |
|  | **Number** | **Percent** | **Mean** | **p=** |
| Low Attendance | 20 | 39.2% | 55.9 | 0.0 |
| High Attendance | 31 | 60.8% | 122.3 |
| Total | 51 | 100.0% |  |

~ Comparative Scores

Several benefits are afforded the HTT program with the use of the CC survey instrument. Most obvious is the opportunity for HTT staff to have a means for standardizing the method for noting and recording student progress and to compare individuals and groups over time. In addition, the developers of the survey also collect the data, weight it and publish a comparison of individual scores to what they term, “widely held expectations” for children by age group.

The following table shows that HTT students continue to meet or exceed those standards. The scores used were those achieved by students in Spring semester, since these typically represent the highest level of student achievement.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TABLE 31: MET OR EXCEEDED EXPECTATIONS** | | | | | | |
|  | **2016-2017** | | **2015-2016** | | **2014-2015** | |
|  | **#** | **%** | **#** | **%** | **#** | **%** |
| SOCIAL-EMOTIONAL | 22 | **100.0%** | 24 | 82.8% | 26 | 86.7% |
| PHYSICAL | 20 | **90.9%** | 23 | 79.3% | 26 | 86.7% |
| LANGUAGE | 19 | **86.4%** | 23 | 79.0% | 22 | 73.3% |
| COGNITIVE | 19 | **95.0%** | 22 | 75.9% | 21 | 71.0% |
| LITERACY | 17 | **85.0%** | 22 | 75.9% | 20 | 66.7% |
| MATH | 16 | **80.0%** | 22 | 79.3% | 10 | 33.3% |

The most recent comparative scores published by CC were for the 2016-2017 academic year. As can be seen below, children progress overall as the year proceeds. There was a slight dip in scores from Fall to Winter in the Physical and Language domains and a more notable one in Cognition in that same timeframe. Some of that is due to the incorporation of new students and the leaving or aging out of more accomplished students from Fall.

By Spring, a minimum, of 80% of students meet or exceed expectations. In the Physical and Cognition domains, that number jumps to over 90% and in the Social-Emotional domain, all students met or surpassed expectations in the developmental markers anticipated for children in this age group.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TABLE 32: MET OR EXCEEDED EXPECTATIONS** | | | | | | |
|  | **Fall 2016 (n=14)** | | **Winter 2016 (n=25)** | | **Spring 2017 (n=22, 19)** | |
|  | **#** | **%** | **#** | **%** | **#** | **%** |
| SOCIAL-EMOTIONAL | 8 | 57.1% | 16 | 64.0% | 22 | 100.0% |
| PHYSICAL | 12 | 85.7% | 19 | 76.0% | 20 | 90.9% |
| LANGUAGE | 10 | 71.4% | 17 | 68.0% | 19 | 86.4% |
| COGNITIVE | 12 | 85.7% | 16 | 64.0% | 19 | 95.0% |
| LITERACY | 8 | 57.1% | 18 | 72.0% | 17 | 85.0% |
| MATH | 2 | 14.3% | 17 | 68.0% | 16 | 80.0% |

Students would be expected to progress in their achievement by maturation. That progress appears also to be facilitated by duration in the program. In this group, preschoolers and Pre-K students hit the developmental benchmarks at a higher percentage than did younger children, though the very low enrollment numbers in the younger grades limits generalizing.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 33: 2016-2017 Comparative Scores: Met or Exceeded** | | | | | | | |
|  | **Social-Emotion** | | **Physical** | | **Language** | | **Total number of students** |
| **#** | **%** | **#** | **%** | **#** | **%** |
| **Fall** | | | | | | |  |
| Preschool | 3 | 33.3% | 6 | 66.7% | 5 | 55.6% | 9 |
| Pre-k | 5 | 83.3% | 6 | 100.0% | 5 | 83.3% | 6 |
| Winter | | | | | | |  |
| Preschool | 10 | 83.3% | 12 | 100.0% | 10 | 83.3% | 12 |
| Pre-k | 6 | 85.7% | 7 | 100.0% | 7 | 100.0% | 7 |
| Spring | | | | | | |  |
| 2-3 | 5 | 100.0% | 4 | 80.0% | 4 | 80.0% | 5 |
| Preschool | 14 | 100.0% | 13 | 92.9% | 12 | 85.7% | 14 |
| Pre-k | 3 | 100.0% | 3 | 100.0% | 3 | 100.0% | 3 |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 34: 2016-2017 Comparative Scores: Met or Exceeded** | | | | | | | |
|  | **Cognition** | | **Literacy** | | **Math** | | **Total number of students** |
| **#** | **%** | **#** | **%** | **#** | **%** |
| **Fall** | | | | | | |  |
| Preschool | 6 | 66.7% | 3 | 33.3% | 2 | 22.2% | 9 |
| Pre-k | 6 | 100.0% | 5 | 83.3% | 0 |  | 6 |
| Winter | | | | | | |  |
| 1-2 | 0 |  | 1 | 100.0% | 1 | 100.0% | 1 |
| 2-3 | 0 |  | 5 | 71.4% | 0 |  | 7 |
| Preschool | 10 | 83.3% | 6 | 50.0% | 3 | 25.0% | 12 |
| Pre-k | 6 | 85.7% | 6 | 85.7% | 0 |  | 7 |
| Spring | | | | | | |  |
| 2-3 | 5 | 100.0% | 5 | 100.0% | 4 | 80.0% | 5 |
| Preschool | 11 | 91.7% | 9 | 75.0% | 9 | 75.0% | 12 |
| Pre-k | 3 | 100.0% | 3 | 100.0% | 3 | 100.0% | 3 |

~ Scores for those in Therapy

Once again, academic gains are strongest in general for students who receive therapy. These findings are shown in the following tables which list mean composite scores, by domain, for those who did and did not receive therapies in the 2016-2017 academic year. In all domains, students who participated in play therapy and art therapy achieved higher scores across all domains. On average, these gains were approximately 30 to 70 points. For play therapy, all of these were statistically significant except for math.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 35: Domain Scores for Students Receiving Play Therapy** | | | | | | | | | | | | |
|  | **Social-Emotion** | | **Physical** | | **Language** | | **Cognitive** | | **Literacy** | | **Math** | |
| **Play** | **No** | **Play** | **No** | **Play** | **No** | **Play** | **No** | **Play** | **No** | **Play** | **No** |
| Mean | 216.9 | 158 | 144.3 | 104 | 197.8 | 151 | 210 | 159 | 152 | 110.9 | 106.7 | 81 |
| Minimum | 102 | 49 | 73 | 34 | 87 | 46 | 80 | 44 | 46 | 17 | 39 | 22 |
| Maximum | 365 | 310 | 258 | 207 | 361 | 298 | 357 | 323 | 280 | 244 | 188 | 171 |
| Number | 24 | 18 | 24 | 18 | 24 | 18 | 24 | 18 | 24 | 18 | 24 | 18 |
| p= | 0.015 | | 0.014 | | 0.050 | | 0.042 | | 0.042 | | 0.066 | |

Students who engaged in art therapy achieved statistically significant gains in all domains. Like play therapy, this intervention focuses on the behavioral health of children. The 17 students who were reported to have participated in 2 therapies received both play and art therapy and for them, their improvements may be at least in part attributable to the interaction of those modalities.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 36: Domain Scores for Students Receiving Art Therapy** | | | | | | | | | | | | |
|  | **Social-Emotion** | | **Physical** | | **Language** | | **Cognitive** | | **Literacy** | | **Math** | |
| **Art** | **No** | **Art** | **No** | **Art** | **No** | **Art** | **No** | **Art** | **No** | **Art** | **No** |
| Mean | 220.4 | 155.6 | 147.2 | 102.0 | 200.8 | 149.3 | 216.2 | 153.4 | 153.7 | 109.9 | 109.5 | 79.0 |
| Minimum | 102 | 34 | 67 | 34 | 92 | 46 | 90 | 44 | 46 | 17 | 43 | 22 |
| Maximum | 365 | 207 | 258 | 207 | 361 | 298 | 357 | 323 | 280 | 244 | 188 | 171 |
| Number | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 | 21 |
| p= | 0.007 | | 0.005 | | 0.029 | | 0.015 | | 0.030 | | 0.028 | |

Students who received speech therapy showed statistically significant gains in both the Social-Emotional and Physical domains. Interpreting this finding does require a qualification. The two groups—students who received therapy and those who did not at similar rates participated in play and/or art therapy. These therapies target changes in behavior, which in turn can lead to improved scores. Thus, the impact of speech therapy is somewhat obscured. Teasing out the effect while controlling for the impact of the other therapies is not possible with the current group, since the sample would be too small for meaningful analysis.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 37: Domain Scores for Students Receiving Speech Therapy** | | | | | | | | | | | | | |
|  | **Social-Emotion** | | **Physical** | | **Language** | | **Cognitive** | | **Literacy** | | **Math** | | |
| **Speech** | **No** | **Speech** | **No** | **Speech** | **No** | **Speech** | **No** | **Speech** | **No** | **Speech** | **No** |
| Mean | 216.4 | 164.6 | 142.6 | 109.2 | 195.2 | 157.9 | 208.8 | 165.6 | 149.3 | 116.8 | 109.3 | 83.5 |
| Minimum | 49 | 67 | 34 | 34 | 46 | 71 | 52 | 44 | 46 | 17 | 46 | 22 |
| Maximum | 365 | 310 | 258 | 207 | 361 | 298 | 357 | 323 | 280 | 244 | 188 | 171 |
| Number | 19 | 23 | 19 | 23 | 19 | 23 | 19 | 23 | 19 | 23 | 19 | 23 |
| p= | 0.043 | | 0.050 | |  | |  | |  | |  | | |

As a comparison, average score from 2015-2016 are shown in the following table. In general, the means are higher in 2016-2017. Between both sets of data, scores are highest for Social-Emotional and lowest for Math. Because of the smaller sample size in the latter group, only means and change scores (difference) were calculated. Improvements were shown on average, as evidenced by the difference scores in all domains for children who had participated in any of the therapies.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TABLE 38: Average and Difference scores for those who had Therapy: 2015-2016** | | | | | | | | | |
|  | **Play Therapy** | | | **Art Therapy** | | | **Speech Therapy** | | |
|  | **#** | **Average** | **Diff** | **#** | **Average** | **Diff** | **#** | **Average** | **Diff** |
| **Social-Emo** | 16 | 92.8 | 7.1 | 15 | 106.7 | 8.8 | 7 | 74.4 | 6.7 |
| **Physical** | 16 | 59.9 | 4.5 | 15 | 69.1 | 4.7 | 7 | 53.1 | 2.4 |
| **Language** | 16 | 84.9 | 6.4 | 15 | 100 | 6.9 | 7 | 71.1 | 5.9 |
| **Cognitive** | 16 | 88.8 | 7.7 | 15 | 104.4 | 9.1 | 7 | 73.7 | 5.6 |
| **Literacy** | 16 | 57.7 | 6.3 | 15 | 70.0 | 6.9 | 7 | 57.3 | 4.9 |
| **Math** | 16 | 75.0 | 4.4 | 15 | 46.4 | 4.2 | 7 | 39.4 | 3.9 |

~ Assessment Scores

In addition to the CC survey, the teachers and parents of children who are referred for play or art Therapies may be asked to complete the Child Behavioral Checklist (CBCL) for those children. The CBCL is a widely-used and standardized assessment that provides feedback therapists with feedback about a child’s psychosocial functioning. The specific areas that the instrument queries include:

* Internalizing behaviors
* Externalizing behaviors
* Total problems
* Sleep (parent survey)
* Attention
* Stress
* Depression
* Anxiety
* Autism
* Attention Deficit Hyperactivity Disorder (ADHD)
* Oppositional Defiant Disorder (ODD)

While the CBCL is not a tool for diagnosis, it does provide an overview of potentially problem behaviors as observed by those who are often in the most advantaged place to see the child exhibiting those behaviors. The “overview” categories such as “internalizing” and “externalizing” can be particularly useful. “Internalizing” behaviors are those wherein a child “acts inwardly” and appears to be withdrawn, shows depressive symptoms, is anxious or exhibits somatic symptoms. “Externalizing” behaviors are the “acting out” manifestations, such as disruption, aggression or overt non-compliance.

Children who score in the potentially clinical range on the Autism, ADHD or ODD scales may not necessarily meet the criteria for diagnosis of these disorders but may be at risk and would warrant further assessment. If they have these diagnoses, the CBCL can be useful in monitoring changes in symptoms.

Scores for the period were made available for this evaluation and are reported in the following charts. A subset of 13 students was chosen based on the following criteria:

* Multiple administration of teacher form
* First and last administration documented by dates of testing
* At least 3 months between test administrations

The initial analysis reviewed the ratings of teachers versus those of parents. The scores used were the first survey completed by teachers for 9 children and parents of 6 in that group. As the next table reveals, there were few differences between those ratings and none of those were statistically significant.

Both teachers and parents rated children on the CBCL. Clinically significant scores are greater than 60 on internalizing and externalizing and and greater than 67 on other areas. Aggregated average scores are shown below. Later tables display individual students’ Both sets of observers rated students highest who present features of Oppositional Defiant Disorder.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 39: Teacher and Parent Initial Administration CBCL** | | | | |
|  | Teacher | | Parent | |
| Mean | N | Mean | N |
| Internalized | 51.6 | 9 | 45.3 | 6 |
| Externalized | 54.7 | 9 | 54.8 | 6 |
| Total | 54.1 | 9 | 50.5 | 6 |
| Attention | 55.9 | 9 | 54.2 | 6 |
| Stress | 55.0 | 9 | 56.2 | 6 |
| Depression | 55.7 | 9 | 54.3 | 6 |
| Anxiety | 54.1 | 9 | 50.0 | 6 |
| Autism | 57.3 | 9 | 56.5 | 6 |
| ADHD | 55.0 | 9 | 58.7 | 6 |
| ODD | 59.0 | 9 | 59.7 | 6 |

Given that there were no statistically significant differences in the two sets of data, the evaluation will report findings from the teachers’ observations, since more of these were available. The first and last administration of the surveys were compared, and it was determined if students improved or stabilized. There are several ways to interpret the findings from the CBCL. Two were chosen: 1) consideration of change in individual student and 2) aggregation of scores to gauge in what areas students showed improvement as a whole.

The first exploration looked at the status of individual students on each of the behavioral parameters as measured by changes in their CBCL scores. All students stabilized and/or improved in at least 2 of the areas. The table also notes the time between testing for each student (Time). The shortest interval was 3 months (#11), the longest 21 months (#5) and the average was 12.3 months. The Total indicates the percentage of students who stabilized or improved in each of the parameters.

| **Table 40: Status by Student** | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Time** | **Intern** | **Extern** | **Total** | **Attend** | **Stress** | **Depress** | **Anxiety** | **Autism** | **ADHD** | **ODD** |
| 1 | 16 | **Imp** | **Imp** | **Imp** | **Imp** | **Imp** | *Stabile* | *Stable* | **Imp** | **Imp** | **Imp** |
| **2** | 14 |  | **Imp** | **Imp** | **Imp** | *Stable* |  |  | *Stable* | **Imp** | **Imp** |
| 3 | 16 | **Imp** | *Stable* | **Imp** | *Stable* | *Stable* | *Stable* | Imp | *Stable* | *Stable* |
| 4 | 16 |  |  |  |  |  | **Imp** | **Imp** |  |  |
| **5** | 21 | **Imp** | *Stable* |  | **Imp** |
| **6** | 6 | *Stable* |  | *Stable* | *Stable* |  | Imp |
| **7** | 14 |  | **Imp** | Stable | **Imp** |  |  | **Imp** | **Imp** |
| 8 | 11 |  | **Imp** |  |  |  |
| 9 | 10 |  | *Stable* | *Stable* |
| 10 | 4 | *Stable* |  |
| 11 | 3 | *Stable* |  | *Stable* | **Imp** | *Stable* | Imp |
| 12 | 12 | *Stable* | *Stable* |  | *Stable* | *Stable* |
| 13 | 17 | **Imp** | **Imp** | **Imp** | **Imp** | **Imp** | *Stable* | *Stable* | **Imp** | **Imp** | **Imp** |

Another exploration considered the rates of improvement or stabilization by behavioral category. The most change was noted in Anxiety and Attention, followed by ADHD and ODD symptoms.

| **Table 41: Status by Behavioral Categories** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Improved** | | **Stabilized** | | **Total** | |
|  | **#** | **%** | **#** | **%** | **#** | **%** |
| Internalized | 3 | 23.1% | 1 | 7.7% | 4 | 30.8% |
| Externalized | 4 | 30.8% | 1 | 7.7% | 5 | 38.5% |
| Total | 4 | 30.8% | 0 | 0.0% | 4 | 30.8% |
| Attention | 5 | 38.5% | 4 | 30.8% | 9 | 69.2% |
| Stress | 3 | 23.1% | 2 | 15.4% | 5 | 38.5% |
| Depression | 0 | 0.0% | 5 | 38.5% | 5 | 38.5% |
| Anxiety | 1 | 7.7% | 8 | 61.5% | 9 | 69.2% |
| Autism | 5 | 38.5% | 1 | 7.7% | 6 | 46.2% |
| ADHD | 5 | 38.5% | 3 | 23.1% | 8 | 61.5% |
| ODD | 6 | 46.2% | 2 | 15.4% | 8 | 61.5% |

Breaking the data down more provides details about the degree of change by gender. Girls improved most in Externalizing (42.9%, n=3) and 33.3% (n=2) boys improved in Total Problems, as this next table shows.

| **TABLE 42: STATUS BY GENDER** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Male** | | **Female** | | **Total** | |
| **#** | **%** | **#** | **%** | **#** | **%** |
| Internalized | Improved | 1 | 16.7% | 2 | 28.6% | 3 | 23.1% |
| Stabilized | 1 | 16.7% | 0 | 0.0% | 1 | 7.7% |
| Externalized | Improved | 1 | 16.7% | 3 | **42.9%** | 4 | 30.8% |
| Stabilized | 1 | 16.7% | 0 | 0.0% | 1 | 7.7% |
| Total Problem | Improved | 2 | **33.3%** | 2 | 28.6% | 4 | 30.8% |
| Stabilized | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |

Reviewing other parameters finds that most of the stabilization was accounted for by Anxiety in boys and girls and Depression in girls. Nearly half of both groups improved in ODD symptoms and they stabilized in 2 additional children. Again, there is a limitation in generalizing the findings beyond the group due to the small sample size.

| **Table 43: Status by Gender** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Male** | | **Female** | | **Total** | |
| **#** | **%** | **#** | **%** | **#** | **%** |
| ATTENTION | Improved | 2 | 33.3% | 3 | 42.9% | 5 | 38.5% |
| Stabilized | 2 | 33.3% | 2 | 28.6% | 4 | 30.8% |
| STRESS | Improved | 0 | 0.0% | 3 | 42.9% | 3 | 23.1% |
| Stabilized | 2 | 33.3% | 0 | 0.0% | 2 | 15.4% |
| DEPRESSION | Improved | 0 | 0.0% | 0 | 0.0% | 0 | 0.0% |
| Stabilized | 1 | 16.7% | 4 | 57.1% | 5 | 38.5% |
| ANXIETY | Improved | 1 | 16.7% | 0 | 0.0% | 1 | 7.7% |
| Stabilized | 4 | 66.7% | 4 | 57.1% | 8 | 61.5% |
| AUTISM | Improved | 3 | 50.0% | 2 | 28.6% | 5 | 38.5% |
| Stabilized | 1 | 16.7% | 0 | 0.0% | 1 | 7.7% |
| ADHD | Improved | 1 | 16.7% | 4 | 57.1% | 5 | 38.5% |
| Stabilized | 2 | 33.3% | 1 | 14.3% | 3 | 23.1% |
| ODD | Improved | 3 | 50.0% | 3 | 42.9% | 6 | 46.2% |
| Stabilized | 1 | 16.7% | 1 | 14.3% | 2 | 15.4% |

Teachers and parents did observe rates of symptoms to be in the potentially clinical range in 4 of the 13 students (30.8%). It is important to note that this does not mean that students with “non-clinical” scores could not benefit from therapy. In fact, those students may benefit most because earlier intervention into potentially problematic behavior patterns may prevent children from experiencing more serious mental health disorders.

| **TABLE 44: RATES OF CLINICAL STATUS** | | |
| --- | --- | --- |
|  | **#** | **%** |
| Clinical | 4 | 30.8% |
| Non-Clinical | 9 | 69.2% |

In the next table, the initial observations of students by teachers are presented. Of the 4 students with clinical scores, all were above the benchmark for External and ADHD symptoms. One student was scored high on Stress and 3 of the 4 on ODD. The clinical scores are in bold font in the table.

| **Table 45: Students with Clinically Relevant Scores (>67)** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **> 60** | | **> 67** | | | | | | |
| **Internal** | **External** | **Attention** | **Stress** | **Depress** | **Anxiety** | **Autism** | **ADHD** | **ODD** |
| 2 | 58 | **73** | **70** | 55 | 50 | 50 | 56 | **70** | 62 |
| 5 | 54 | **69** | 63 | 55 | 54 | 50 | 54 | **67** | **69** |
| 6 | 48 | **68** | 64 | 55 | 50 | 50 | 56 | **67** | **77** |
| 7 | 50 | **67** | 65 | **67** | 58 | 57 | 64 | **68** | **80** |
| # | 0 | **4** | 0 | **1** | 0 | 0 | 0 | **4** | **3** |
| % |  | 100% |  | 25% |  |  |  | 100% | 75% |

Children in both clinical and non-clinical categories stabilized and improved in a range from 44.4% (Internalized) to 77.8% (Anxiety). The following table further details the findings. Again, though the sample size is small, the rates of change for both groups are noteworthy in most of the domains. It is expected that for children in the clinical group, changes are associated with better functioning and for the non-clinical group, changes can be not only enhanced functioning but prevention of potential problems.

| **Table 46: Changes by Clinical Status** | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | | **Clinical** | | **Non-Clinical** | |
| # | % | **#** | **%** |
| INTERNALIZED | Improved | 0 | 0% | 3 | 33.3% |
| Stabilized | 1 | 25% | 1 | 11.1% |
| EXTERNALIZED | Improved | 2 | 50**%** | 2 | 22.2% |
| Stabilized | 0 | **0%** | 1 | 11.1% |
| TOTAL PROBLEM | Improved | 1 | 25% | 3 | 33.3% |
| Stabilized | 0 | 0% | 0 | 0.0% |
| ATTENTION | Improved | 2 | 50% | 3 | 33.3% |
| Stabilized | 1 | **25%** | 3 | 33.3% |
| STRESS | Improved | 1 | **25%** | 2 | 22.2% |
| Stabilized | 1 | **25%** | 1 | 11.1% |
| DEPRESSION | Improved | 0 | 0% | 0 | **0.0%** |
| Stabilized | 1 | 25% | 4 | **44.4%** |
| ANXIETY | Improved | 0 | 0% | 1 | **11.1%** |
| Stabilized | 2 | 50% | 6 | **66.7%** |
| AUTISM | Improved | 0 | 0% | 5 | **55.6%** |
| Stabilized | 1 | 25% | 0 | **0.0%** |
| ADHD | Improved | 3 | **75%** | 2 | 22.2% |
| Stabilized | 0 | **0%** | 3 | 33.3% |
| ODD | Improved | 3 | **75%** | 2 | 22.2% |
| Stabilized | 0 | **0%** | 2 | 22.2% |

That more of the children with clinical scores improved or stabilized than the non-clinical group more accurately explains the impact of the therapies. All children in the group showed beneficial changes. Half improved in Externalizing, nearly all in ADHD symptoms and Attention, areas of some of the greatest need.

| **Table 47: Status with Students with Clinical Scores** | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Int** | **Ext** | **Total** | **Attend** | **Stress** | **Depress** | **Anxiety** | **Autism** | **ADHD** | **ODD** |
| 2 |  | Imp | Imp | Imp | Stable |  |  | Stable | Imp | Imp |
| 5 |  |  |  | Imp |  |  | Stable |  | Imp |  |
| 6 | Stable |  |  |  |  | Stable | Stable |  |  |  |
| 7 |  | Imp |  | Stable | Imp |  |  |  | Imp |  |

~ Conclusions

Assuring that students achieve healthy developmental progress is one of the most essential goals of any early child intervention program. From its inception as a program to assist parents striving to acquire employment or education to its current status as a premier provider of early childhood education, HTT has been documented to be most effective in meeting that goal for its students.

In addition, the program itself has matured and is providing its young students with increasingly effective programming. This is evidenced by the documented advances in meeting educational benchmarks, stabilizing potentially challenging behaviors and doing so at the level of children who may not have the challenges that children in the throes of homelessness can experience.

Findings from previous studies and the current retrospective show that HTT fosters the best outcomes for students, which can be predicted in these contexts:

* attendance is at least 70%
* enrollment for as many trimesters as possible
* participation in play, art or speech therapies, as needed.

It is apparent that the attendance intervention was effective and did impact student progress. That the program was able to maintain operations through and after the recent hurricane speaks to the degree of commitment and professionalism of the staff, and to the level that parents value the program for their children. Student achievement subsequent to the hurricane further suggests how beneficial it is to students.

Students are afforded not only evidence-based education opportunities in the program, but also a range of behavioral, interpersonal and speech therapies for children with special needs or those who could benefit from preventive care. These, too, rely on evidence-based methods and produce favorable outcomes for students.

This retrospective report documents these assertions, despite some of the limitations described earlier. It is apparent that the HTT program is beneficial and has amassed a wealth of information about effective programming. The HTT and SEARCH staff have been diligent in sharing their experiences with the professional community but may now be in a position to do so to a larger audience through more publication in professional journals.

Recommendations

Data provided to the evaluator over the course of the past several years has improved extensively, however, to meet standards for publication will require a bit more refinement. To that end, it is recommended that before the next evaluation, the staff and evaluator meet to even more enhance the data collection, storing and reporting formats so that we can in the next cycle prepare reports that would be sufficiently rigorous to meet publication standards.

The enhanced data system will include:

* data collection protocol standardization
* templates for data storage
* coordination with therapists to establish protocols for CBCL score reporting
* addition of qualitative data to the reporting to include at least:
  + - interview and/or survey of parents
    - interview and/or survey of teachers

It would also be very useful if it were possible to follow up on progress of students who have graduated from the program when they are in at least first and second grade. This would require coordination with parents, as the most efficient source of student grades and perceptions of their status.