Tejasvita Trust

Tejasvita Preschool Program - Learning outcomes from two years of collated student data

February 2021

1 INTRODUCTION

Tejasvita's Preschool Program is a child-centered and holistic preschool program designed for Affordable Private Schools in urban settings. In this document, we present the major findings related to learning outcomes of children, after analysing two years of student data that we've gathered during our Tejasvita Preschool Program implementation in 2018-19 and 2019-20. During each of these academic years, we've implemented ~75 two-hour sessions of this program in each of the 7 preschool classrooms in 3 partner-schools that we worked in. For more information regarding the design and implementation for this program, please refer to our Learning Outcomes Report 2019-20.

1.1 Structure and Methodology for data collection and analysis

1.1.1 Tejasvita's 4Cs Framework

The results covered in this document span four skill areas (4Cs)

- *Communication (English)* - English comprehension and speaking developed through English immersion, context-rich storytelling and picture book read-alouds and discussions.
- *Collaboration* - Social and emotional development developed through various classroom strategies like choice/autonomy, positive discipline practices and targeted activities to develop collaborative skills
- *Critical thinking* - Pre-literacy and pre-numeracy skills developed through targeted hands-on activities
- *Creative thinking* - Self-expression developed through choice/autonomy, process-art activities and music-movement

Our approach aligns with a "continuous view of child development". We've mapped the milestones that children reach progressively in each of the above 4Cs skill areas, during preschool years. See **Appendix I** for our complete 4Cs skills and milestones framework. This framework is patterned after and broadly benchmarked to a research-based framework developed by *Experience Early Learning* based in USA. From this research-based framework, we selected and re-organized the skill areas and milestones to suit the 4Cs and also tweaked the language of milestones a bit to make them 'observable' in children's behaviour in our classrooms. Since we work with children from low-income communities whose exposure levels to stimulating environments is low, we've also had to adjust the milestones to suit their abilities as per the results we saw. Our in-house curriculum has evolved over a period of 5 years, and continues to evolve, to suit this framework.

A cornerstone of our program is our focus on developing English comprehension and spoken language abilities in preschool children who have very minimal exposure to the language outside our classrooms. As research shows, early childhood years are ripe for developing language comprehension and spoken language abilities and we leverage this by immersing the children in English-language-rich and context-rich environment through teachers who interact with the children in good English during all activities, exposing the children to read-alouds of picture books by world-class authors and storytelling with appropriate props and performances. Another cornerstone of our program is our focus on developing the attention-span for learning among preschool children. Again research shows that preschool years are ripe for developing this ability. We employ various strategies in our program like freedom of choice and movement in the classroom, play-based and hands-on activities to stimulate interest in learning and activities that develop Executive Function skills in children.

1.1.2 Data collection and analysis

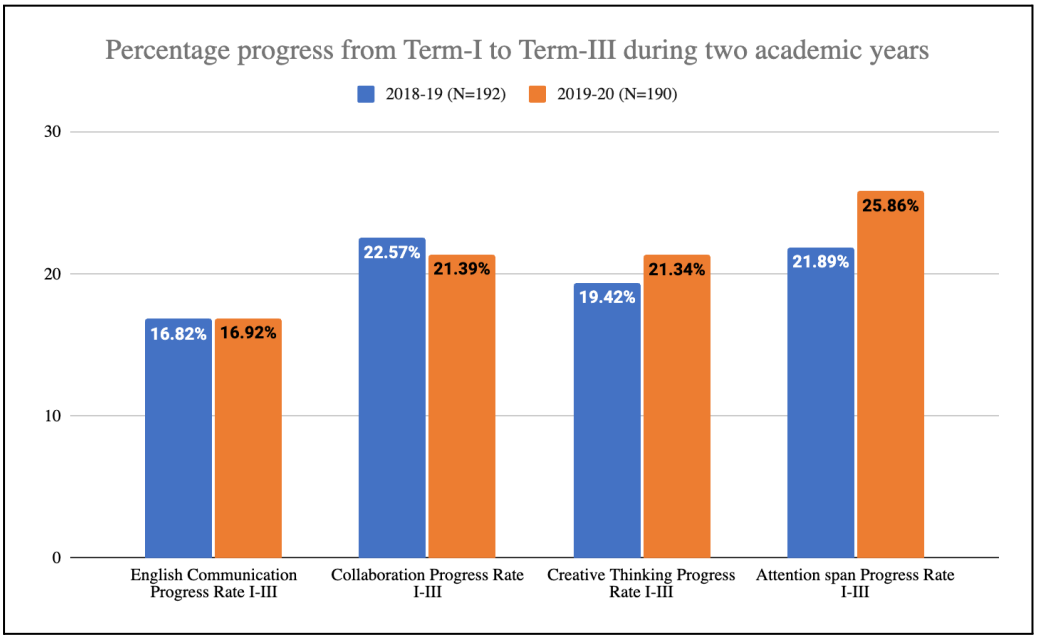
- We rely on indirect assessments through teacher observations, for our results. Qualitative observational data is quantified periodically and our analysis and results are based on this quantitative data. Our method of data collection is non-intrusive and non-threatening to children and allows us to continuously measure the performance levels of children in areas which cannot be measured through paper-pencil tests.

- Our assessments are done on a continuous basis and as a result, we are able to use our data for formative purposes to make decisions related to the planning of activities and interventions for the various classrooms, based on how children are performing.
- At Tejasvita, we do indirect assessments based on the 4Cs framework in two different ways as follows:
    - Term-wise assessments
        - In a child-centric environment that promotes autonomy, we recognize that children develop continuously based on their interests and abilities and we record observations about them continuously. As they develop, they progress from “never-can-do-it” to “sometimes-can-do-it” to “frequently-can-do-it” to “always-can-do-it” and our teachers score each child at 0, 1, 2 and 3 respectively 3 times during the academic year. The score of each child is tallied against the maximal achievement of all the milestones in each skill area.
        - Every child is assessed on *English Communication*, *Collaboration* and *Creative thinking* areas, this way 3 times during an academic year - Term I (baseline - ~ 15 two-hour sessions), Term II (~ 30 two-hour sessions) and Term III (~ 30 two-hour sessions).
    - Activity specific assessments
        - In our program, the *Critical thinking* (same as pre-literacy and pre-numeracy) and ‘*Co-operation in a collaborative task*’ skill areas are developed mainly through targeted hands-on activities that typically span 30 min each and the teachers scaffold children in a small group. Children do ~ 43 such activities for *Critical thinking* and ~ 12 targeted activities geared towards ‘*Co-operation in a collaborative task*’ during an academic year. Each activity is scored through the teacher's observation of how much the child was able to think and complete the activity independently.
        - For these activities, all children in a classroom move up the milestones in the 4Cs framework based on a gating criteria we’ve defined related to the performance of the whole class in these activities.

2 MAJOR FINDINGS

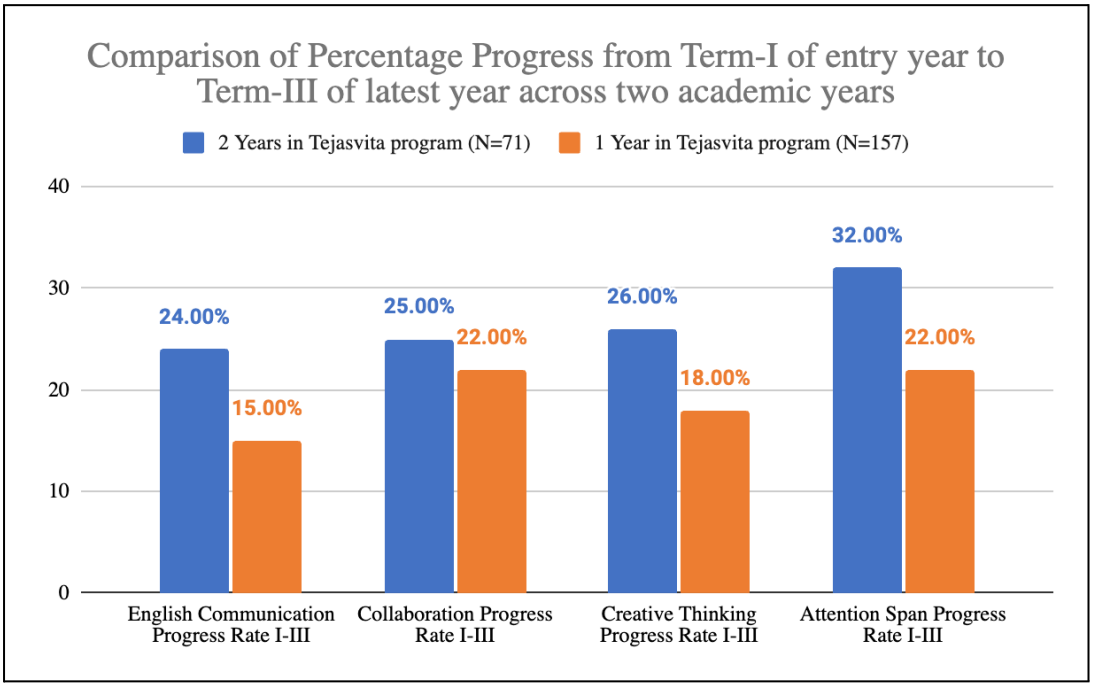
In the graphs below, we’ve collated data from two academic years - 2018-19 and 2019-20. During each of these years we worked with ~200 preschool children. We were able to gather comprehensive data for 192 children in 2018-19 and 190 children in 2019-20.

2.1 During both academic years, children on an average showed significant progress in each of the skill areas for which we did term-wise assessments

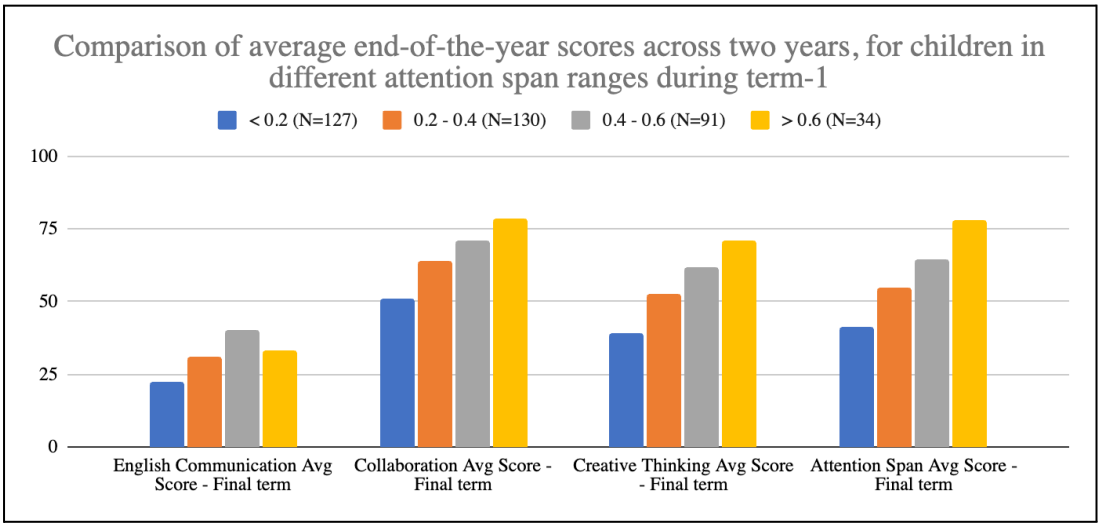


2.2 Children who continued for two years in the Tejasvita program are linked to higher progress compared to children who did the program for only one year, in each of the skill areas for which we did term-wise assessments

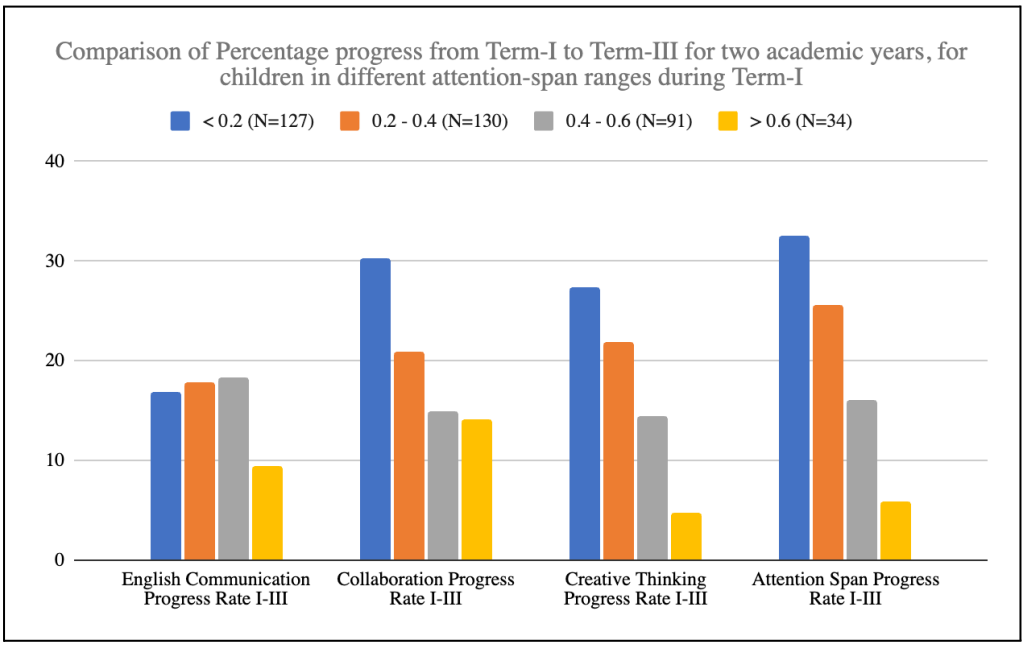
Please note that for the graph below, we have considered only those children who started the Tejasvita program in 2018-19 or 2019-20.



2.3 Children who joined the academic year with higher attention spans scored higher in different skill areas.

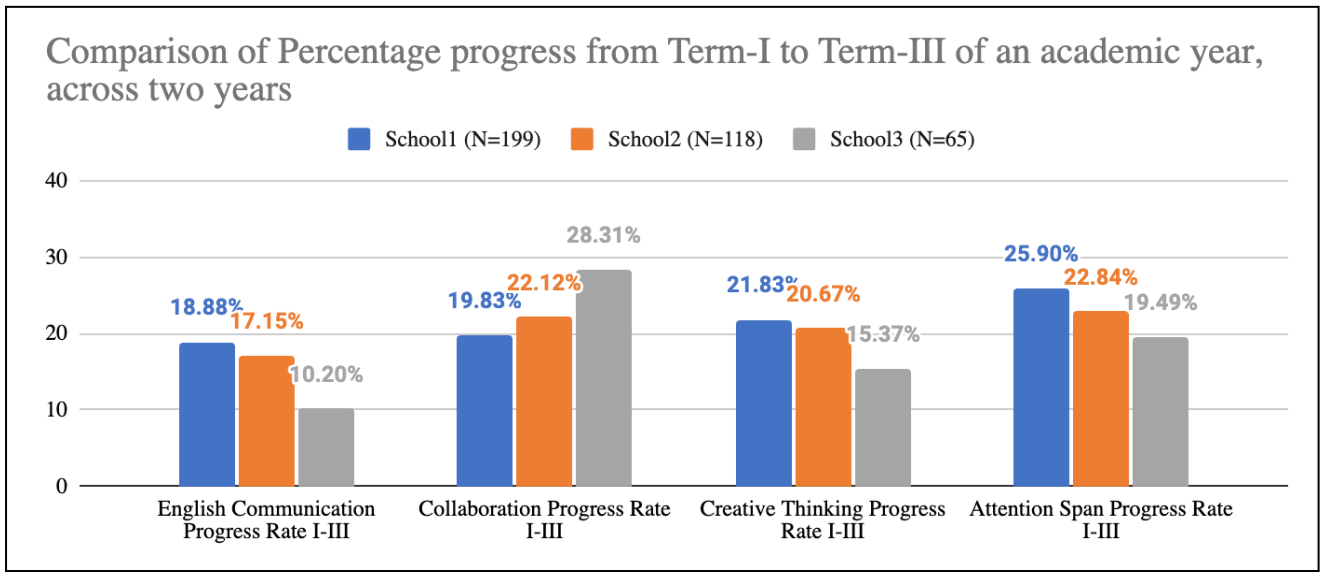


However, children who joined the academic year with lower attention spans are linked to higher progress compared to children with higher attention-spans, in most of the skill areas for which we did term-wise assessments

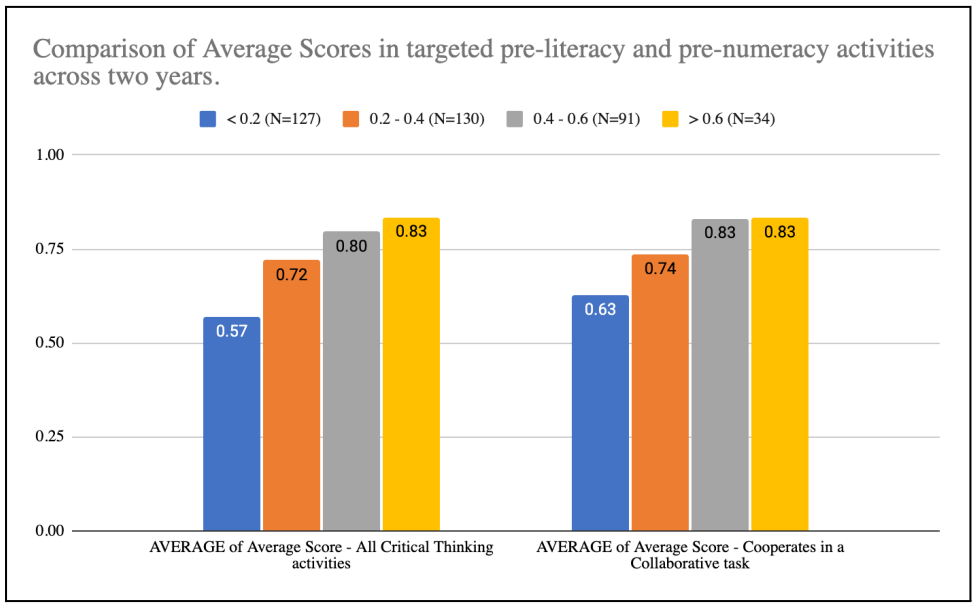


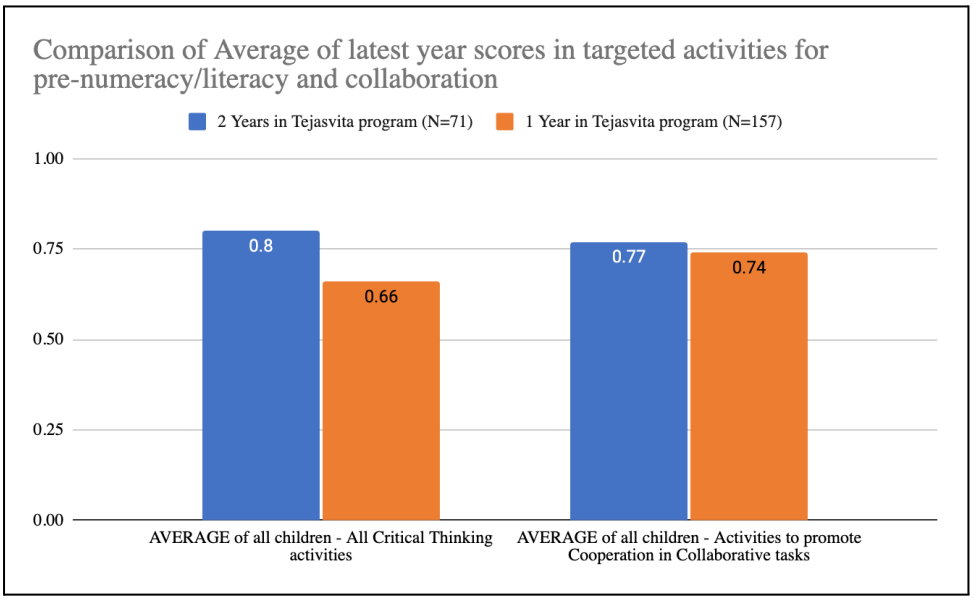
This result shows that children who joined the program with lower attention spans also made significant progress in the various skill areas.

2.4 Although there were differences in the progress between children of our 3 partner schools due to the different populations that they were catering to, children on an average in all partner schools are linked to significant progress in each of the skill areas for which we did term-wise assessments.



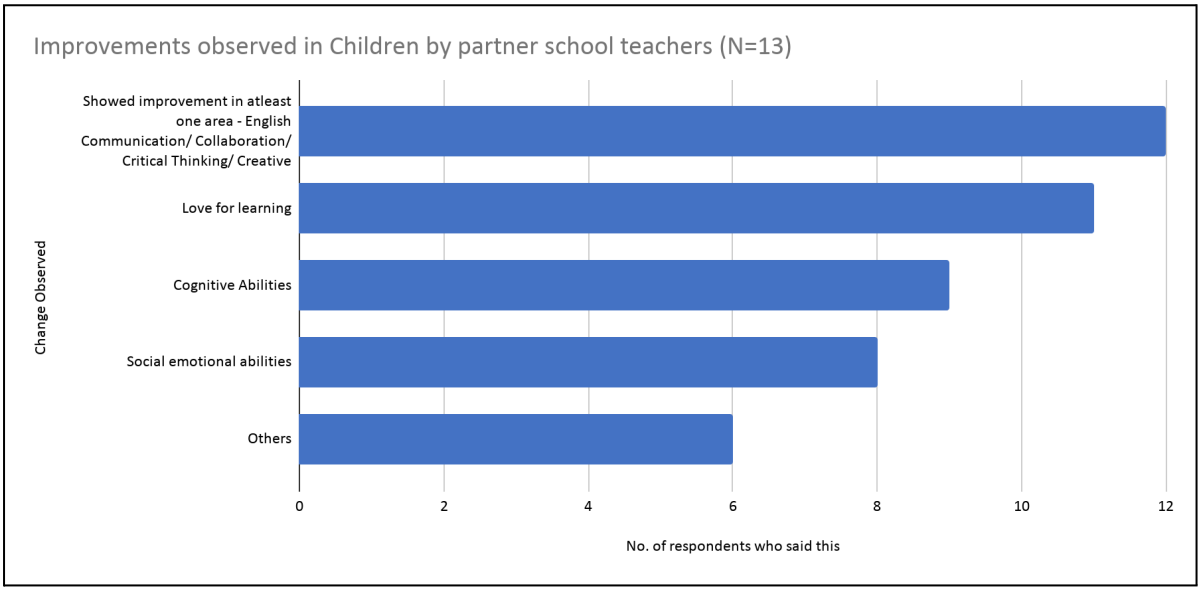
2.5 Our results from activity based assessments show that children with higher attention spans are linked to higher scores in these targeted activities AND children who continued in our program for two years are linked to higher scores in these activities than children who were in the program for only one year.





2.6 Parents and Partner-school teachers reported significant positive changes in children that they attributed to the Tejasvita program.

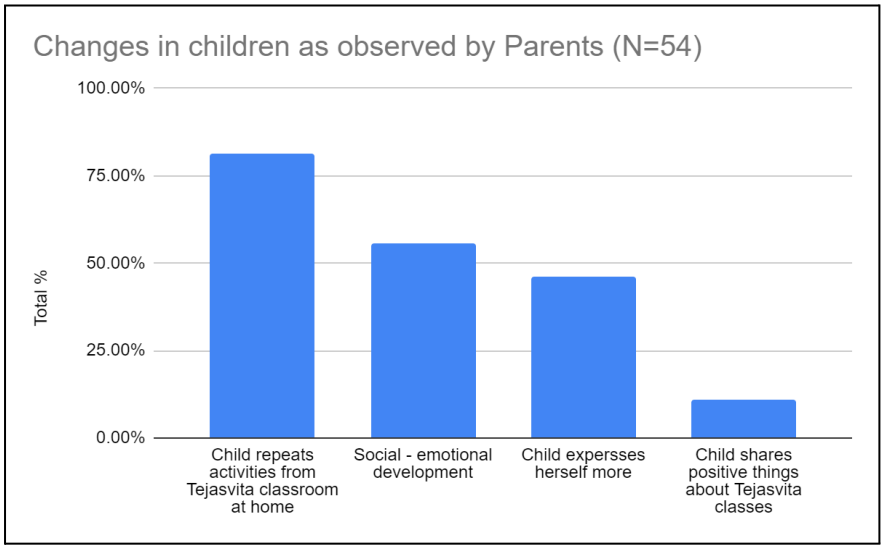
At the end of the academic year 2019-20 we conducted interviews with partner school teachers and the parents of the children. Following graphs highlight the improvements that they saw, which they attribute to our program.



Following are a few quotes from the partner school teachers that link to the above graph

- “Numeracy skills are better with children who are part of the Tejasvita Program”
- “Children who are with the Tejasvita program are sharper in activities and are more enthusiastic and show higher memory”
- “Communication skills are better with children who are part of the Tejasvita Program”
- “Children who are part of the Tejasvita Program” show higher interest in learning and are eager to come to school”

- "Children with Tejasvita Program express themselves freely in comparison to the those did not undergo this program"



Following are a few quotes from the parents that link to the above graph

- "Child is overcoming his/her shyness"
- "Child enjoys reading books at home"

Several parents also reported making changes to improve the child's environment as a result of our parent workshops

- "We do dal sorting activity and drawing at home"
- "Bought my child paints and colour pencils"

3 FUTURE OBJECTIVES OF OUR PROGRAM BASED RESEARCH

The two years of data from our program implementation highlights many successes of the program as follows:

1. On an average, children in all categories are linked to progress in all skill areas
2. Children who started with lower attention-spans are linked to higher rate of progress
3. Children who started with higher attention-spans are linked to higher scores in targeted activities
4. Children who stayed longer in the Tejasvita program are linked to higher rate of progress
5. Children who stayed longer in the Tejasvita program are linked to higher scores in targeted activities
6. Adults who work with these children outside the Tejasvita classroom setup are able to perceive significant positive changes in children which they attribute to the Tejasvita program

In the coming years, following are two main areas we would like to focus on to improve our program implementation

1. We would like to fine tune our program to so that children who started the program with higher attention-spans benefit more from the program by achieving higher progress rates in all the skill areas
2. We would like to benchmark standards of performance for Tejasvita's 4Cs Framework based on expanded implementation in Affordable Private Schools

4 APPENDIX I

Tejasvita's 4Cs Skills/Milestones for the Preschool Program 2019-20

Skill/Subskill					
Communication - English	**M1**	**M2**	**M3**	**M4**	**M5**
Comprehends English spoken language	Listens to a request in English and responds appropriately either through gestures, in mother tongue or English.	Answers specific English questions about key details from information/requests/stories shared orally in mother tongue or English.	Asks appropriate questions in mother tongue or English, related to information/requests/stories shared, to deepen understanding		
Builds English Vocabulary	Identifies familiar people, places and objects in English (when prompted or not)	Includes increasingly more English words in everyday conversation	Seeks new English words or sentences		
Speaks in English sentences clearly	Uses short English phrases to communicate	Speaks in simple grammatically complete English sentences	Speaks audibly in simple grammatically complete English sentences		
Collaboration	**M1**	**M2**	**M3**	**M4**	**M5**
Makes Eye Contact	Makes eye contact while speaking to teachers				
Follows the classroom rules, routines and processes	Follows rules and routines in choice based processes	Follows rules and routines in non-choice processes	Participates in **all** classroom processes and activities enthusiastically	Redirects to a new activity and settles down with minimal stress	
Builds positive relationships	Initiates interaction with other children	Sustains interaction with other children			
Expresses Preference	Makes confident choices when given several options	Expresses likes and dislikes			
Cooperates in a collaborative task	Cooperates in a task that involves taking turns	Cooperates in a task that involves sharing resources	Cooperates to achieve a group goal in an	Cooperates with common resources to	Helps the partner child to achieve their

		which is scarce	explorative task	achieve a group goal in a critical thinking task	goal (practice empathy)
Critical Thinking	**M1**	**M2**	**M3**	**M4**	**M5**
Matches and Classifies	Sort objects by one basic feature like size, shape, colour, smell, texture	Sorts objects by two basic features	Identifies appropriate labels for non-basic categories and sorts	Sorts assorted objects in self-made categories	Identifies similarities and differences
Seriates	Orders objects according to basic features like size, length, hue or weight.	Orders events in time	Orders objects and events based on real world knowledge		
Identifies & Creates Patterns	Copies two step visual patterns such as red- blue, red-blue.	Extends two-step visual patterns.	Determines the missing piece of a pattern within a set two-step visual sequence.	Creates a variety of linear visual patterns and explains his/her own formula for them.	
Solves problems	Solves a problem that can be solved just through visual cues	Solves a problem that can be solved through a combination of visual cues and real world knowledge			
Creative thinking	**M1**	**M2**	**M3**	**M4**	**M5**
Explores	Engages with given materials and media	Demonstrates multiple purposeful ways to use materials and media	Creates an end product with materials and/or media and describes his/her personal connection to it.		
Maintains attention	Sustains focus for at least 15 minutes	Sustains focus for at least 30 minutes	Sustains focus for at least 45 minutes		
Perseveres	Initiates working on activities on his/her own	Puts effort to complete a task	Seeks additional challenges		