Observations of Learning as a Social Activity
When learning becomes a social activity it spreads effortlessly spreading from one initiator to many.
- **Rubik’s Cube, Games and puzzles**: Over 20 children we work with can now solve the Rubik’s Cube without looking at the instruction manual. Playing and learning strategies in the games and puzzles in STEM land have similarly spread without one-on-one inputs from facilitators.
- **Sets Game**: One of the volunteers had an interesting game that helped children learn some of the fundamental ideas about sets. Children made their own sets game and were able to link it to concepts of intersection, complement within set theory.

Deep learning: Ability to Apply Concepts Learned
- Two 7th graders fixed a STEM land blinking board and one of them was interested in doing something more with the Arduino.
- He wired up the 7 segments to a separate Arduino pins to control the segments individually and managed to write his first program in ‘C’ to display a 1 by the end of a class.
- He further managed to figure out the logic of the first digit continuing to run when the second digit was implemented to create a 99s counter.

STEM to STEAM
- The children made many projects to demonstrate their learning and some of these were remarkably detailed and artistic.
- One of the children created a project in co-ordinate geometry that allowed the user to enter points one-by-one and when the picture was complete it became a van. This project brought creativity and art.

Outcomes of 9th Grade
- A survey with 9th graders showed that 90% of the children were proud of creating projects, being able to solve puzzles, being able to work independently and in groups, ability to plan their work and track their progress.
- We also found that the academic performance on an average had increased by 7 points from before.

Conclusions
Children can be responsible for their own learning if emphasis is provided in giving them access to tools that help them make choices from possibility rather than fears or socializations. This creates a rich collaborative learning community which showed not only individual progress, but also rich peer-to-peer learning. Learning itself became a social activity.
When facilitators provide and encouraging and supportive environment without directing all the activities surprising discoveries and demonstrable progress can be made. The essence of such a learning environment are its values that can be used with even younger children.

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References:

Further information
www.auraauro.com