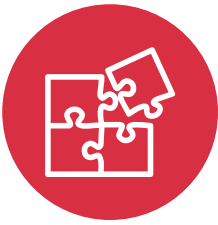




Learning Through Play (LTP)

Nurturing Problem Solvers Of the Future

A Step Towards Teaching Computational Thinking Education (CTE)
Using Play

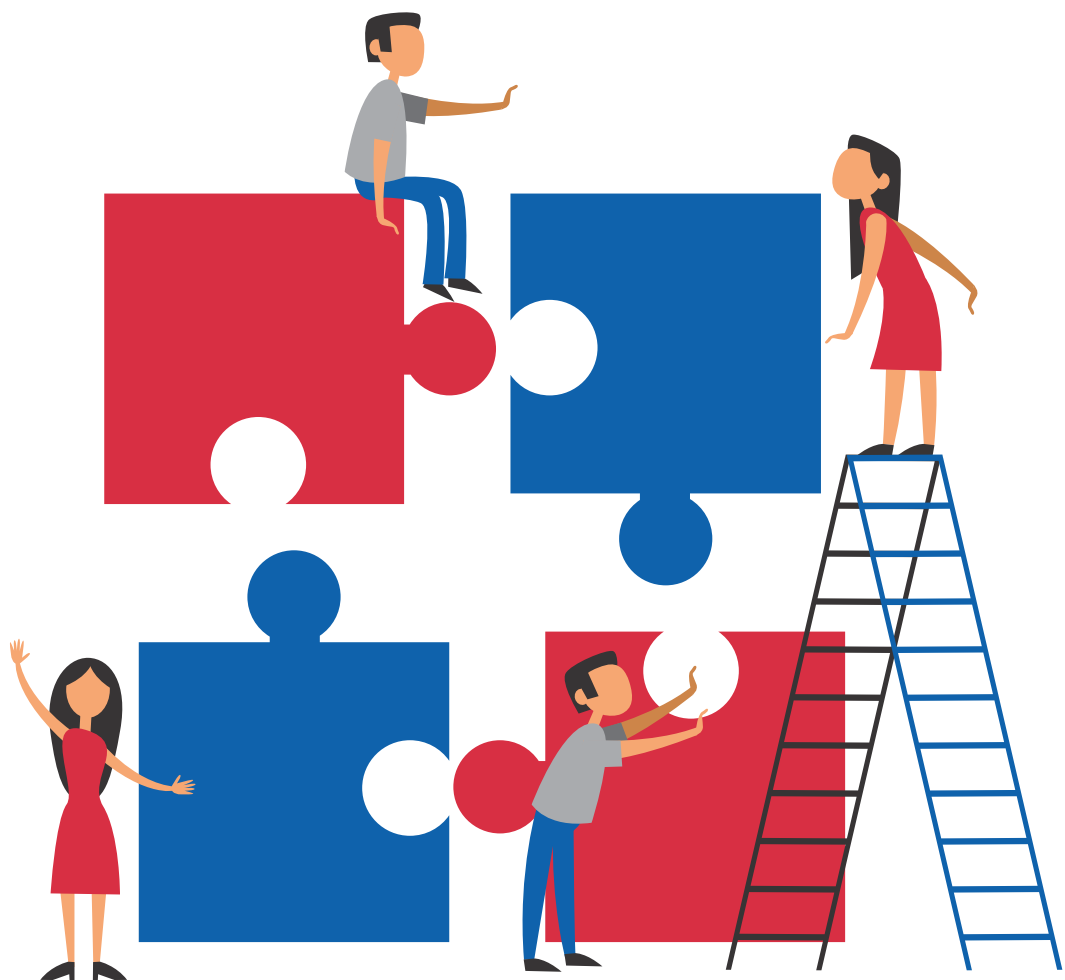


BACKGROUND

“Mathematics and computational thinking will be given increased emphasis throughout the school years, starting with the foundational stage, through a variety of innovative methods, including the regular use of puzzles and games that make mathematical thinking more enjoyable and engaging.” NEP 2020

Kids have such immense curiosity about smallest things they see or feel around them which has its answers in STEM - Science, Technology, Engineering and Mathematics. Despite the natural interest kids have in STEM topics at an early age, that enthusiasm tends to fade as they get older. Reasons could be many

1. No or minimal interventions in education methodology or curriculum with technological advancements
2. Lack of grade level learning in FLN (Fundamental Learning & Numeracy)
3. Suboptimal use of engaging learning environments – including experiential or activity based learning





SPORTZ VILLAGE VISION, APPROACH & SOLUTION FOR COMPUTATIONAL THINKING EDUCATION



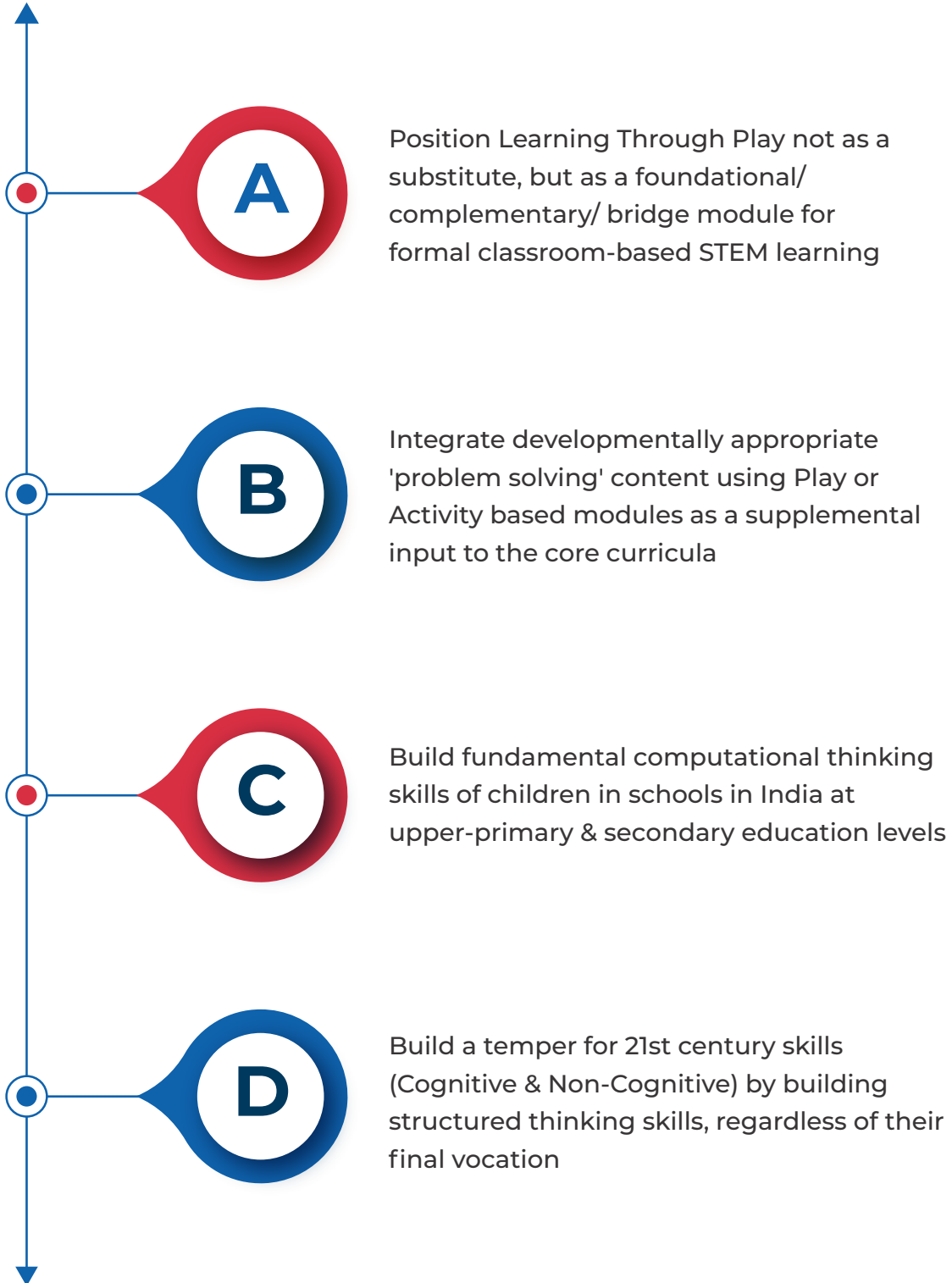
VISION

Computational Thinking Education or STEM-based Education teaches children more than science and mathematics concepts. The focus on hands-on learning with real-world applications helps develop 21st century skills like problem solving, critical thinking, creativity, curiosity, decision making, leadership, entrepreneurship, media and more – which leads to inventions and innovations. So, enabling CT education requires interventions to:

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- Help children overcome the learning disabilities in numeracy and STEM subjects using Learning Through Play (LTP)
 - Get more and more children pursue/opt for STEM education



APPROACH





SOLUTION: LEARNING THROUGH PLAY

“Problem Solving as a learning outcome is native to Sport”

Sport/Play, as a medium of intervention, inherently offers:

01

Source of Problems that are fun and engaging



Frame the problem



02

Engagement with problems



Evaluate, Abstract, Initiate action



03

Learning from problem-solving efforts



Measure results





PILOT STUDY

Sportz Village conducted a pilot study with an objective to validate the role of sport/play in CTE learning

Objective

To validate the role of play/activity/sport in CT education

Target Group

Middle-grade students (only girls as part of pilot)

Total Participants: 50,
Savitri Bai Phule Girls Inter College
& Athletics Sports Development
Centre, Greater Noida, Class 8,
Aug-Sept 2020-21, Project : HCLF

Methodology

Step 1: Identified key CT competencies



Step 2: Gathered primary inputs

Qualitative inputs were received by the Program Team supporting the role of activity and play-based learning in improving the CT competencies in middle-grade children.

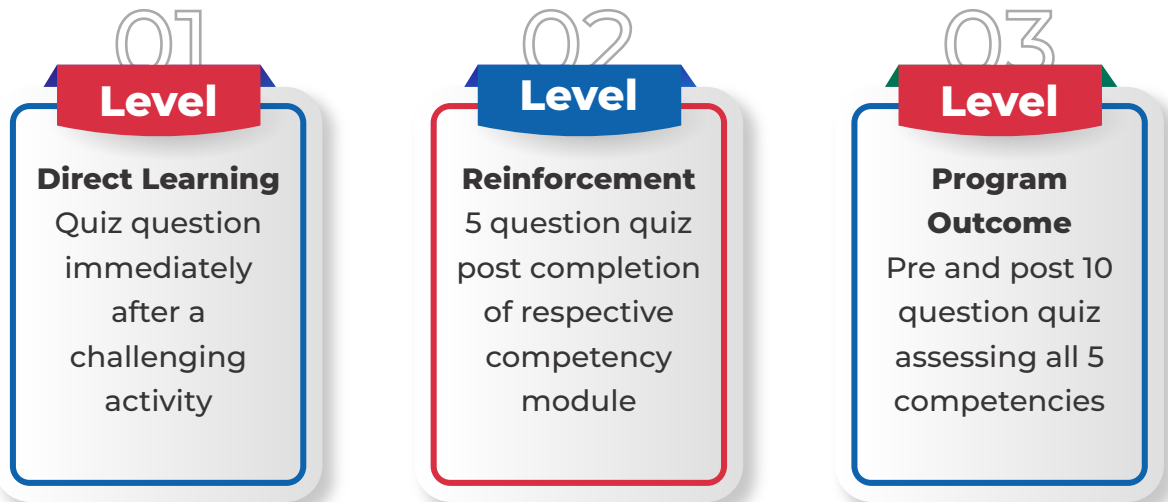
Step 3: Hypotheses Vs Indicators

To validate and test the statements received from primary inputs, four hypotheses and respective indicator statements were created

Hypotheses	Indicators
Children find content related to various CT-based competencies interesting	At least 50% of the children complete every activity
Children can make 'direct learning' through CT-based activity	Quiz question accuracy of 50% at level 1 Direct Learning quiz
Children can apply the 'direct learning' to various other aspects of life	Quiz question accuracy of 50% at level 2 Reinforcement quiz
Children can improve their overall logical-reasoning and problem-solving post pilot module	At least 60% of the children show positive movement in pre-post program outcome assessment

Step 4: The Pilot Experiment

The program was delivered through Sportz Village's asynchronous digital platform: Play at Home, Leaderboard. The content included a series of structured pre-recorded video-based activities – followed by a quiz throughout the various stages of the pilot. Each competency was assessed with a 3-level quiz:



Key Observations



Results show positive impact in real-life application of learning through play/activity



Results show positive impact in learning post play/ activity that kids find interesting

Recommendations:

Need to run a larger study to collect wider evidence to validate all key outcomes and hypotheses





OPPORTUNITIES

Drive a larger study to collect wider evidence for the role of play/sport in improving CTE learning



Develop well-tested and appropriate 'problem solving' content and Play or Activity-based module as a foundation to the core curricula



Drive engagement in schools through activity-based CT module



About Sportz Village Foundation

Sportz Village is world's largest youth sports platform that is trying to make the world a better place by getting 100 million children to play.

Sportz Village is committed to transforming the lives of children, belonging to underprivileged communities, through the magic of sports. We work with corporates and governments to incorporate our structured curriculum in public schools. Sportz Village's pioneering 'Sport for Change' program uses physical activity and sports to drive change in schools in terms of health, education and empowerment of children. The program is scientifically researched, highly tested and well-integrated into the core education process of the schools. The highly awarded 'Sport for Change' program has helped improve the educational outcomes of over 30,000 children in more than 900 public schools.

Key Offerings

Learning of Play

Learning through Play

**SHARE YOUR SUPPORT FOR TRANSFORMING
THE LIVES OF CHILDREN THROUGH SPORT**

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