

### **5. Puzzle: Enhanced Cognitive Recall**

Engaging in puzzle-solving activities strengthens the synaptic connections between neurons in our brain. Additionally, it enhances the formation of new connections. Consequently, this enhances cognitive processing speed and thought mechanisms.

Puzzles are particularly effective for enhancing short-term memory. Our transient memory facilitates the retention of forms and colors, allowing us to mentally construct the overall image and determine which components will interlock.

Puzzles necessitate the utilization of several strategies in order to attempt to resolve a problem, as they often include a significant amount of experimentation and refinement. Additionally, we get the understanding of the significance of developing theories, conducting experiments to verify hypotheses, and adjusting our viewpoints when things do not go as planned.

When solving a puzzle, it is necessary to examine various components and determine their appropriate placement within the overall composition. Engaging in this activity on a consistent basis enhances our ability to reason and perceive spatial relationships.

## **CONCLUSION**

These approaches combine to provide an interactive and stimulating educational setting, enabling students to relate their learning to real-life situations and cultivate a more profound and significant comprehension of the things they study. Children derive great pleasure from the learning process when they actively participate in subjects that hold significance and relevance. Put simply, children acquire knowledge and skills out of their own volition, rather than being compelled to do so.

In addition to the key features discussed above, our App will allow teachers to build their own presentations, and make their own assessments.

We will greatly appreciate your help if you would allow us to present our vision and mission for the "LiA" project. Furthermore, we also request to allow us to run the pilot program in a few schools of Odisha.

*Thank You...*



### **3. Flow Charts: "A picture is worth a thousand words"**

Flowcharts help the learners absorb the key learning outcomes of each topic, and help them to retain this in their memory longer.

Flowcharts are widely used for communication and documentation purposes, but they are also effective tools for problem-solving.

Flowcharts facilitate problem-solving by dividing the sequence into distinct components, each of which may be readily defined individually. Breaking down a recorded process into its key aspects allows for the identification of any missing components, wasteful steps, and critical phases. These factors are crucial for efficient problem-solving. By highlighting distinct stages of a process, individuals can readily identify isolated problem areas and concentrate their efforts on resolving those particular issues.

Furthermore, each step is accompanied with a precise direction, ensuring that no problems are left unresolved without a clear and logical path to go forward. Every element is intricately linked to the ultimate objective, ensuring that there is consistently a well-defined path towards comprehending an idea.

### **4. Vocabulary Games and Brain Games:**

Vocabulary games and brain games are fun ways to assess the degree of understanding without making it competitive. A class that is interactive, and not one that resorts to memory-based learning only is highly efficient method of teaching and learning.

Engaging in vocabulary practice games not only facilitates the acquisition of new words but also enhances children's proficiency in spelling and grammar. Activities like as playing scrabble and solving crossword puzzles have the potential to enhance one's spelling abilities. These activities also assist children's comprehension of the genuine definitions of words and their practical use in real-life situations.

Participating in problem-solving games and activities is an excellent method to stimulate mental activity. Engaging in mental activities is thought to stimulate brain cells and promote communication between them. Engage your head by doing crossword puzzles, Sudoku, and other brain games. Brain training is a method of enhancing cognitive abilities by enhancing neural connections in the brain. By constructing and reinforcing novel neural connections, you enhance your brain's capacity to efficiently handle incoming data. Engaging in repetitive practice of specific cognitive activities leads to incremental improvement.



### **How Studying Is More Efficient After a Quiz:**

- Engaging in the act of studying is a more effective and productive approach following a quiz.
- Regular quizzes provide the teacher with insight about the class's comprehension of the concepts. Quizzes assist pupils in discerning their level of knowledge and areas of deficiency. This facilitates teachers' comprehension of areas in which students want assistance.
- Following a quiz, students gain a more accurate understanding of their comprehension of the topic. Hopefully, this will serve as a motivation for them to engage in more diligent study. Additionally, their findings will assist them in allocating their study time more efficiently by concentrating on the areas that require enhancement.
- Quizzes and tests facilitate student learning by engaging in retrieval practice, which involves recalling and bringing to mind previously learned knowledge.

## **2. Interactive diagrams:**

Interactive diagrams help learners connect to the salient features of each topic. Since the student will work on the diagrams based on his/her understanding of the topic, this activity will help gauge their level of understanding. This will also help in hand-eye coordination and picture recognition.

### **What are interactive diagrams?**

Interactive diagrams facilitate learners in establishing connections with the prominent characteristics of each topic. This task will assess the student's level of comprehension while they work on the diagrams, which are dependent on their understanding of the topic. Additionally, this will enhance manual dexterity and visual perception.

### **What is the definition of interactive diagrams?**

Diagrams have been invaluable tools for conveying information since ancient times due to their irreplaceability and unparalleled effectiveness.

Users have the ability to independently design symbolic representations of processes and structures using various elements, including nodes, arrows, linkages, pools, and so on. Interactivity refers to the ability of users to actively engage with diagrams by creating or modifying them and observing how processes unfold. Additionally, the components of the diagrams provide information about the ongoing processes.

Interactive data visualization allows users to have greater control over the representation of processes. They have the ability to actively investigate diagrams rather than simply passively reading them.



**Real-World Relevance:** Themes are often connected to real-world issues and problems, making learning more meaningful.

**(v) Interactive Learning:** Interactive learning will include Quizzes, Interactive Diagrams, Flow Charts, Vocabulary Games, Brain Games, Puzzles to stimulate active participation amongst the learners. It is rightly said: "I hear, I forget. I see, I believe. I do, I understand." This is the key motto behind the inception of our interactive learning app.

### 1. Quiz:

The quizzes designed on our App are not mere quizzes that can be answered individually, rather these are collaborative games, wherein all the students of a class can participate at the same time. This will develop a sense of healthy completion. One can also form teams of few students to play the quiz games, which will help them build appreciation for team work and collaborative efforts.

#### Important points:

- Quiz games can provide both entertainment and instructional value simultaneously. They provide knowledge and also serve as stress relievers occasionally.
- Quiz games provide you with an opportunity to gain an advantage over others. These quizzes enhance your overall knowledge and simultaneously enhance your self-assurance.
- Quizzes serve as a means of breaking the ice in educational institutions, workplaces, and occasionally even in domestic settings. You become acquainted with each other's tastes and interests.
- Quiz games elicit enthusiasm and foster a competitive spirit within you. These games are enjoyable and motivate you to strive for self-improvement in subsequent attempts.

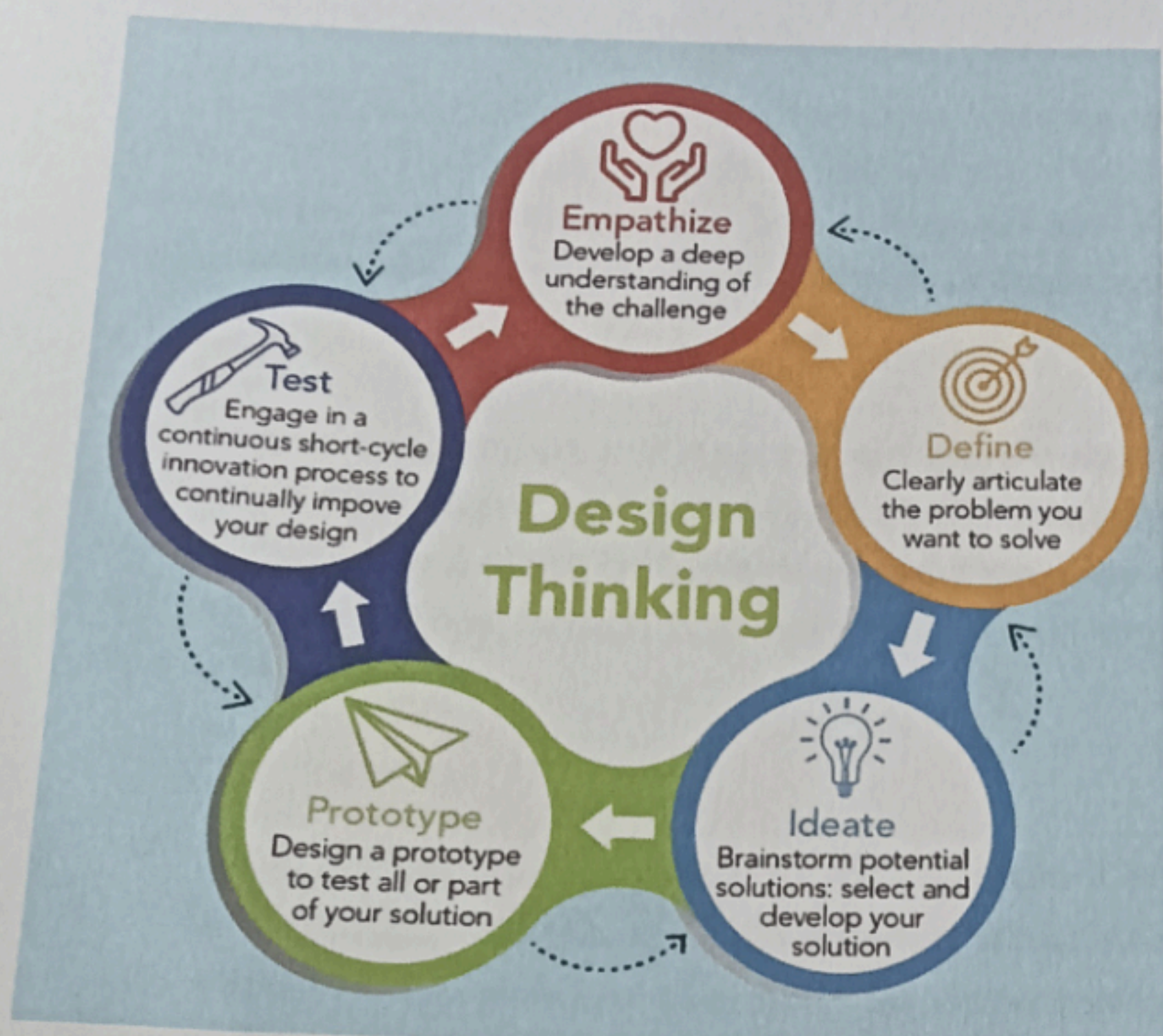
#### How Quizzes help maintain students' focus:

We are all familiar with the experience of being in class and experiencing a wandering of our thoughts. Even if the lecture pertains to a topic that captivates us. Occasionally, it appears unavoidable that, at a certain juncture, we will experience a loss of concentration. Consequently, the information that is taught is not retained.

According to a recent study, incorporating additional assessments and examinations during lectures may help to avert students' loss of concentration.

Administering quizzes to students while they are learning could be an effective method to capture their interest. Administering quizzes to pupils not only enhances their understanding levels but also improves their ability to retain material. However, teachers may also have reservations. They express concern that the frequent administration of tests may impose additional stress, so hindering student learning.





**Key Features:**

**Empathy:** Understanding the needs, desires, and challenges of the end user through observation and interviews.

**Define:** Clearly articulating the problem to be solved based on insights gathered during the empathy phase.

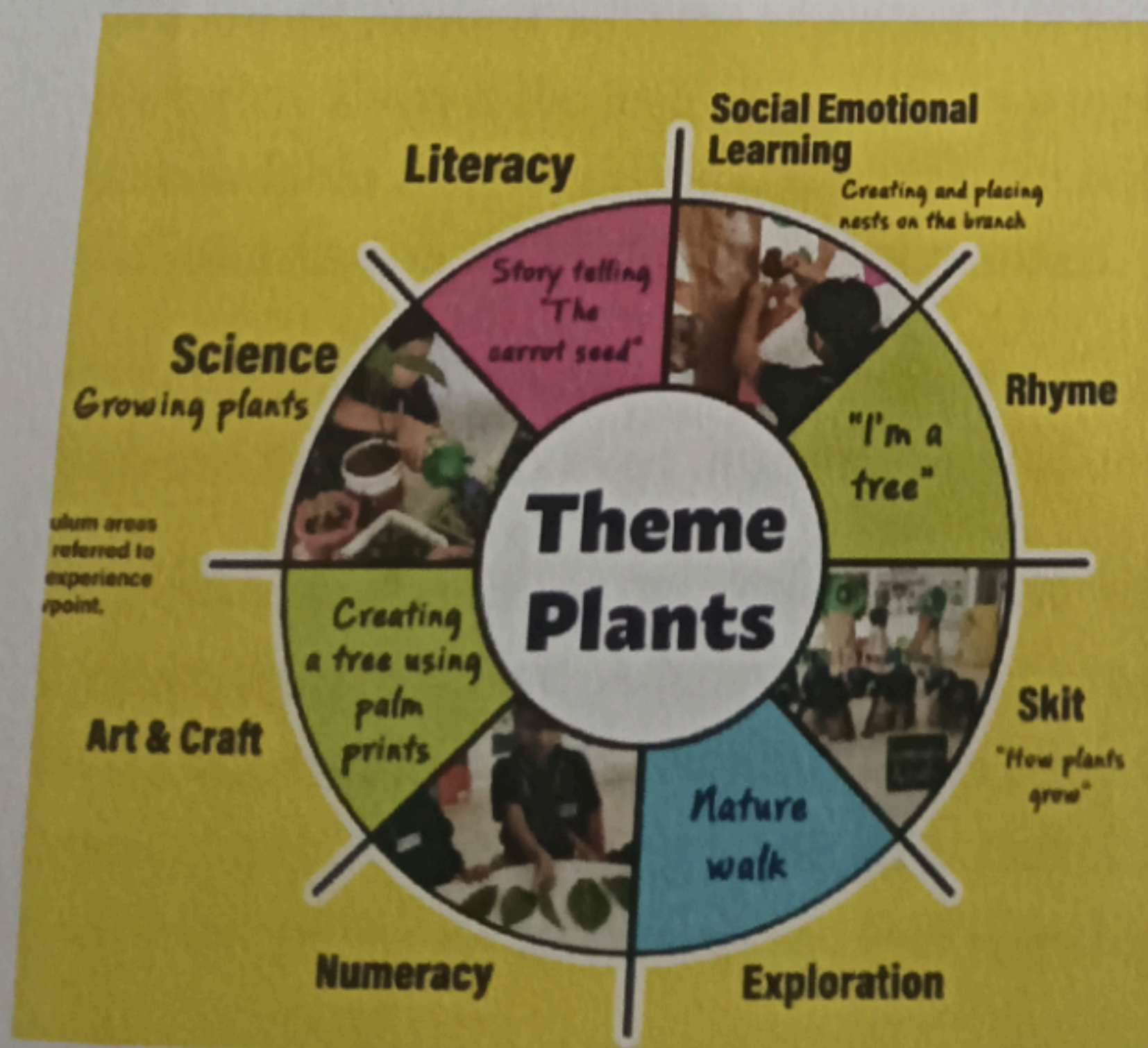
**Ideate:** Generating a broad range of ideas and potential solutions through brainstorming sessions.

**Prototype:** Building tangible representations of ideas to explore their feasibility and usability.

**Test:** Testing prototypes with users, gathering feedback, and iterating to improve the solution.

**(iv) Thematic Learning:** Thematic Learning integrates multiple subjects around a central theme, allowing students to see the interconnectedness of their learning. This approach enhances positive attitudes towards knowledge acquisition and supports the development of analytical, reasoning, and problem-solving skills.

Thematic Learning is an instructional approach that integrates multiple subjects around a central theme. It allows students to make connections across different disciplines and see the relevance of their learning in a broader context.



**Key Features:**

**Central Theme:** Learning activities are organized around a central theme that is relevant and engaging for students.

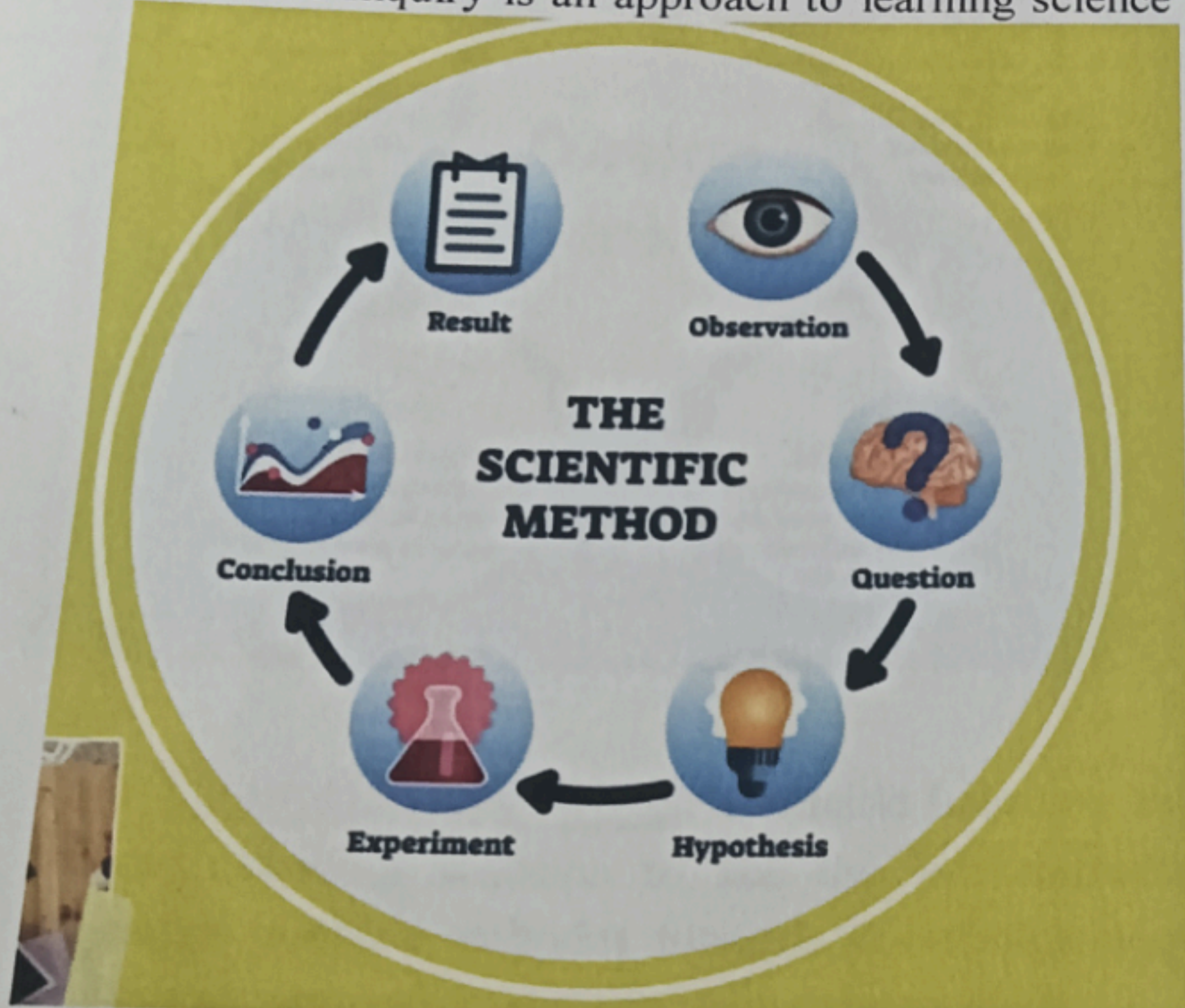
**Interdisciplinary Connections:** Subjects such as math, science, language arts, and social studies are integrated and connected through the theme.



**Public Product:** Students create a final product that is shared with a public audience beyond the classroom, which can be through presentations, exhibitions, or digital format

**(ii) Scientific Inquiry:** Scientific Inquiry involves exploring natural phenomena through questioning, observation, experimentation, and evidence-based reasoning. This approach not only deepens students' grasp of scientific concepts but also nurtures curiosity and critical thinking.

Scientific Inquiry is an approach to learning science that involves exploring the natural world through asking questions, making observations, conducting experiments, and developing explanations based on evidence.



**Key Features:**

**Questioning:** Science inquiry begins with a question about a natural phenomenon.

**Investigation:** Students engage in hands-on investigations to collect data and make observations.

**Evidence-Based Reasoning:** Students use evidence gathered during investigations to formulate explanations.

**Communication:** Students share their findings and explanations with others, often engaging in discussions and debates.

**Reflection:** Reflecting on the inquiry process and findings to understand the implications and applications of the results.

**(iii) Design Thinking:** Design Thinking focuses on human-centered problem-solving by emphasizing empathy, defining problems, ideating solutions, prototyping, and testing. This iterative process encourages students to develop creative and innovative solutions that meet user needs effectively.

Design Thinking is a human-centered approach to problem-solving that emphasizes understanding the user, challenging assumptions, and redefining problems to identify alternative strategies and solutions.



**What are the goals of the project, and the activities that will be implemented toward those goals?**

In the evolving landscape of education, innovative instructional methodologies are transforming the way students engage with and understand the world around them. Four prominent approaches, Project Based Learning, Scientific Inquiry, Design Thinking, Thematic Learning each offer distinct advantages that enhance student engagement, critical thinking, creativity, and real-world problem-solving skills.

**Our project aims to work on the following five verticals:**

**(i) PBL: Project Based Learning :** Project-Based Learning (PBL) encourages students to learn and apply knowledge through extended, hands-on projects centered around compelling questions or real-world challenges. This method promotes active learning and ownership, fostering deep understanding and essential skills such as collaboration and communication.

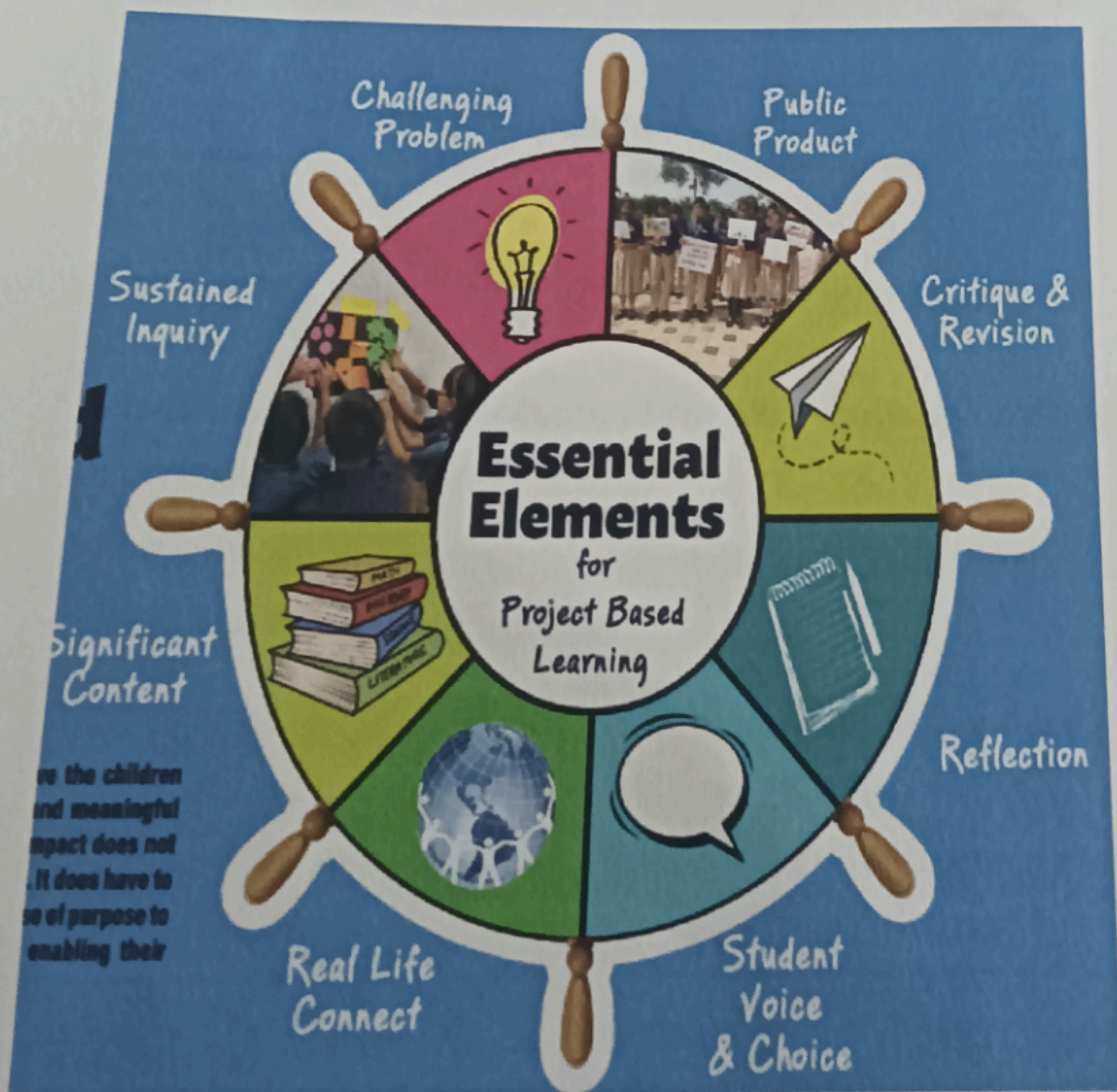
PBL is an instructional methodology that encourages students to learn and apply knowledge and skills through an engaging project. Students work on a project over an extended period, which allows them to explore real-world problems and challenges, promoting active and engaged learning.

#### Key Features:

**Driving Question:** PBL is centered around a compelling question or problem that drives the learning process. This question should be open-ended and promote critical thinking and problem-solving.

**Student Voice and Choice:** Students have a say in the direction of their projects, which increases engagement and ownership of their learning.

**Inquiry and Innovation:** Students engage in an inquiry process where they ask questions, research, and use critical thinking to find solutions. This often leads to innovative and creative outcomes.



**Reflection:** Reflection is a crucial component where students and teachers reflect on what was learned and the effectiveness of the learning process.



## CONCEPT NOTE

**LiA: Learning Involving All**

<b>Name of Implementing Organization</b>	: Subhadra Charitable Trust
<b>Contact Person for this Application (POC)</b>	: Jyoti Ranjan Tripathy, Chairman
<b>Email Address</b>	: subhadratrust@gmail.com
<b>Telephone Number</b>	: (+91) 9439112233

**A short statement describing the applicant organization, including a brief history, the mission, and status as a non-profit NGO:**

The Subhadra Charitable Trust (SCT) is a legally registered organization bearing Registration Number: 41081118554 of 2011 that was founded in 2011 by a group of individuals in Bhubaneswar who are passionate about social and educational causes. The main goal of the trust is to implement effective and measurable initiatives that empower the impoverished and marginalized communities, with a particular focus on their socio-economic development. Over the years, the Trust has demonstrated a keen interest in diverse areas such as Education, Health, Livelihood Support, Human Resources Development, Environment, and more. The Trust has not yet received any external money, but it is nevertheless carrying out philanthropic activities within its constraints.

## PROJECT DESCRIPTION

**What is the problem that this proposed project seeks to address?**

Around 14,000 schools in Odisha have smart boards installed in their classrooms. However, these modern teaching tools are not used efficiently. We strive to provide the best solution for the usage of smart boards with custom-made learning materials for students of all grades. We have developed an interactive learning app, that can be easily integrated on to the smart boards. This app, which we have named as **“LiA: Learning involving All”** is aligned with the principles of the NEP, and will be available both in vernacular and English language.

Teachers are not trained well regarding the procedure to use smart boards. Teachers' training program with demonstration of the various useful features of smart board is essential.