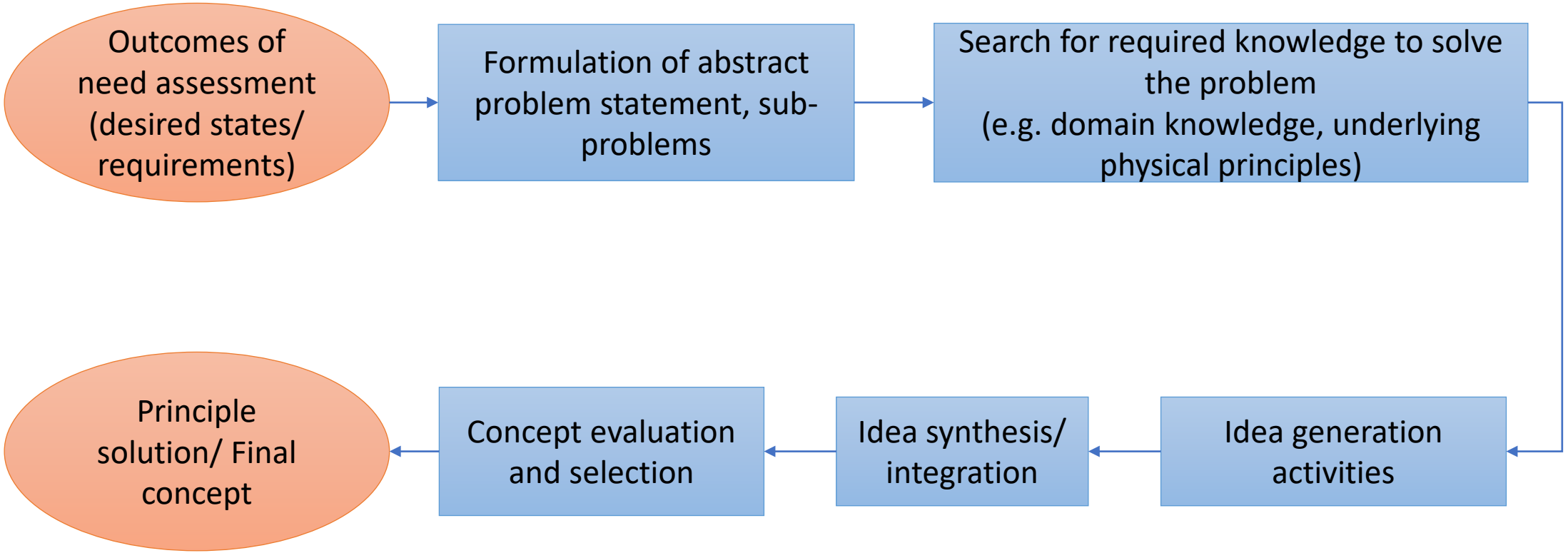
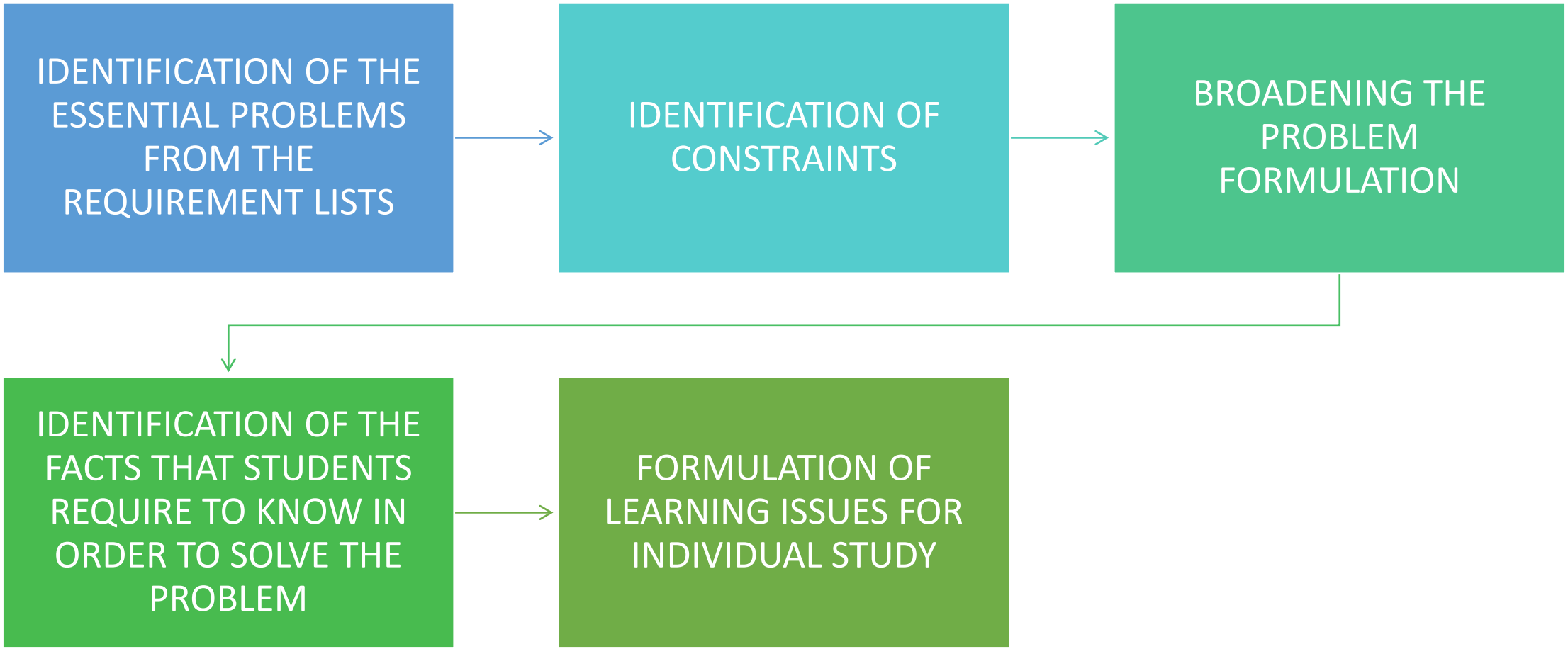
Ideation


Outcomes of need assessment (desired states/ requirements)
Formulation of abstract problem statement, sub-problems
Search for required knowledge to solve the problem (e.g. domain knowledge, underlying physical principles)
Idea generation activities
Idea synthesis/ integration
Concept evaluation and selection
Principle solution/ Final concept

Lesson 1: Formulation of abstract problem statement, sub-problems



Lesson 2: Search of knowledge that is required to solve the problem

SEARCHING FOR THE RESOURCES

EVALUATING THE RESOURCES

SEARCHING FOR THE UNDERLYING PHYSICAL PRINCIPLES

PURSUING DOMAIN KNOWLEDGE

Lesson 3: Idea generation activities

Group activities

- Brainstorming
- Gallery method
- …

Providing stimulus

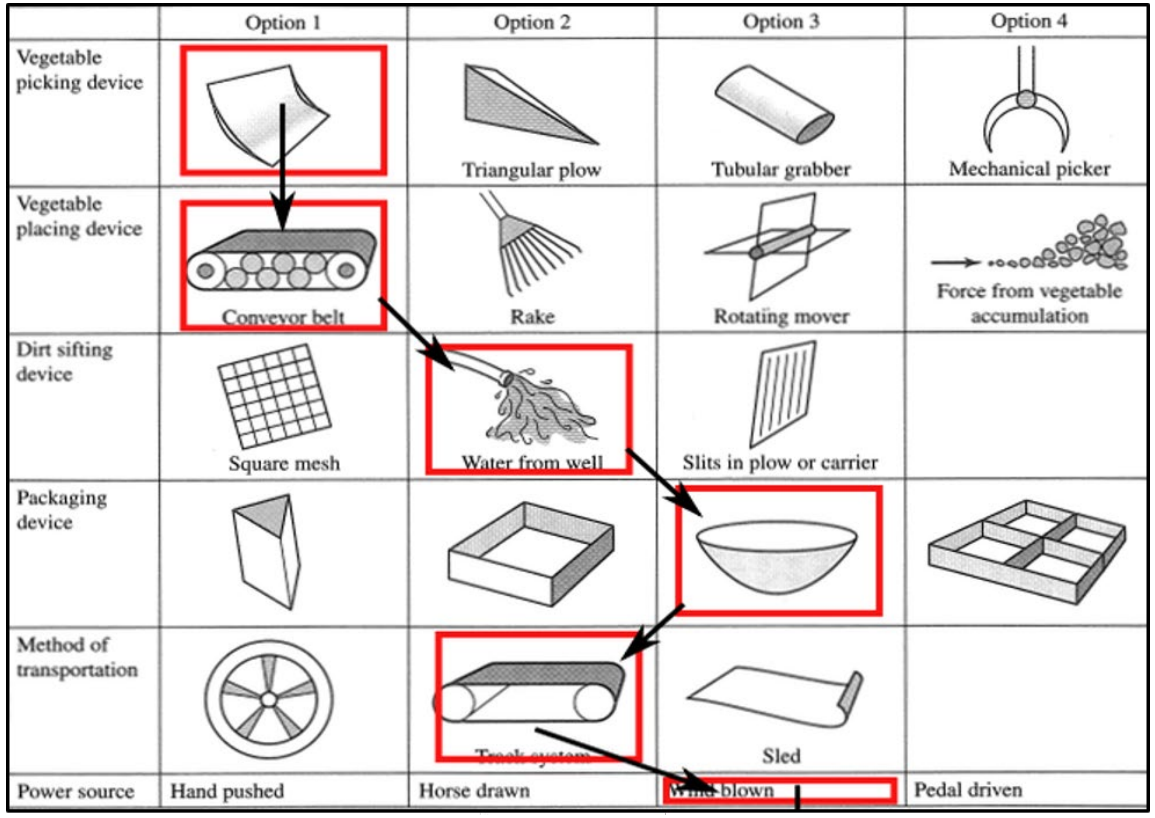
- Trigger word
- Inspiration from nature
- …

Structured process

- Checklist
- Study of physical process
- …

Lesson 4: Idea synthesis/ integration

Critical Function 1	Critical Function 2	Critical Function 3	Critical Function 3
Solution 11	Solution 12	Solution 13	Solution 14
Solution 21	Solution 22	Solution 23	Solution 24
Solution 31	Solution 32	Solution 33	Solution 34



Lesson 5: Concept evaluation and selection activities

- Involving the problem owner
- Identification of evaluation criteria
- Evaluation of alternative solutions against the criteria
- Selection of best combination