

# RESHAPING STUDENTS' MINDSET TO UNLOCK THE INNOVATIVE POTENTIALS THROUGH PROJECT DESIGN EDUCATION

Nguyen Xuan Hung, HUTECH University  
Email: n.xuanhung@hutech.edu.vn



## Introduction

- Hard to identify the problem and solve it.
- Lacking independent learning, presentation, and teamwork skills
- Do not have strong innovative skills to bring the idea or basic research from university to product development in the market.
- Pay low attention to social or community responsibility, making innovations less sustainable.

## Approach

**Project Design (PD) Education** as one effective alternative to help students act independently and become active thinkers.

- Rotation of roles (leader, secretary, supervisor, and presenter) to familiarize with the future work environment.
- Learning assessment based on students' completion of individual and group assignment (presentations, reports or final project poster).
- The employability skills (e.g., communication, collaboration/ teamwork, presentation, etc.) and innovative skills to be ready for the industry are gained and improved over time.

## Learning Outcomes:

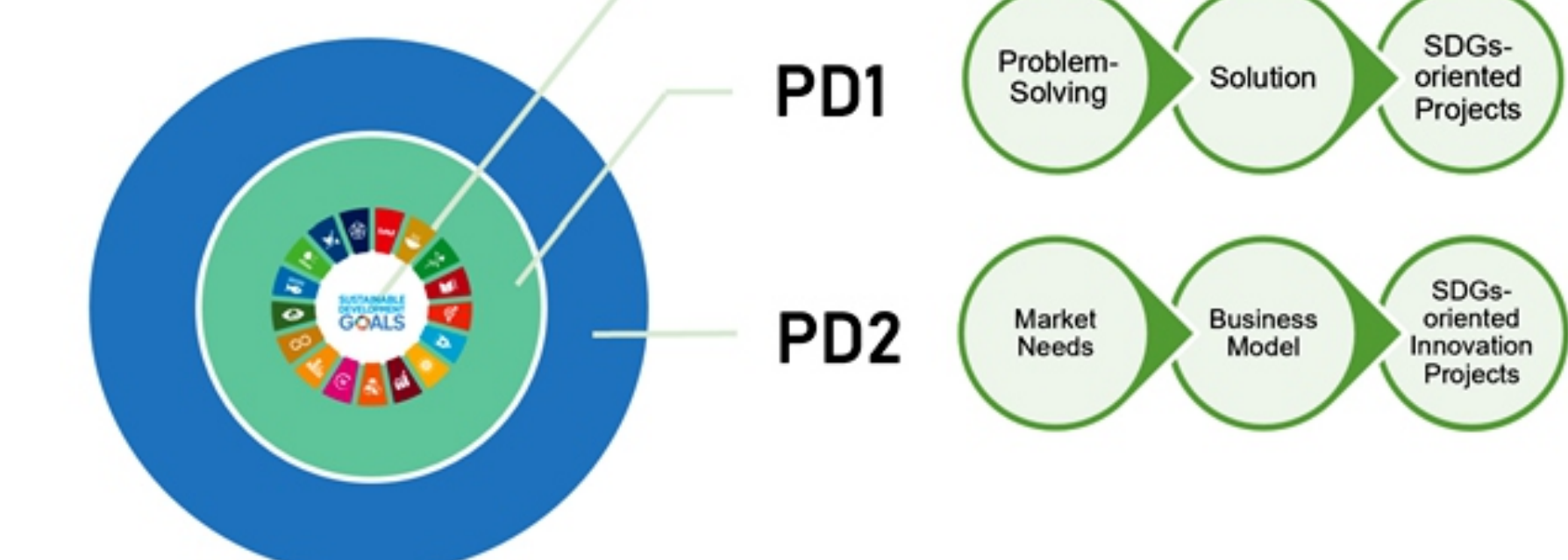
- Recognize the importance of developing active thinking, growth mindset, and design thinking in problem-solving to contribute to the SDGs.
- Apply the professional skills (communication, collaboration/ teamwork, presentation, etc.) to solve real worlds open-ended problems.
- Demonstrate positive attitudes towards self-learning, teamwork, professional work ethics, and community responsibility.

## Active Learning of PD Across Curriculum

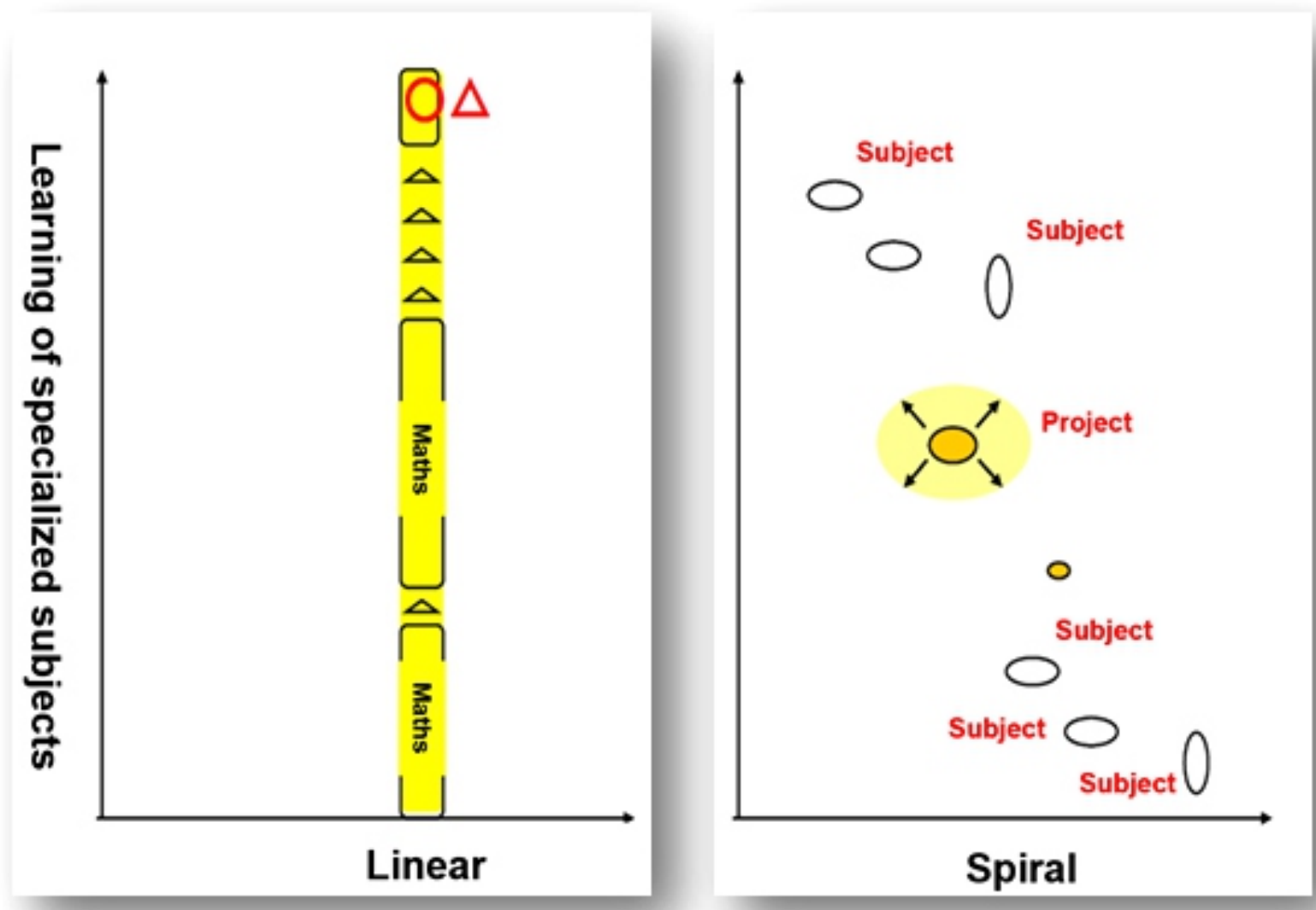
Syllabus	Integrated Curriculum (Chương trình tích hợp)											
	Year 1			Year 2			Year 3			Year 4		
• Thiết kế DA 1-2 (PDI-Z)	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course
• BMST-TDKN (IETI-Z)	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course	Course

## Main Themes

Theme: Sustainable Development Goals (SDGs)



## Learning of PD Modules

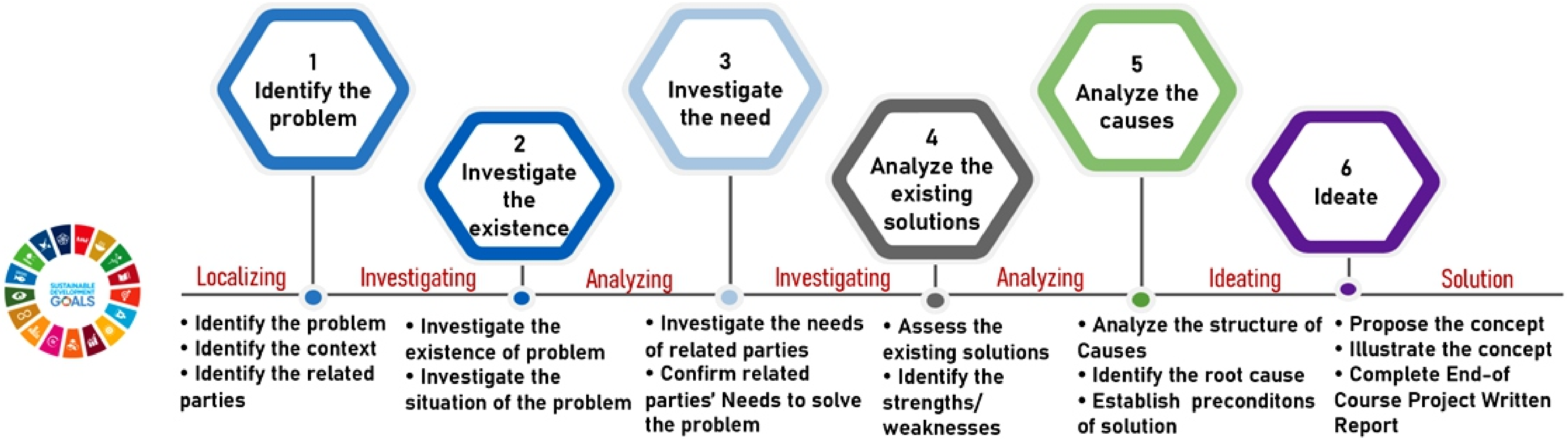


## Learning Abilities Gained

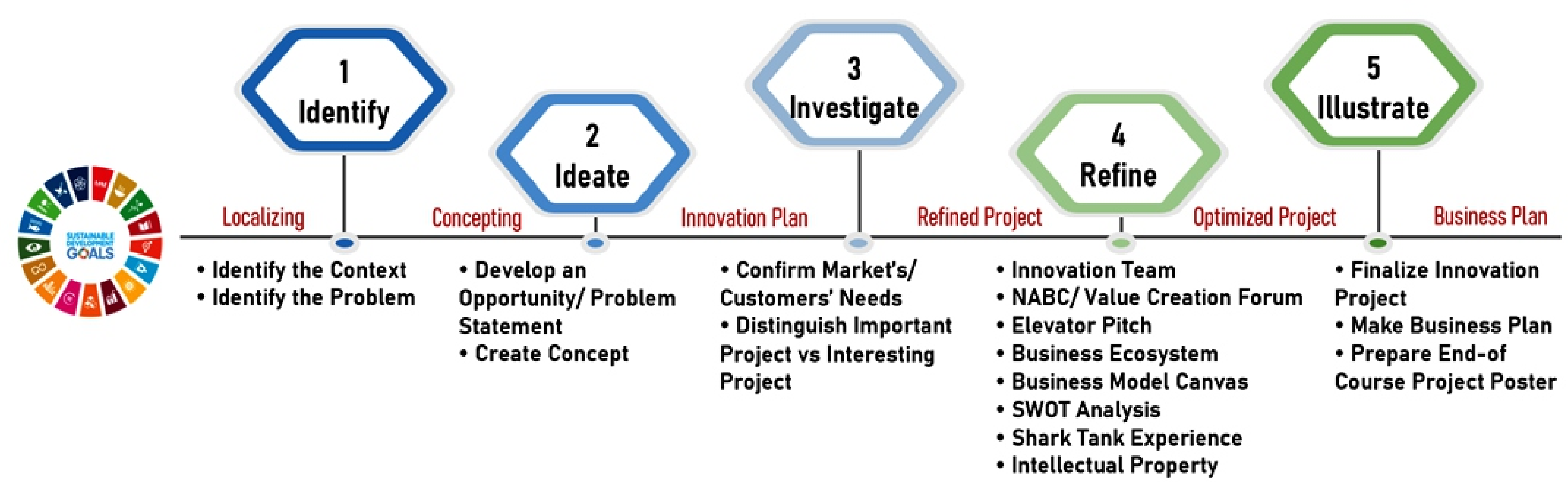
- PD modules in HUTECH University since 2015 and in HCM University of Economics & Finance (UEF) since 2017.
- Key PD learning abilities highly rated:
  - to act and collaborate in a team (teamwork)
  - to develop discussions in a team
  - to conduct good communication skills (written, oral, graphic, and listening)
  - to deliver the presentation in public
  - to survey the market needs and analyze the data
  - to be independent in thinking and acting
  - to manage the time

## Innovative Process of PD Modules

### Project Design 1 [PD1]



### Project Design 2 [PD2]



## Use of SDGs in PD Modules

Project Design Courses	SDG 1	SDG 2	SDG 3	SDG 4	SDG 5	SDG 6	SDG 7	SDG 8	SDG 9	SDG 10	SDG 11	SDG 12	SDG 13	SDG 14	SDG 15	SDG 16	SDG 17
PD1	○	○	○	○	●	○	○	●	●	●	●	●	-	-	-	-	-
PD2	○	○	○	○	●	○	○	●	○	-	○	○	○	-	-	-	-
PD3	●	●	○	●	●	○	○	○	○	●	○	○	●	-	-	○	-

○ Strongly related    ● Somehow related    - Weakly related

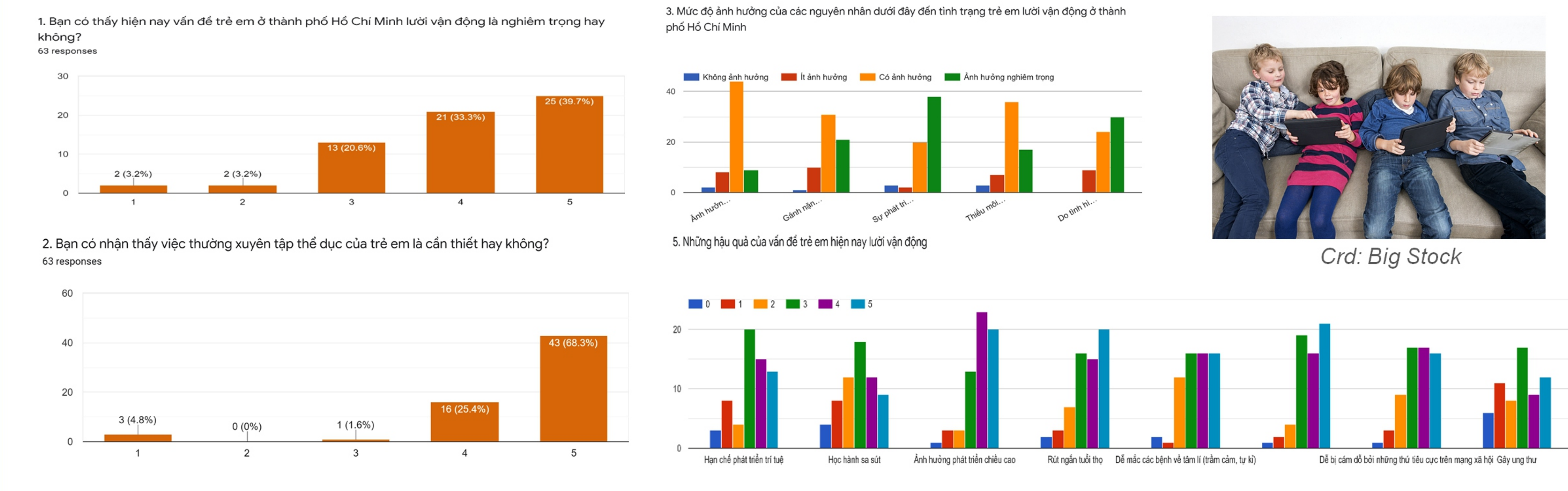
### 1. Identify the Problem

Think about SDGs and find out the challenges related to student's life or surrounding life.

Quy trình đánh giá/ lựa chọn (Evaluation of Individual Ideas)	1	2	3	4	5	6
① Trẻ em lười vận động ở TP. HCM (The physical inactivity of children in HCM City)	1	1	1	1	1	6
② Tình trạng quá tải hàng tồn và thiếu hụt nhân lực Logistics ở Cảng Cát Lái (Overloading of stockpiled products and shortage of logistics manpower at Cat Lai Port)	0	1	1	1	0	3
③ Tình trạng ngập nước do hệ thống thoát nước ở đường Nguyễn Văn Khí, Gò Vấp, TP. HCM (Overloading due to water drainage system on Nguyen Van Khí Street, Go Vap, HCM City)	0	1	1	1	0	4
④ Vấn đề ô nhiễm nước ở Sông Sài Gòn (Pollution of water on Sai Gon River)	1	1	1	1	0	4
⑤ Thái độ tiêu cực của giới trẻ trên mạng xã hội (Bad behaviors of young people on social networks communications)	0	1	1	1	0	4
⑥ Tình trạng gia tăng xe máy làm tăng ô nhiễm không khí ở TP. HCM (Increased number of motorbikes is causing more air pollution in HCM City)	1	1	1	1	1	5

## Example of PD1

### 2. Investigate the Existence of the Problem



### 3. Investigate the Need of related Parties

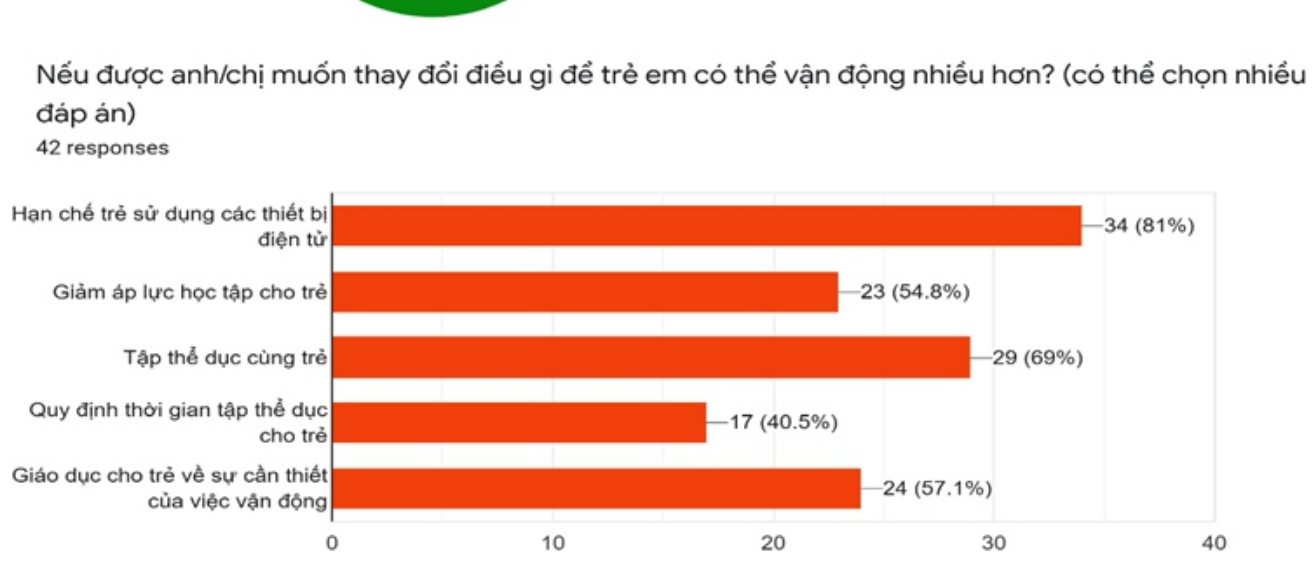
Người việc học và chơi, bé thường đánh ba nhiều thời gian trong ngày cho việc rèn luyện sức khỏe?



Anh/chị có mong muốn giải quyết vấn đề con em mình lười vận động không?



Nếu được anh/chị muốn thay đổi điều gì để trẻ em có thể vận động nhiều hơn? (có thể chọn nhiều đáp án)



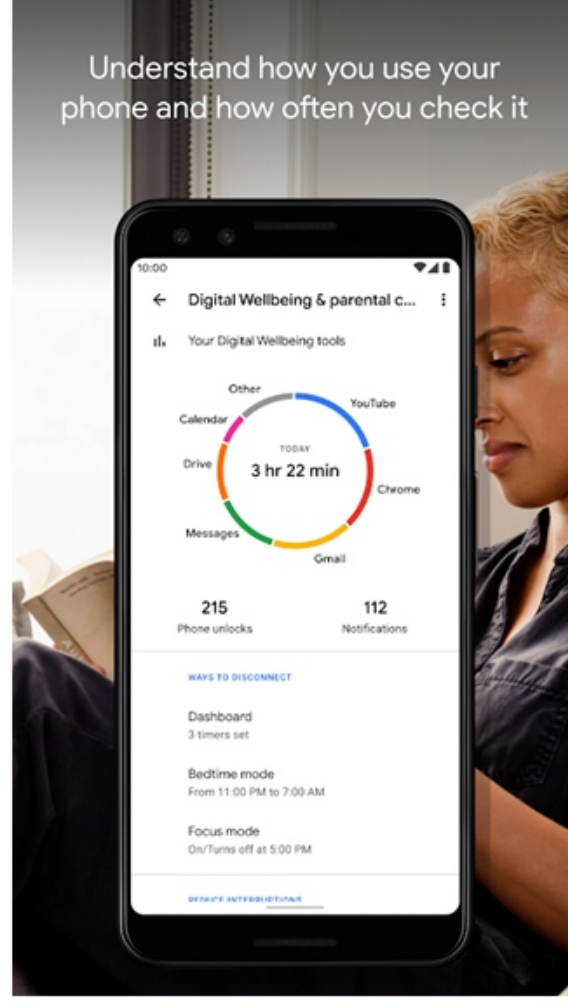
### 4. Analyze the Existing Solutions

\* VR game: Ring Fit Adventure

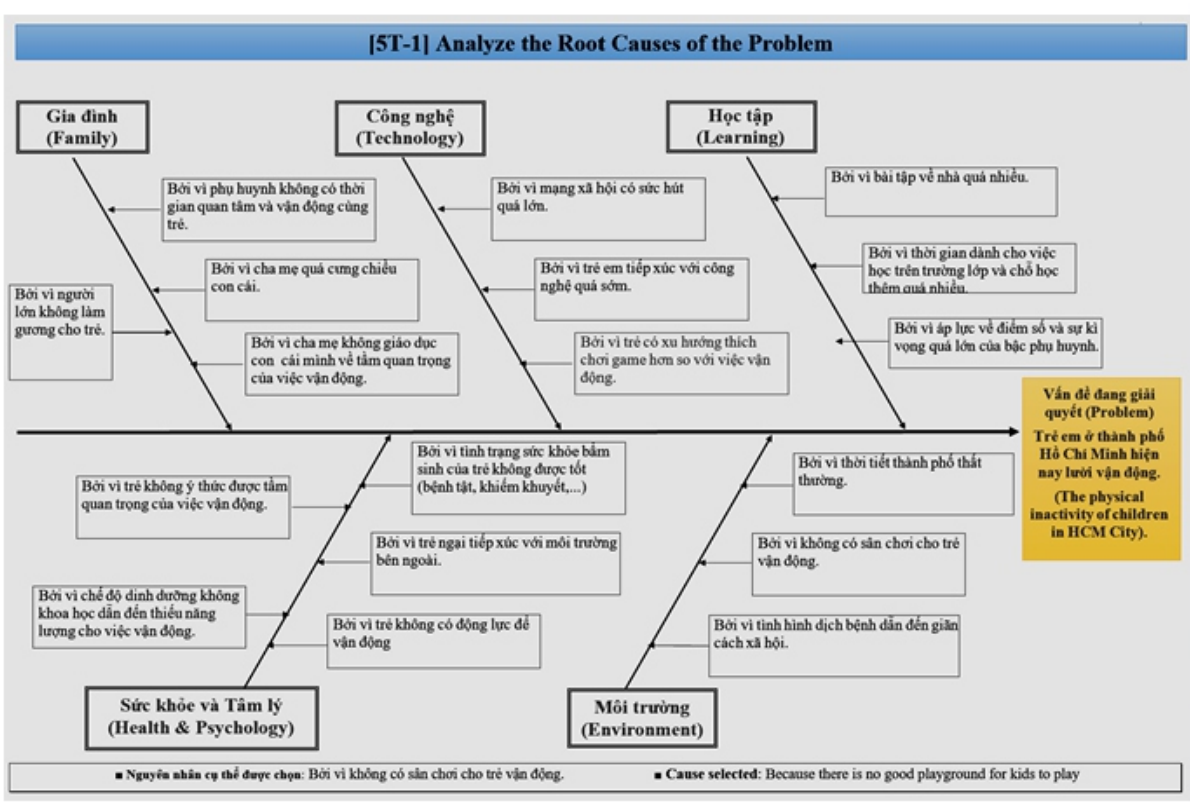


\* App: Digital Wellbeing

- Easy to use
- Attractive to users
- Not effective for kids to do physical exercises.



### 5. Analyze the Root Causes of the Problem



\* Preconditions:

Enablers	Barriers	Constraints
• High demand of kids for outdoor exercises on the weekend.	• Some kids are not comfortable to play with other kids.	• Must be safe and appropriate for kids.
• High demand of parents for controlling the kids' overuse of electronic devices	• Some parents do not trust playgrounds.	• Must be under control of parents.

### 6. Ideate

Quy trình đánh giá/ lựa chọn (Evaluation of Concepts)	1	2	3	4	5	6
① Sản phẩm thiết kế (Key Product)	1	1	1	1	0	1
② Kết hợp tạo thành sản phẩm từ các ý tưởng (Combination of Ideas to create a product)	0	1	1	1	0	3
③ Lập kế hoạch mô hình thực tế của ý tưởng (Establishment of a practical model plan for the idea)	1	1	1	1	0	4
④ Công việc thực hiện của ý tưởng (Implementation of the idea)	1	1	1	1	1	4
⑤ Mua hoặc tự tạo các dụng cụ tập tại nhà (Purchase or create exercise equipment at home)	0	1	1	1	-1	2
⑥ Công việc thực hiện của ý tưởng (Implementation of the idea)	1	1	0	1	1	3



PHOTOS OF PD ACTIVITIES

