5. Creating a New Design from Scratch

- 5.1 Entering the Course Information
- 5.2 Exploring with the Learning Design Triangle
- 5.2.1 Intended Learning Outcomes (ILOs)
- 5.2.2 Disciplinary Practice (DP)
- 5.2.3 Pedagogical Approach
- 5.3.1 Creating Curriculum Components (CCs) Part 1
- 5.3.2 Creating Curriculum Components (CCs) Part 2

5.1 Entering the Course Information

In this chapter, we will use **"Designing for the Wise",** a STEAM course developed by our partner school, as an example to demonstrate how to apply the Learning Design Triangle (LDT) framework introduced in **Chapter 2** to create a learning design in the Learning Design Studio (LDS).

At the beginning, the LDS guides you to consider some basic course information such as topic, key learning area(s), grade level and lesson time.

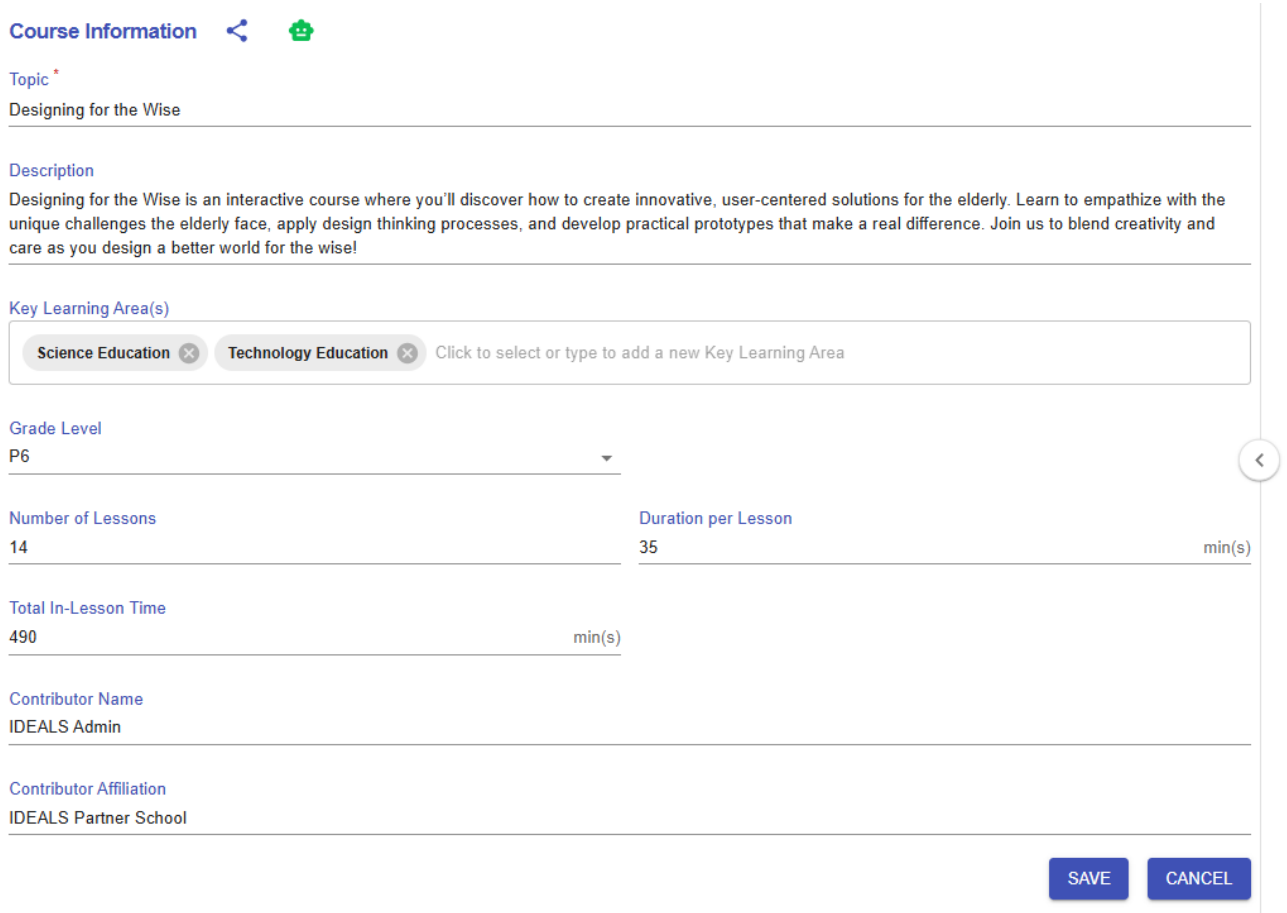


Figure 5.1: Course Information Section

Item	Content
Title	Designing for the Wise
Description	Designing for the Wise is an interactive course where you' ll discover how to create innovative, user-centered solutions for older adults. Learn to empathize with the unique challenges seniors face, apply design thinking processes, and develop practical prototypes

	that make a real difference. Join us to blend creativity and care as you design a better world for the wise!
Key Learning Area(s)	Science Education, Technology Education
Grade Level	P6
No. of Lesson	14
Duration per Lesson	35 mins
Total In-Lesson Time	490mins
Contributor Name	IDEALS Admin
Contributor Affiliation	IDEALS Partner School

5.2 Exploring with the Learning Design Triangle

Once you have filled out the course information section, you will use the **Learning Design Triangle** framework to design contextual framework for the entire learning design. This involves specifying the 1) intended learning outcomes, 2) disciplinary practice, and 3) pedagogical approach.



Figure 5.2: Learning Design Triangle Section

5.2.1 Intended Learning Outcomes (ILOs)

For guidance on developing strong ILOs, refer to **Chapter 2.2 - Intended Learning Outcomes (ILOs)**

In the Learning Design Studio (LDS), there are four categories of Intended Learning Outcomes (ILOs):

- **Disciplinary Knowledge**: The core concepts, theories, facts, and frameworks that are recognized and developed within a particular field or area of study.
- **Disciplinary Skills**: The specific techniques, methods, and competencies associated with a particular field or area of study.
- **Generic Skills**: The broad abilities that help people succeed in education, work, and daily life, regardless of a particular field or area of study.
- **Values & Attitudes**: The beliefs, principles, and dispositions that guide a person's behavior, decision-making, and interactions with others.

Adding a New ILO

There are two ways to add a new ILO: (1) writing it yourself, or (2) using the ILO patterns.

1. Adding a New ILO - Writing it Yourself

- You will write the full ILO to indicate what students is expected to achieve as a result of the learning process.

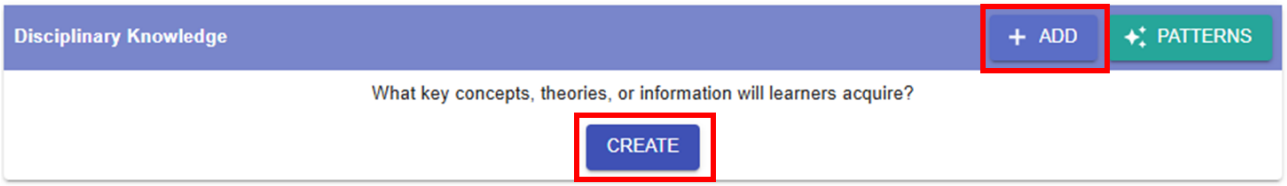


Figure 5.3: Adding a New ILO

- If you have not added any ILOs before, you can click the + ADD or CREATE button to add a new ILO.

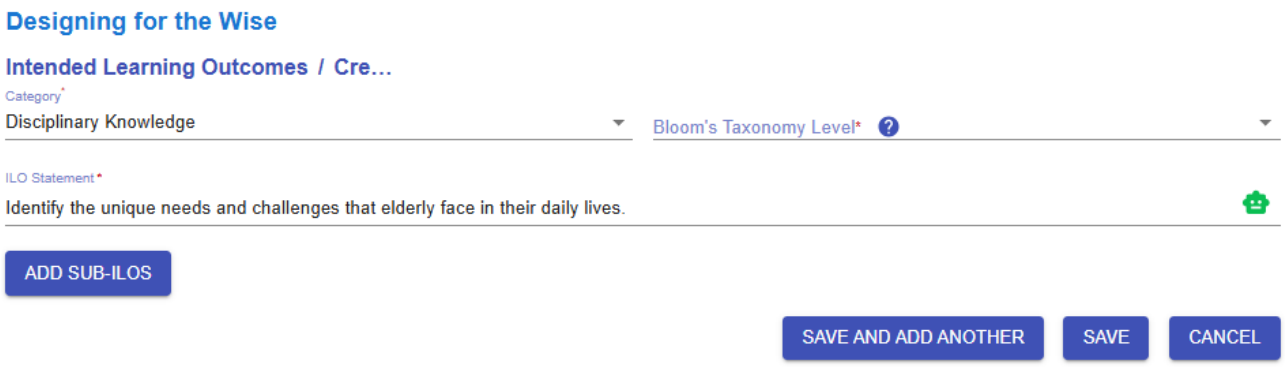


Figure 5.4: Interface of the ILO Builder (1)

- We will review each field in the ILO Builder below.

1. Subject/Discipline(s)



Figure 5.5: Interface of the ILO Builder (2)

- Select the appropriate discipline(s) for each ILO as needed.

2. Category

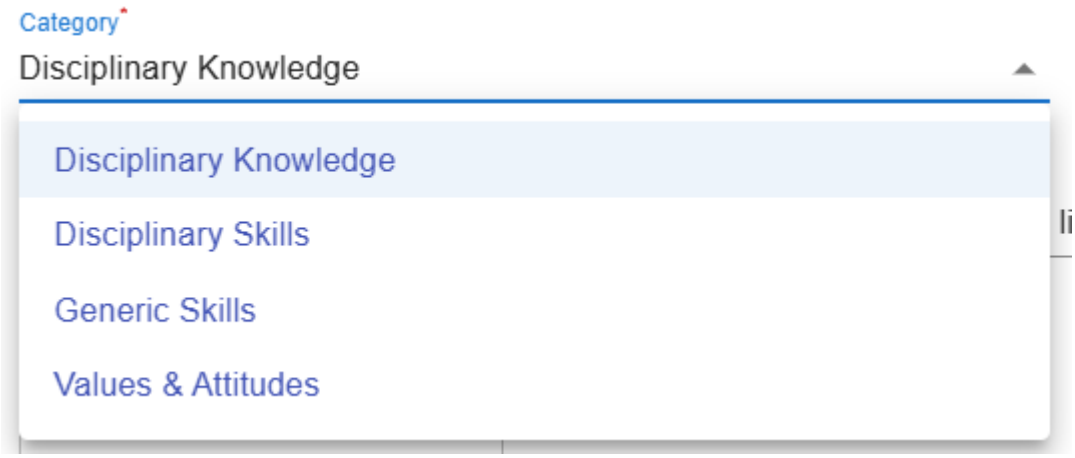


Figure 5.6: Interface of the ILO Builder (3)

- Select the category of ILO: **Disciplinary Knowledge, Disciplinary Skills, Generic Skills, or Values & Attitudes**.

3. Bloom's Taxonomy Level

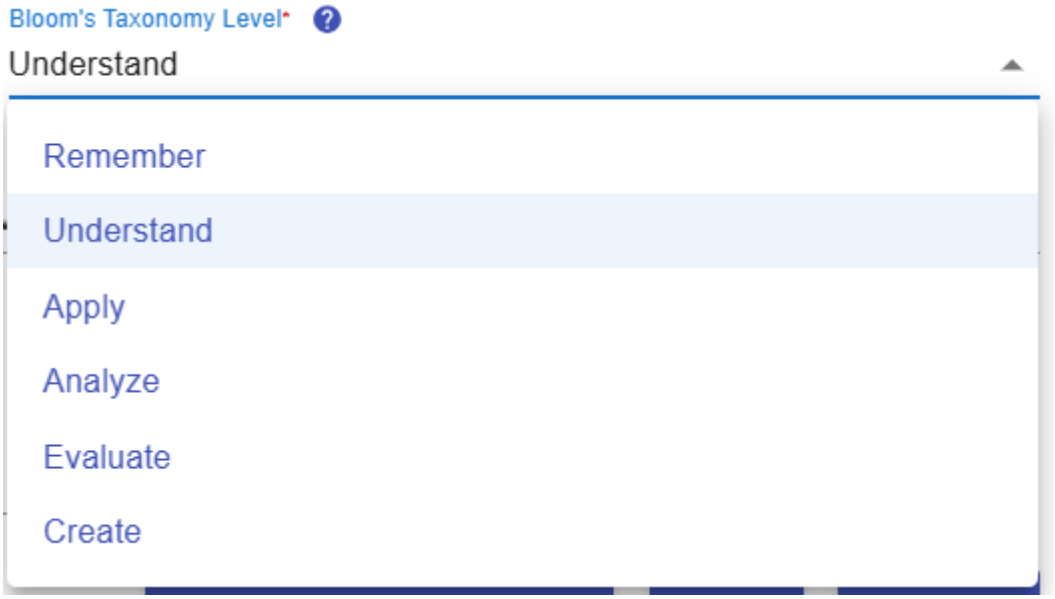


Figure 5.7: Interface of the ILO Builder (4)

- Select the Bloom's Taxonomy level that best reflects the intended skill, knowledge, or value for this outcome (e.g., Remember, Apply, Evaluate).

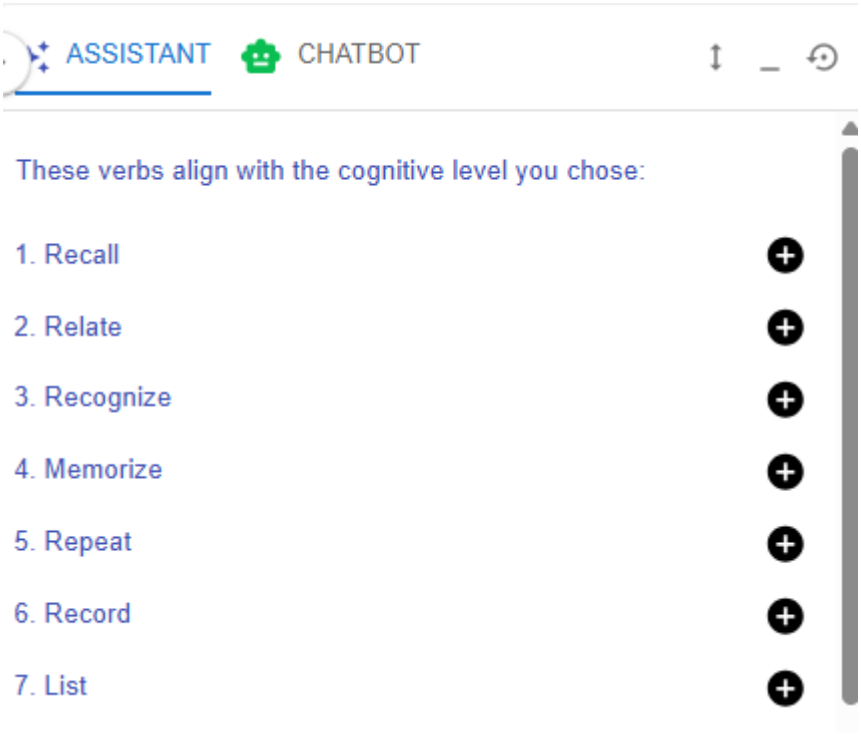


Figure 5.8: Writing a ILO with the Learning Design Facilitator

- After selecting the Bloom's Taxonomy level, the Learning Design Facilitator will recommend suitable action verbs to help you formulate your ILOs.
- Choose the appropriate action verb that best reflects the skill, knowledge, or value targeted by your ILO.

4. ILO and Learning Design Facilitator

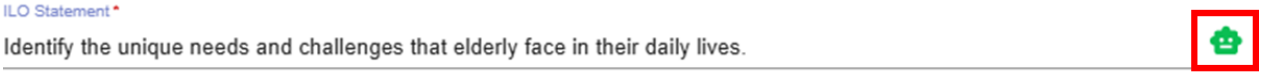


Figure 5.9: Interface of the ILO Builder (5)

- Click the Learning Design Facilitator button to request feedback from the chatbot on your ILO.

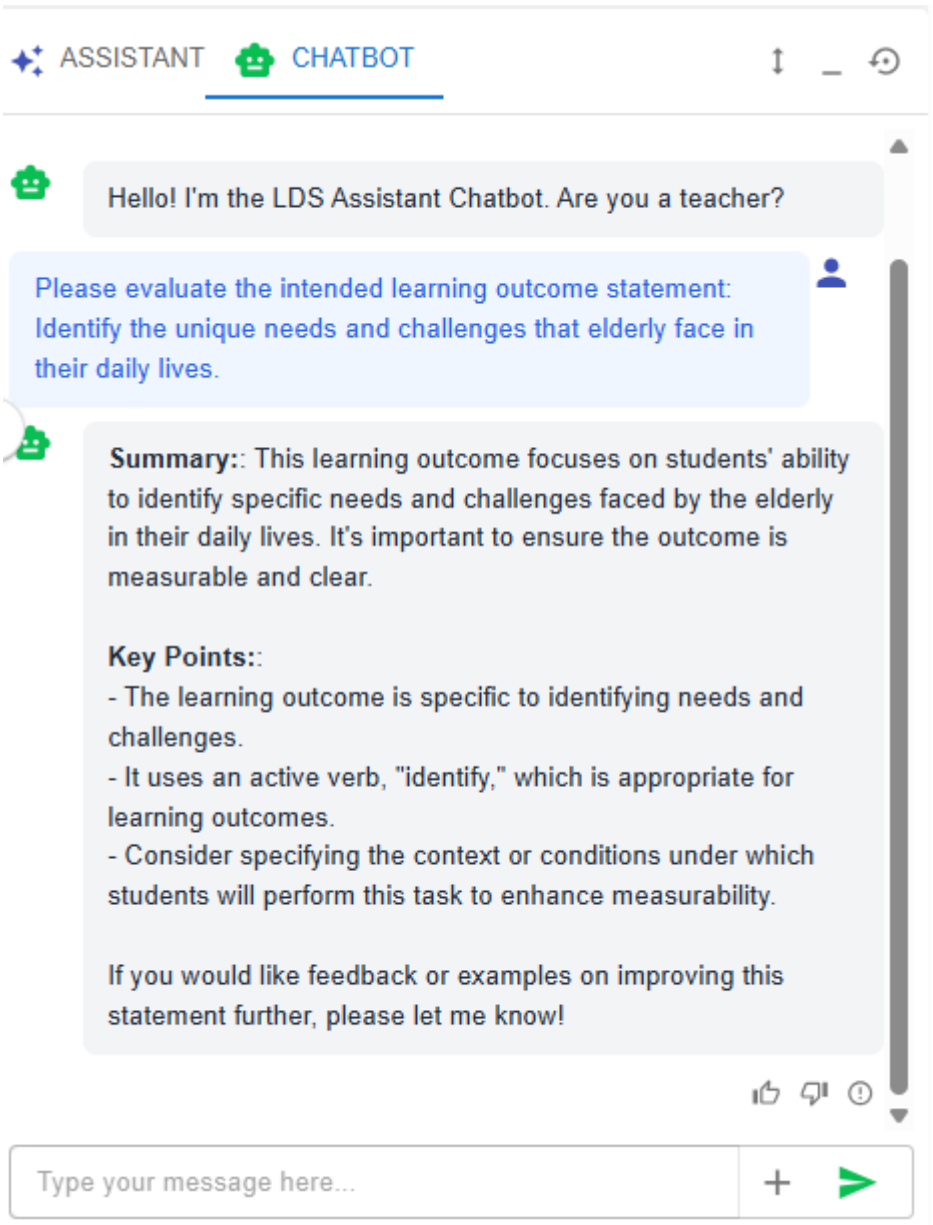


Figure 5.10: Evaluating a ILO with the Chatbot

5. Sub-ILO(s)



Figure 5.11: Interface of the ILO Builder (6)

- To provide greater clarity, an ILO can be subdivided into more detailed sub-ILOs as needed.

2. Adding a New ILO - Use the ILO Pattern

- In addition to writing your own ILO, you may use our pre-defined pattern.

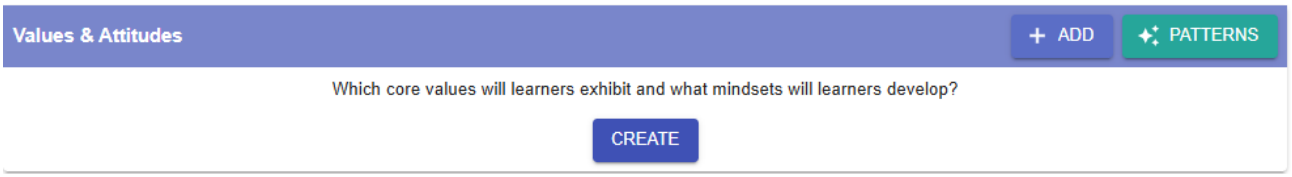


Figure 5.12: Intended Learning Outcomes - Values & Attitude

- For example, if you want to create an ILO for the **Values & Attitude** category, we can create one by using the ILO patterns.

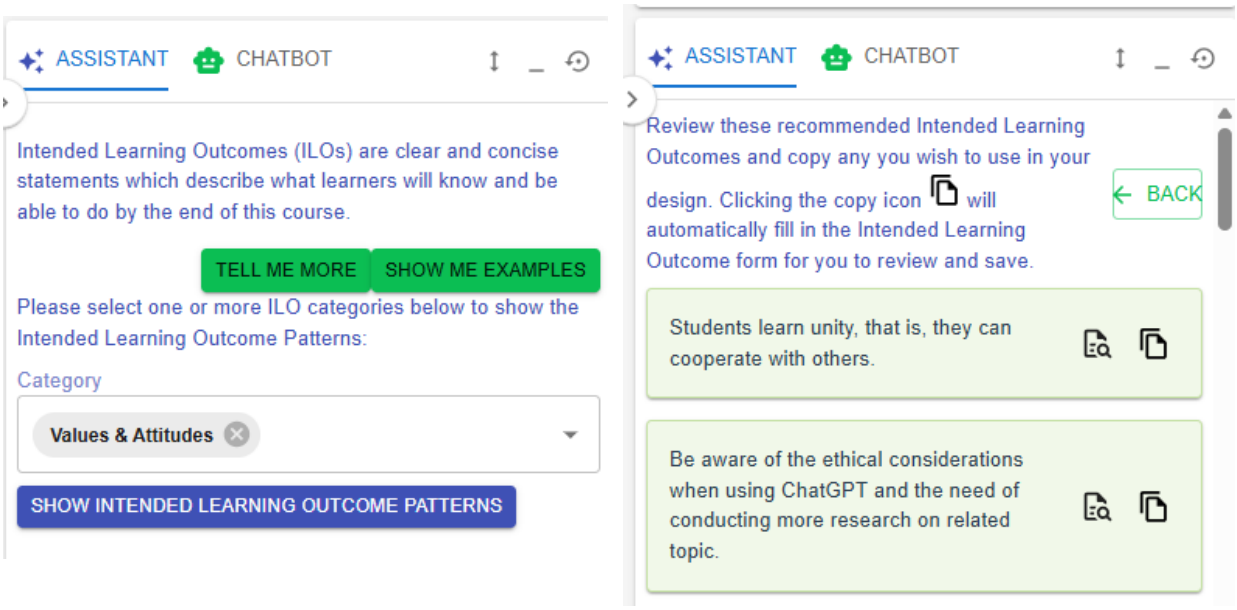


Figure 5.13: The ILOs Patterns in the LDS Facilitator

- After selecting the targeted ILO category in the Learning Design Facilitator, click the **"SHOW INTENDED LEARNING OUTCOME PATTERNS"** button to view suggested patterns. Alternatively, you can click the 

button to instantly activate the pattern list.
- By clicking the  button, you can explore the details of the targeted ILO pattern.

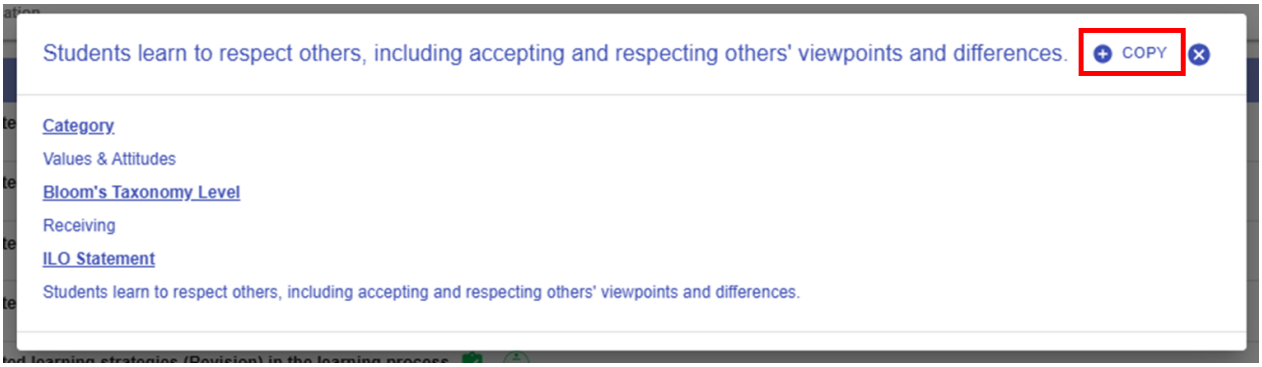


Figure 5.14: Details of the Targeted ILO Pattern (1)

- You can use the targeted ILO pattern directly by clicking **"COPY"** button in the pop-up window, or by clicking the  button in the Learning Design Facilitator. The ILO pattern details will be auto-filled into the LDS.

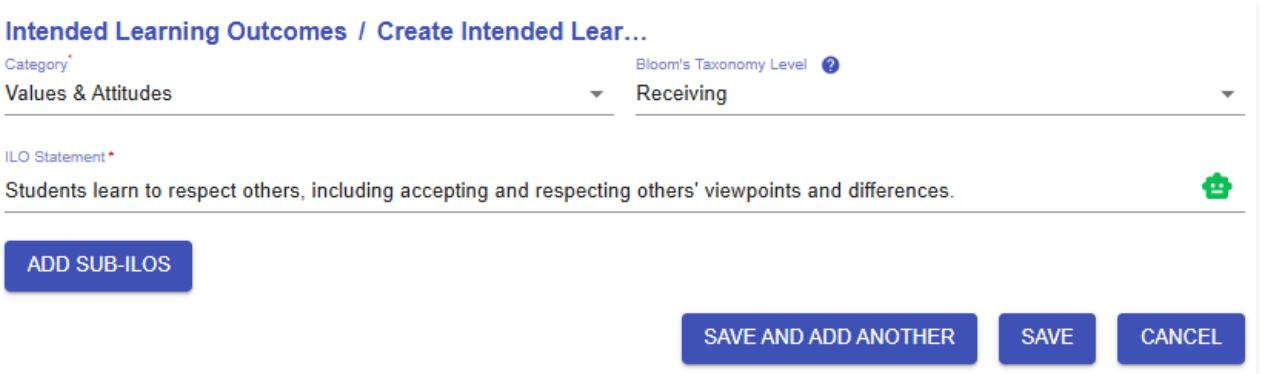


Figure 5.15: Details of the Targeted ILO Pattern (2)

- You can edit the details of the targeted ILO pattern in the ILO builder if needed.

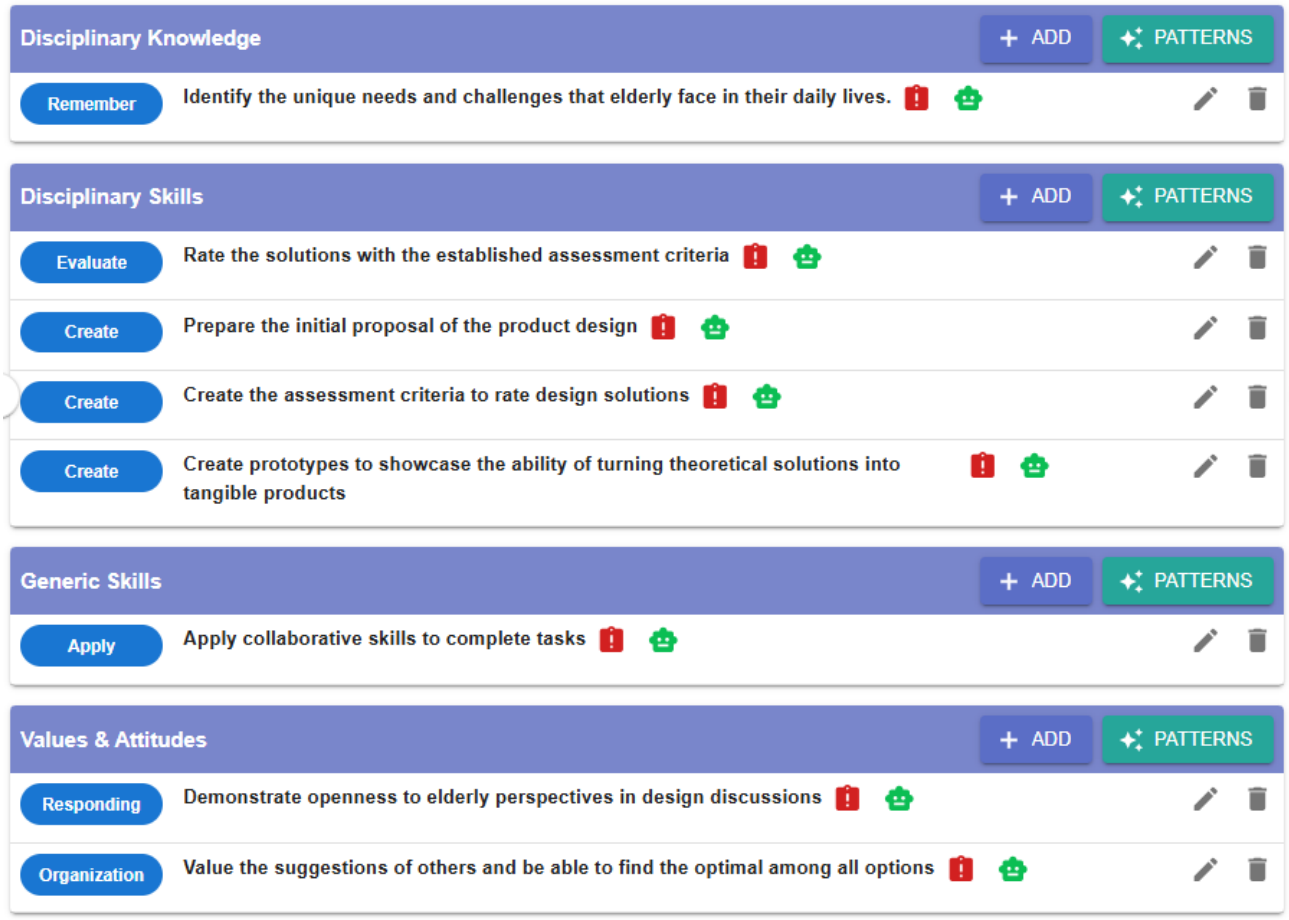


Figure 5.16: An example of a completed ILO section

5.2.2 Disciplinary Practice (DP)

For guidance on choosing disciplinary practice, refer to **Chapter 2.3 - Disciplinary Practice (DP)**

Adding a New DP

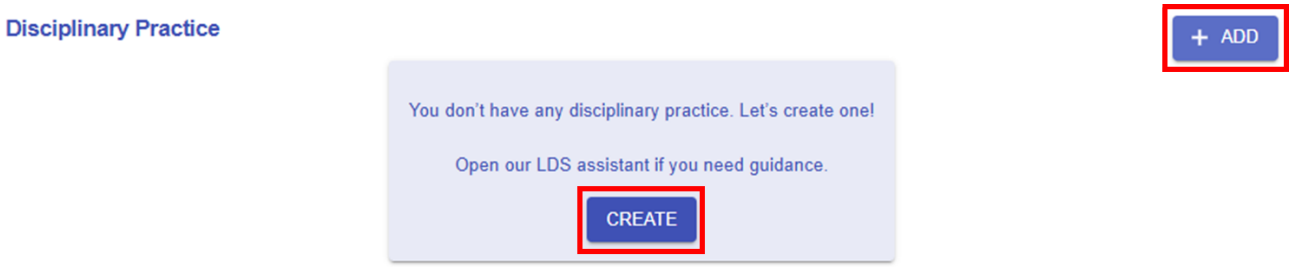


Figure 5.17: Adding a New DP

If you have not added any DP before, please click the + ADD or CREATE button to add a new DP. However, creating a DP from scratch can be challenging. We highly recommend starting with our DP patterns available in the Learning Design Facilitator.

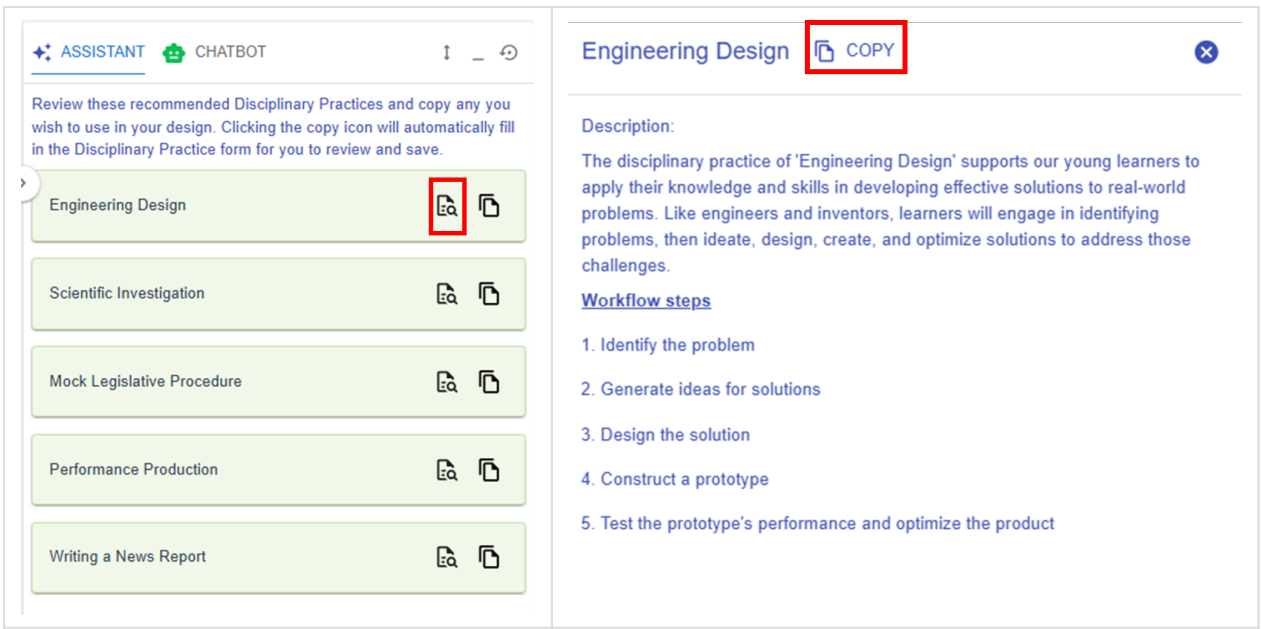


Figure 5.18: The DP Patterns in the Learning Design Facilitator

Figure 5.19: Details of the Targeted DP Pattern

- By clicking the button, you can explore the details of the targeted DP pattern.
- You can use the targeted DP pattern directly by clicking **"COPY"** button in the pop-up window, or by clicking the button in the Learning Design Facilitator. The DP pattern details will be automatically appear in the LDS.

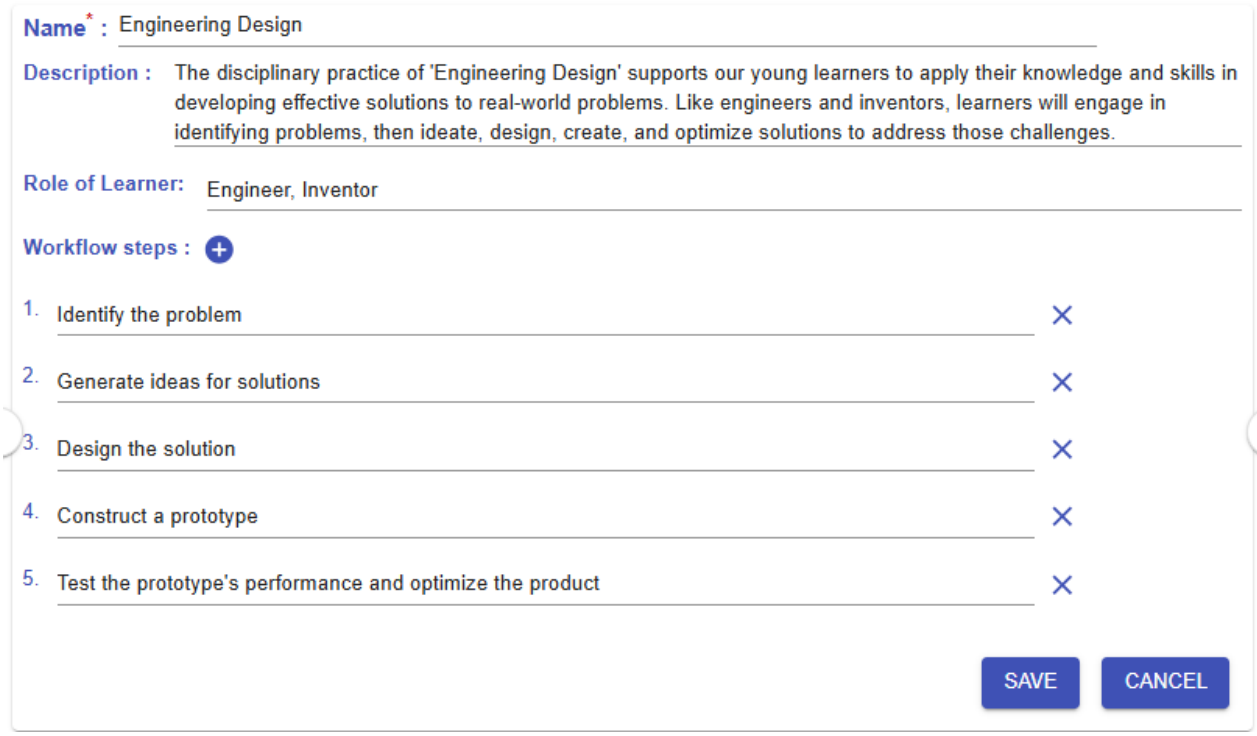


Figure 5.20: An Example of a Completed DP

5.2.3 Pedagogical Approach

For guidance on choosing pedagogical approach, refer to **Chapter 2.4 - Pedagogical Approach**

Adding a New Pedagogical Approach

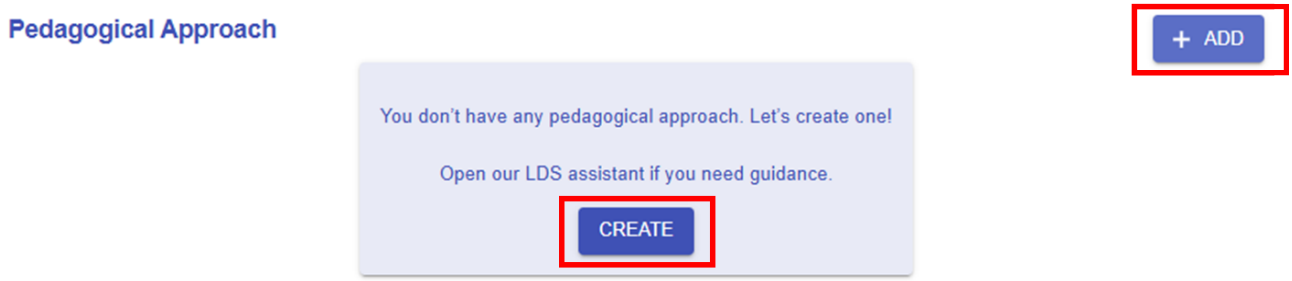


Figure 5.22: Adding a New Pedagogical Approach

If you have not added any pedagogical approach before, please click the + ADD or CREATE button to add a new pedagogical approach. Please read the introduction below to guide you in completing the Pedagogical Approach section.

In general, we highly recommend starting with the Learning Design Facilitator. You can use the pedagogical approach patterns we have designed for you to copy and use in your own design.

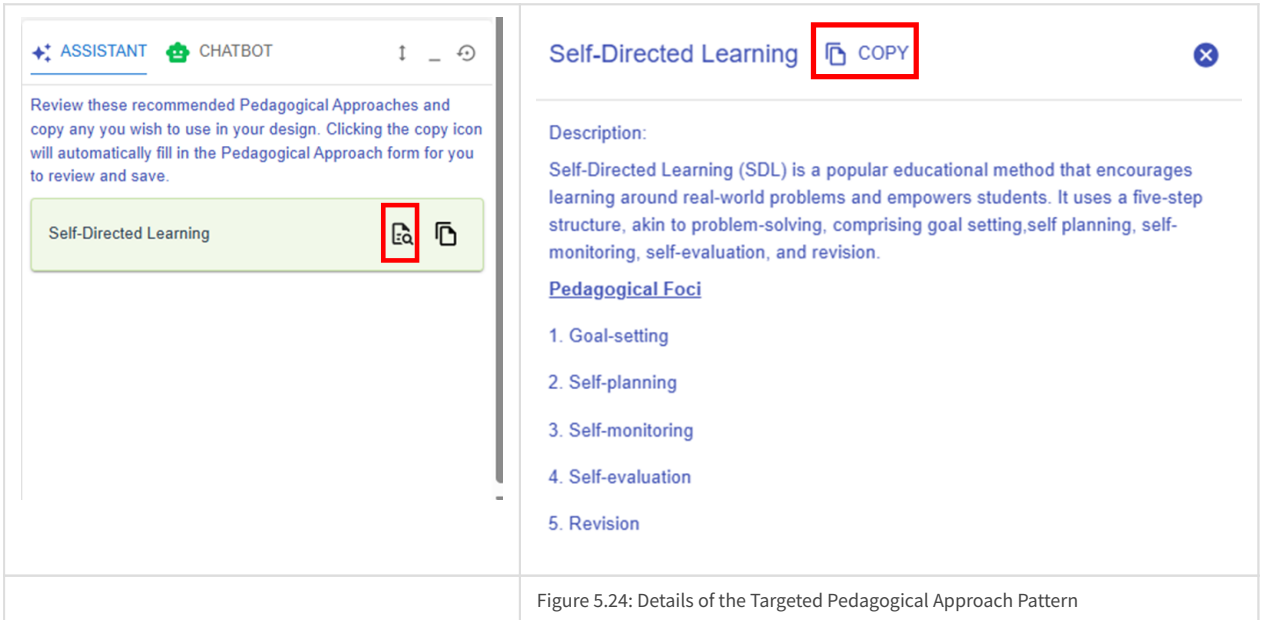


Figure 5.24: Details of the Targeted Pedagogical Approach Pattern

Figure 5.23: The Pedagogical Approach Patterns in the Learning Design Facilitator

- By clicking the button, you can explore the details of the targeted pedagogical approach pattern.
- You can use the targeted pedagogical approach pattern directly by clicking **"COPY"** button in the pop-up window, or by clicking the button in the Learning Design Facilitator. The pedagogical approach details will be auto-filled into the LDS.

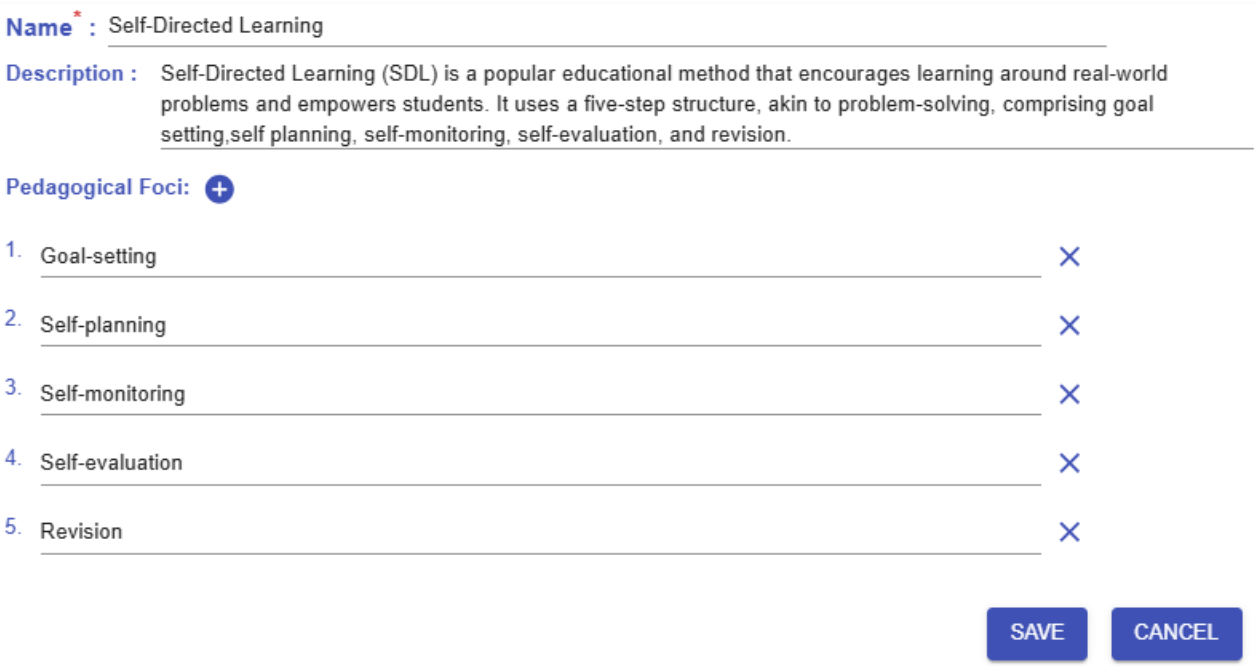


Figure 5.25: An Example of a Completed Pedagogical Approach

5.3.1 Creating Curriculum Components (CCs) Part 1

After completing the Learning Design Triangle (LDT) to establish the contextual framework for the entire learning design, we will explore how to develop Curriculum Components (CCs) and learning tasks that align with these elements, transforming overarching design concepts into actionable teaching practices. For a detailed theoretical explanation of Curriculum Components (CC), see **Chapter 2.5 – Curriculum Component Sequence**.

The following instructions will guide you in creating the first CC for your learning design.

Creating the First CC

The first Curriculum Component (CC) marks the beginning of the course, **"Designing for the Wise."** It is designed to help learners get started and build a strong foundation for subsequent learning. CC1 prepares students by developing their skills in identifying problems and goal-setting for the inquiry.

Step 1: Adding a New CC

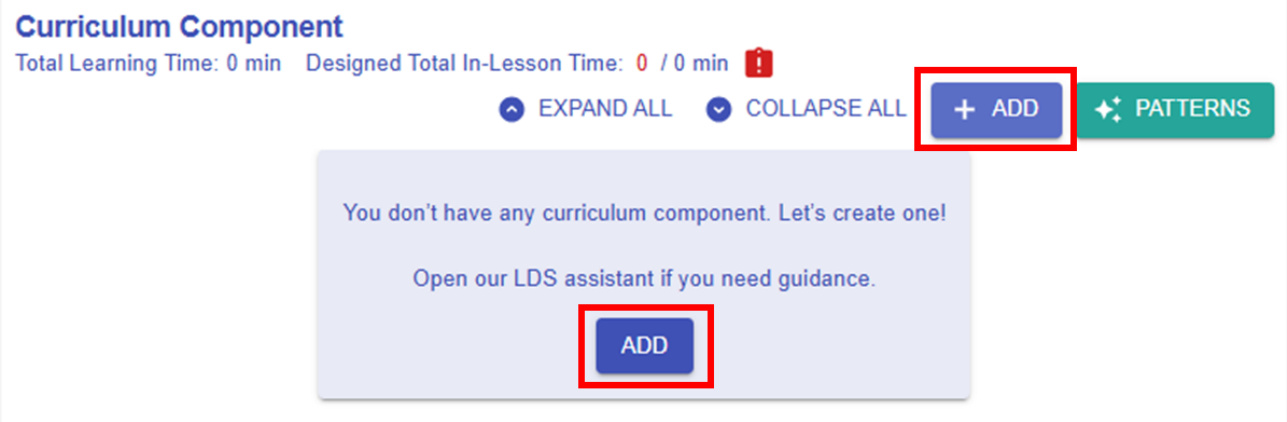


Figure 5.27: Adding a New CC

- By clicking the ADD button , you can open the CC builder.

Step 2: Mapping the LDT Elements to the CC

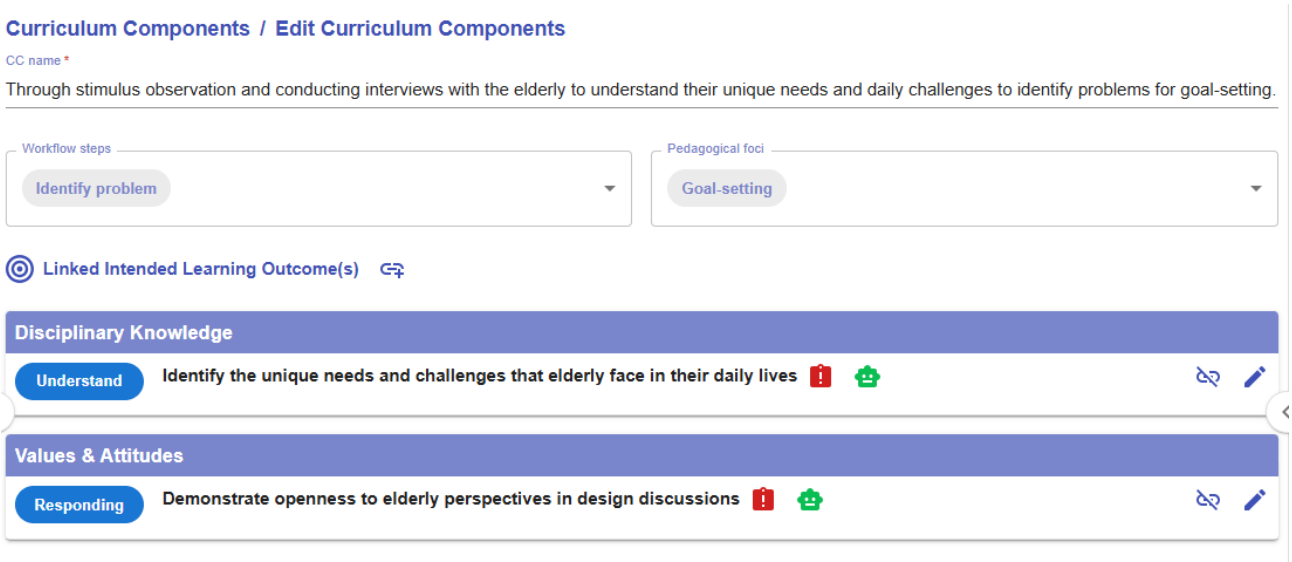


Figure 5.28: The Interface of the CC builder

- Please read the introduction below to guide you in creating a CC.

2.1 CC Name

Formula of naming a CC

Through the **1) focal task(s)** to **2) achieve the intended learning outcome** to **3) implement the workflow step(s) of a disciplinary practice** for **4) applying the focus or foci of the pedagogical approach**.

- E.g. Through **1) stimulus observation and conducting interviews with the elderly** to **2) understand their unique needs and daily challenges** to **3) identify problems** for **4) goal-setting**.

2.2 Workflow steps

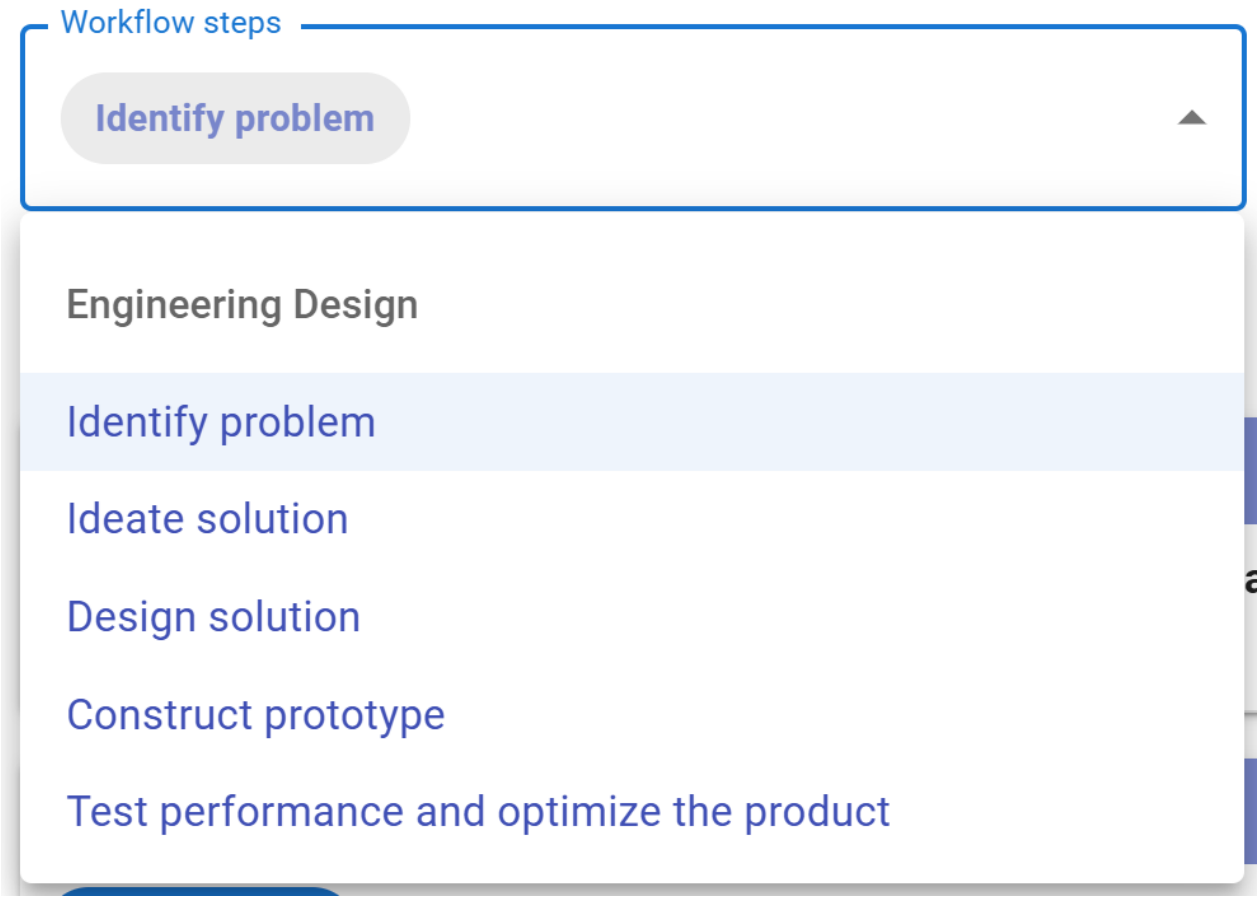


Figure 5.29: The Workflow Steps of Engineering Design

- The workflow steps of Engineering Design are drawn from the Disciplinary Practice (DP) section you completed previously.
- Select "Identify problem" for this CC.

2.3 Pedagogical foci

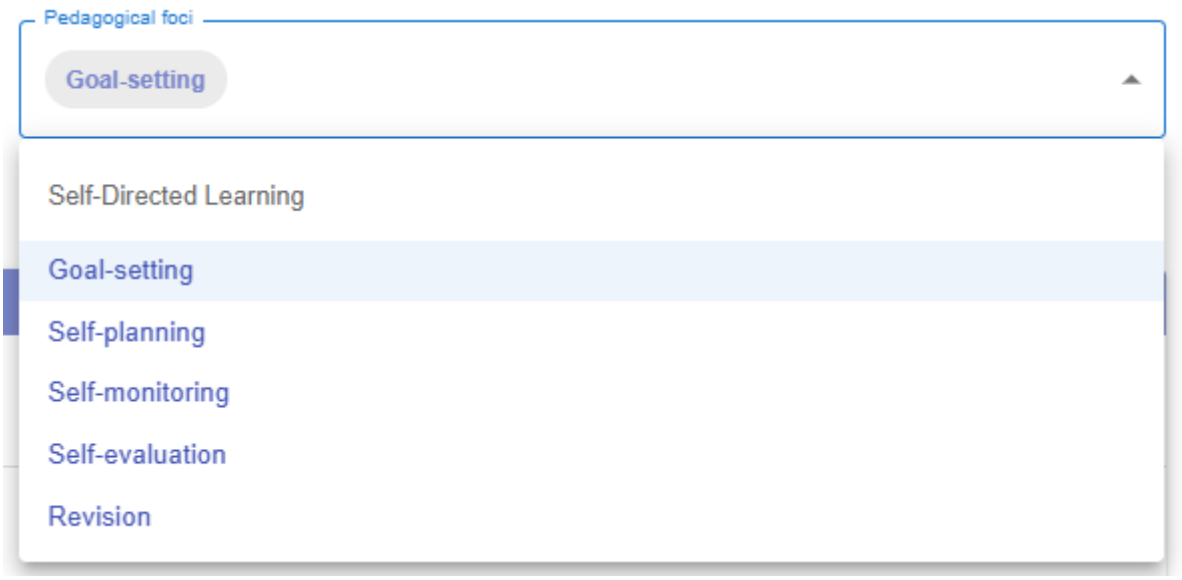


Figure 5.30: The Pedagogical Foci of Self-directed Learning

- The pedagogical foci of Self-directed Learning are drawn from the Pedagogical Approach section you completed previously.
- Select "Goal-setting" for this CC.

2.4 Linked Intended Learning Outcomes (ILOs)

- Finally, we will select the ILOs to be achieved in the CC, ensuring they align with the chosen workflow steps of disciplinary practice and pedagogical approach within the specific phase of learning.

2.4.1. The Link Button



Figure 5.31: Linking the ILOs to a CC (1)

- You can view all the Intended Learning Outcomes (ILOs) entered in the LDT section by clicking the button.

2.4.2 Selecting the Appropriate ILOs



Figure 5.32: Linking the ILOs to a CC (2)

E.g.

- Identify the unique needs and challenges that elderly face in their daily lives.
- Demonstrate openness to elderly perspectives in design discussions.

2.4.3 The Alert Icon and Complete Icon

