

6.2.1 Intended Learning Outcomes (ILOs)

The course-level pattern **Engineer/Inventor (Engineering Design + Self-directed Learning)** has provided some intended learning outcome patterns for you. However, you still need to customise the patterns or add new ILOs to complete your learning design.

The screenshot displays the 'Intended Learning Outcomes' section for the 'Engineer/Inventor (Engineering Design + Self-directed Learning)' course. The interface is divided into three main panels:

- Navigation Panel (Left):** Contains menu items such as 'Course Information', 'Learning Design Triangle', 'Intended Learning Outcomes', 'Disciplinary Practice', 'Pedagogical Approach', 'Details of Learning Design', 'Curriculum Components', 'Course Overview', 'Designer Dashboard', 'iLAP Section Arrangement', and 'LD to iLAP Converter'.
- Main Content Panel (Center):** Titled 'Intended Learning Outcomes', it is split into two sections:
 - Disciplinary Skills:** Lists six outcomes, each with an 'Apply' button, a red 'i' icon, and a green 'c' icon. The outcomes are: 'Apply design thinking process - Empathize with users', 'Apply design thinking process - Define design problems', 'Apply design thinking process - Ideate innovative solutions', 'Apply design thinking process - Build prototype', 'Apply design thinking process - Test solution', and 'Apply design thinking process - Optimize solution'. All are categorized under 'Technology Education'.
 - Generic Skills:** Lists three outcomes, each with an 'Apply' button, a red 'i' icon, and a green 'c' icon. The outcomes are: 'Apply self-directed learning strategies (Goal setting) in the learning process', 'Apply self-directed learning strategies (Self-planning) in the learning process', and 'Apply self-directed learning strategies (Self-monitoring) in the learning process'.
- Information Window (Right):** Provides additional context:
 - Disciplinary Practice:** Engineering Design, with a list of five steps: 1. Identify the problem, 2. Generate ideas for solutions, 3. Design the solution, 4. Construct a prototype, 5. Test the prototype's performance and optimize the product.
 - Pedagogical Approach:** Self-Directed Learning, with a list of five steps: 1. Goal-setting, 2. Self-planning, 3. Self-monitoring, 4. Self-evaluation, 5. Revision.
 - ASSISTANT CHATBOT:** A section for user assistance with a 'TELL ME MORE' and 'SHOW ME EXAMPLES' button, and a 'SHOW INTENDED LEARNING OUTCOME PATTERNS' button.

Figure 6.4: Learning Design Triangle Section - Intended Learning Outcomes

For the following part, you will explore how to add the new ILOs to the design.

For guidance on developing strong ILOs, refer to [Chapter 2.2 - Intended Learning Outcomes \(ILOs\)](#)

In the 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) using the ILO patterns or (2) writing it yourself.

1. Use the ILO Patterns

- You will use our pre-defined pattern to indicate what students is expected to achieve as a result of the learning process.

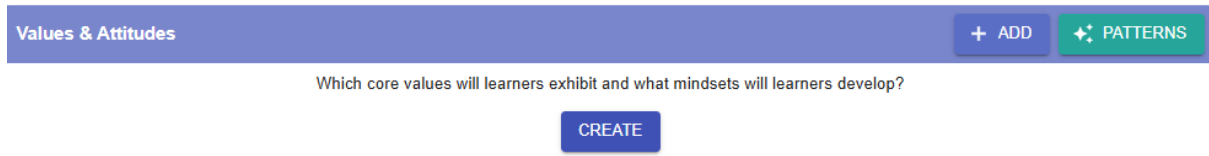


Figure 6.5: Intended Learning Outcomes - Values & Attitude

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

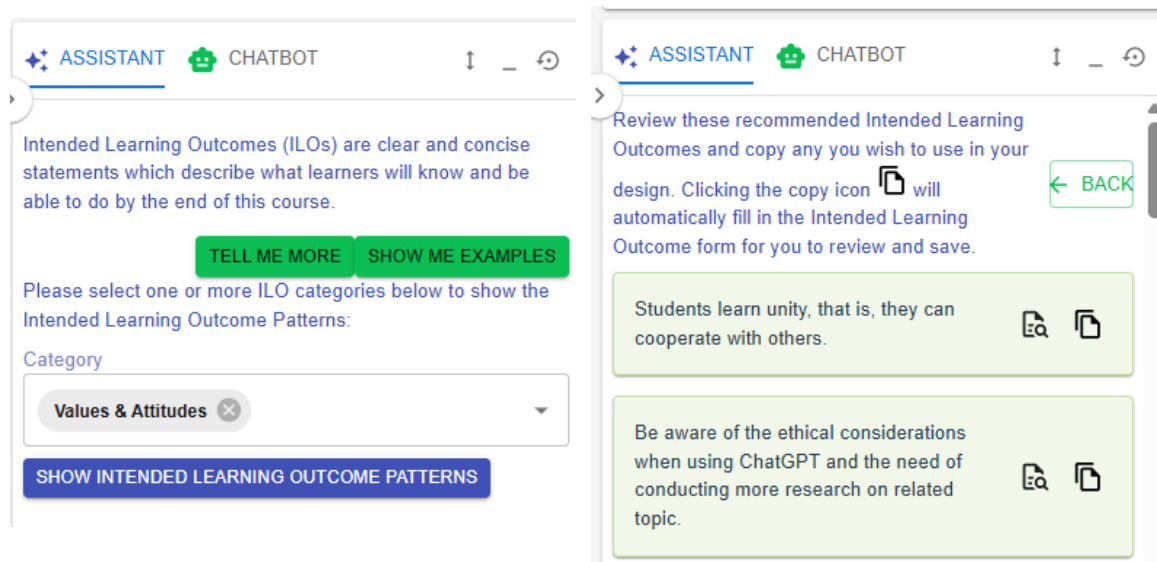



Figure 6.6: The ILOs Patterns in the LDS Facilitator

- 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.

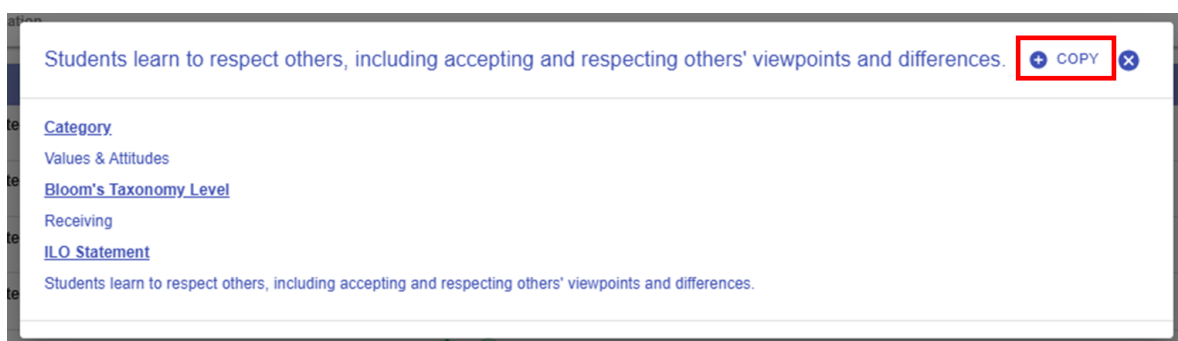



Figure 6.7: Details of the Targeted ILO Pattern (1)

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

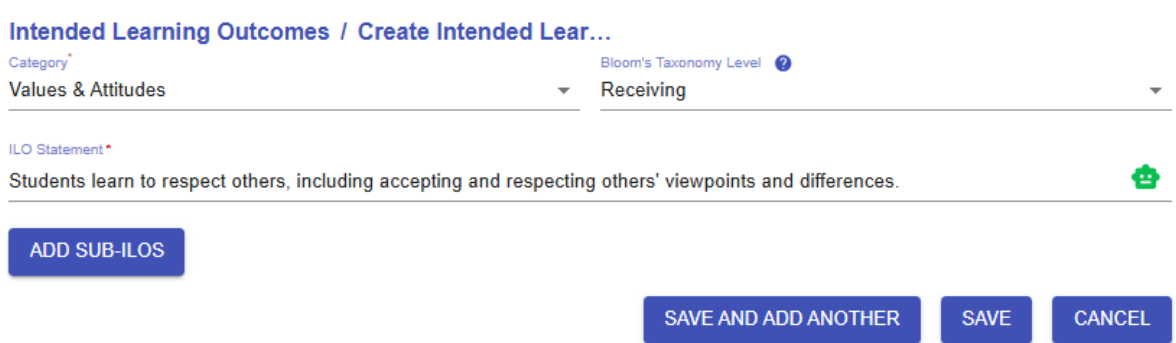


Figure 6.8: Details of the Targeted ILO Pattern (2)

- After copying the ILO pattern, you can see the ILO "Students learn to respect others, including accepting and respecting others' viewpoints and differences." appear in the ILO builder.
- To better fit our course context and the Bloom 's Taxonomy, we can modify it to: **"Demonstrate willingness to accept and respect the elderly, including accepting and respecting their viewpoints and differences."**

2. Writing it Yourself

- In addition to using patterns, you may write a full ILO yourself.

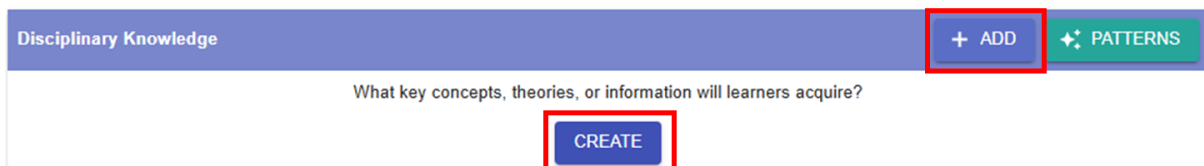




Figure 6.9: Adding a New ILO

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

Designing for the Wise

Intended Learning Outcomes / Cre...

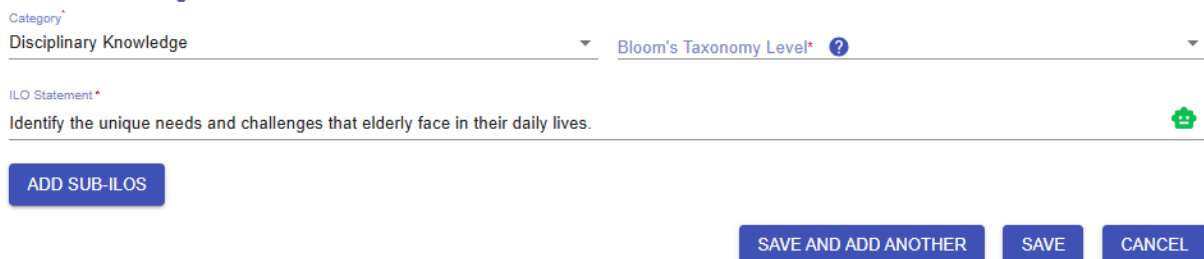


Figure 6.10: Interface of the ILO Builder (1)

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

1. Subject/Discipline(s)

Subject/Discipline(s)

Science Education

Technology Education

Figure 6.11: Interface of the ILO Builder (2)

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

2. Category

Category*

Disciplinary Knowledge

Disciplinary Knowledge

Disciplinary Skills

Generic Skills

Values & Attitudes

Figure 6.12: 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

Bloom's Taxonomy Level ?

Understand ▲

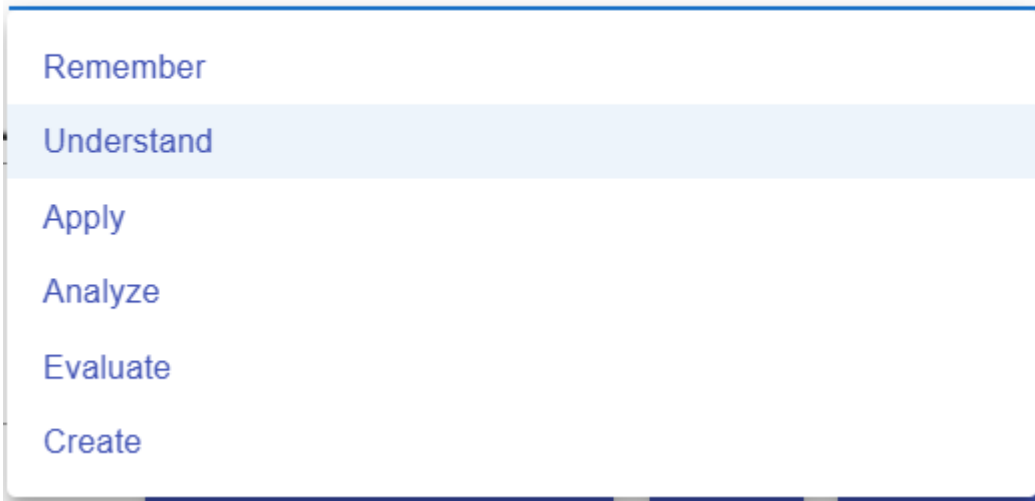


Figure 6.13: Interface of the ILO Builder (4)

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

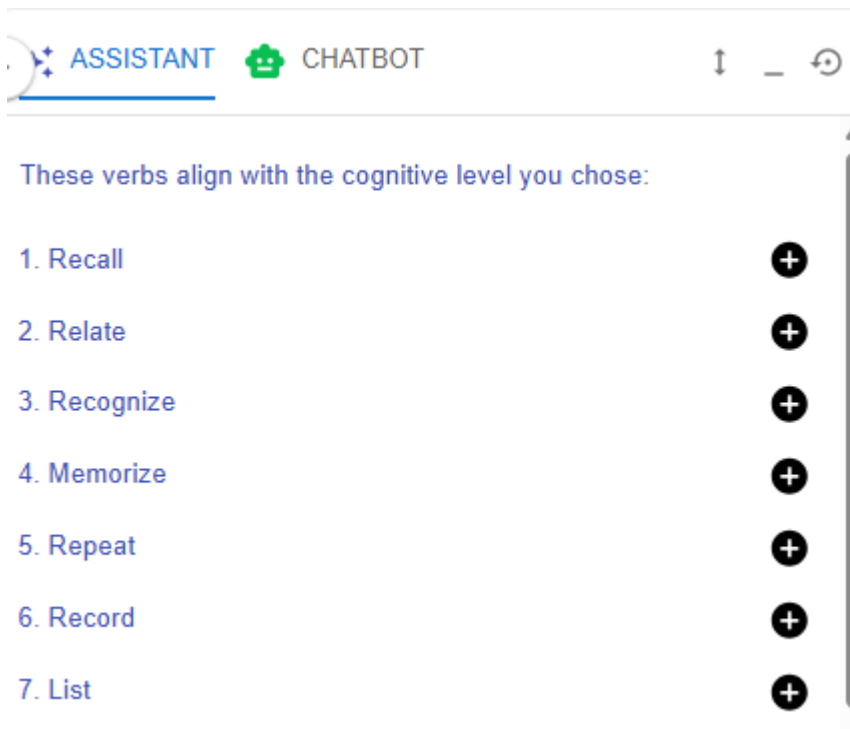


Figure 6.14: Writing a ILO with the Learning Design Facilitator

- 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

ILO Statement *

Identify the unique needs and challenges that elderly face in their daily lives



Figure 6.15: Interface of the ILO Builder (5)

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

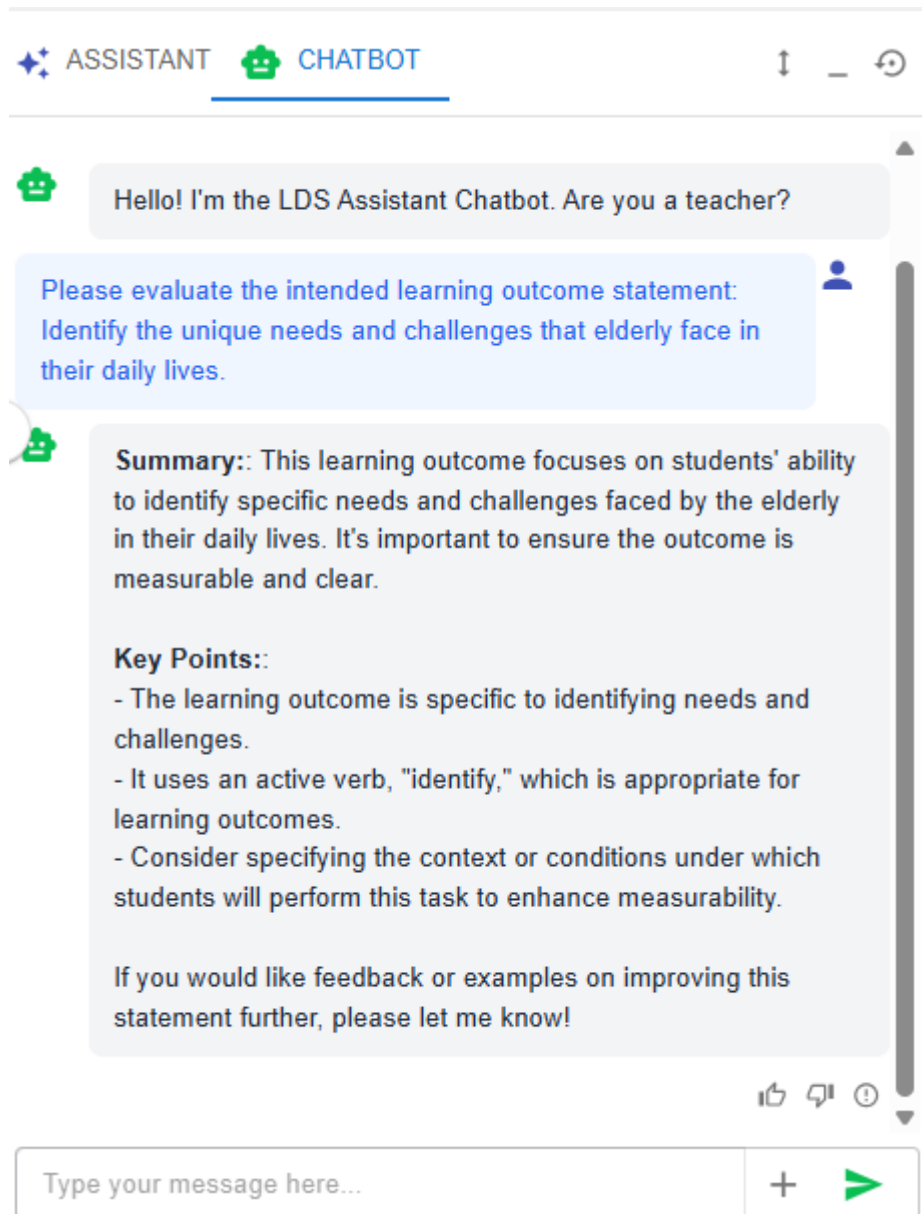


Figure 6.16: Writing a ILO with the Chatbot

5. Sub-ILO(s)

Sub-ILO(s) 

Bloom's Taxonomy Level 

Statement *



Figure 6.17: Interface of the ILO Builder (6)

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

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