

AI-Enabled Entrepreneurial Learning Toolkit: A Dual-Framework Approach for Future-Ready Education

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Introduction / Overview

This toolkit provides a structured approach to integrating Generative AI into enterprise education to support the development of entrepreneurial mindsets. It is designed to move both educators and students beyond basic or passive use of AI towards more critical, reflective, and responsible engagement in learning. As Generative AI becomes increasingly embedded in educational practice, there is a growing need for approaches that ensure it enhances, rather than replaces, thinking, judgement, and decision-making.

A key challenge in current practice is that students often use AI tools in a superficial or uncritical manner. While AI can support idea generation and efficiency, its unstructured use risks limiting deeper learning, reinforcing bias, and reducing opportunities for critical evaluation. In enterprise education, this is particularly problematic, as entrepreneurial capability depends not only on creativity, but also on judgement, ethical awareness, and the ability to evaluate and act on ideas in context.

This toolkit addresses this challenge by introducing an AI-enabled dual-framework learning approach that integrates the EntreComp Framework with Dooyeweerd's 15 Aspects of Everyday Life. Together, these frameworks provide a structured way to develop both entrepreneurial competencies and value-based, multi-dimensional reflection. The approach positions AI as a thinking partner within an iterative learning cycle, encouraging students to generate, evaluate, reflect on, and act upon ideas.

The toolkit provides a coherent set of practical resources to support this process. These include an AI Prompt Library aligned with EntreComp competencies, an AI-Enabled Dual-Framework Reflective Template integrating EntreComp and Dooyeweerd's aspects, Responsible AI Use Guidelines, an AI Usage Declaration Template to support transparency in assessment, and an AI Usage Assessment Rubric to guide evaluation and feedback. In addition, summary sheets and visual frameworks are provided to support understanding and application.

These components form a complete system for AI-enabled entrepreneurial learning, supporting the development of creative, critical, and ethically grounded decision-makers who are better prepared for future professional and societal contexts.

Educator Quick-Start Guide

Using the AI-Enabled Entrepreneurial Learning Toolkit

Purpose

This toolkit supports the structured, ethical, and competency-driven use of Generative AI in entrepreneurial learning. It helps students move beyond using AI for answers towards developing critical thinking, ethical awareness, and entrepreneurial judgement.

What this toolkit does

This toolkit helps students use Generative AI to:

- generate ideas
- evaluate critically
- reflect ethically
- take action

It develops entrepreneurial thinking, not just outputs.

The core process

Students follow a structured cycle:

Generate → Evaluate → Reflect → Act → Repeat

- **Generate** → use AI to explore ideas and identify opportunities
- **Evaluate** → challenge assumptions and test feasibility
- **Reflect** → apply Dooyeweerd's aspects to consider ethics, impact, and values
- **Act** → refine, present, or implement

This process should be repeated to improve both thinking and outcomes.

How to use in a session (step-by-step)

Step 1 – Set the task

Provide a real-world problem or challenge

Step 2 – Use AI prompts

Students use the **AI Prompt Library** to:

- generate ideas
- develop solutions

Step 3 – Challenge thinking

Students:

- critique AI outputs
- identify risks, assumptions, and gaps

Step 4 – Reflect deeply

Students apply:

- **EntreComp** (skills)
- **Dooyeweerd** (values and impact)

Step 5 – Improve and act

Students refine ideas and present or apply them

Your role as the educator

Introduce the dual framework

- EntreComp → skills
- Dooyeweerd → values

Model critical AI use

- question outputs
- identify bias
- refine prompts

Assessment support

Use:

- AI Usage Declaration (transparency)
- AI Assessment Rubric (evaluation)

Quick prompts for any class

Idea Generation

“Generate five solutions to this problem. Define the user, need, and value.”

Evaluation

“What assumptions has the AI made?”

“Why might this idea fail?”

Reflection

Who could be affected?

Is it ethical, legal, and sustainable?

What is the long-term purpose?

Action

“What are the next three steps?”

“How would you adapt if this fails?”

Ten-minute starter activities

Quick Fire Idea Sprint

Generate ideas → critique AI outputs → improve them

Bias Hunt

Identify weak assumptions → rewrite with better constraints

15-Aspect Scan

Apply 3–5 Dooyeweerd aspects to analyse consequences

AI vs Human Thinking

Compare outputs → identify what AI missed

Mini Action Plan

Outline next steps and key risks

What to expect from students

Students should:

- question and refine AI outputs
- demonstrate ownership of ideas
- think critically and ethically
- improve ideas through iteration

Core principle

AI should support thinking, not replace judgement.

Tip

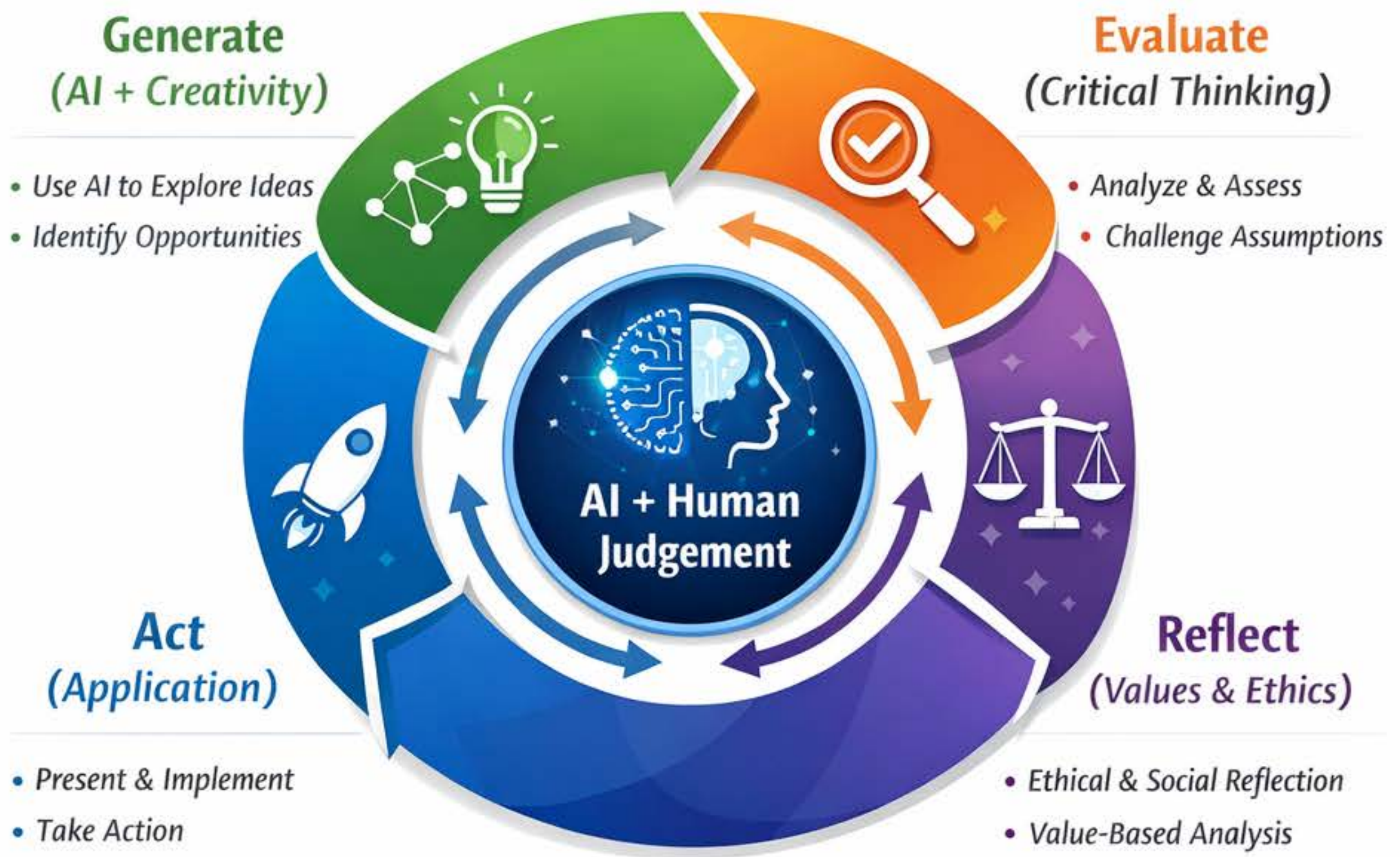
Students should not use AI once. They should:

- refine
- challenge
- improve

multiple times.

AI-Enabled Dual-Framework Learning Model

From Idea Generation to Ethical Judgement



- Integrates AI & Human Judgement
- Combines Skills & Values
- Guides Ethical Decision-Making
- Develops Entrepreneurial Competence

This dual-framework learning model positions Generative AI as a structured thinking partner within entrepreneurial learning. Students move through a continuous cycle of **Generate** → **Evaluate** → **Reflect** → **Act**, ensuring that ideas are not only created but critically examined and responsibly developed. In the *Generate* phase, AI supports creativity and opportunity recognition. The *Evaluate* phase introduces critical analysis, challenging assumptions and testing feasibility. The *Reflect* phase applies Dooyeweerd's 15 Aspects to examine ethical, social, economic, and purpose-driven implications, embedding values into decision-making. Finally, the *Act* phase focuses on applying insights through planning, communication, or implementation.

Importantly, this process is **iterative, not linear**. Students are expected to revisit and refine ideas multiple times, using each cycle to improve quality, deepen understanding, and strengthen judgement. This ensures that AI is not used as a one-off tool, but as part of an ongoing process of learning, reflection, and development. This model integrates structured competencies (EntreComp) with value-based reflection, developing future-ready entrepreneurial mindsets.

EntreComp Framework Summary Sheet

Developing Your Entrepreneurial Mindset

The EntreComp Framework defines 15 key competencies that help you think and act like an entrepreneur. These are grouped into three areas:

1. Ideas & Opportunities

(How you generate and shape ideas)

- Spotting Opportunities
 - Identifying problems, needs, or gaps in the market
- Creativity
 - Generating new ideas and innovative solutions
- Vision
 - Imagining future possibilities and setting direction
- Valuing Ideas
 - Recognising the value and impact of ideas
- Ethical & Sustainable Thinking
 - Considering social, environmental, and ethical implications

2. Resources

(What you need to make ideas happen)

- Self-Awareness & Self-Efficacy
 - Understanding your strengths and believing in your ability
- Motivation & Perseverance
 - Staying focused and resilient when facing challenges
- Mobilising Resources
 - Gathering the people, tools, and support needed
- Financial & Economic Literacy
 - Understanding costs, value, and financial decisions
- Mobilising Others
 - Inspiring and working effectively with others

3. Into Action

(Turning ideas into reality)

- Taking the Initiative
 - Being proactive and starting action
- Planning & Management
 - Organising tasks, time, and resources
- Coping with Uncertainty, Ambiguity & Risk
 - Making decisions in uncertain situations
- Working with Others
 - Collaborating and contributing in teams
- Learning Through Experience
 - Reflecting on actions and improving over time

How to Use This in Your Work

When using AI or working on a task, ask yourself:

1. Which competencies am I using?
2. Which ones am I NOT using?
3. How can I improve my approach?

Entrepreneurship is not just about ideas. It is about disciplined thinking, purposeful action, and critical reflection.

EntreComp Self-Assessment Checklist

Use during or after the activity. Tick the competences you demonstrated.

Ideas and Opportunities

- ☐ **Spotting Opportunities** – I identified a problem, need, or opportunity worth exploring.
- ☐ **Creativity** – I generated original ideas or alternative solutions.
- ☐ **Vision** – I thought about the future potential or long-term value of the idea.
- ☐ **Valuing Ideas** – I recognised which ideas had the strongest potential and explained why.
- ☐ **Ethical and Sustainable Thinking** – I considered ethical, social, or environmental implications.

Resources

- ☐ **Self-Awareness and Self-Efficacy** – I recognised my strengths and contributed confidently.
- ☐ **Motivation and Perseverance** – I stayed engaged and kept working through challenges.
- ☐ **Mobilising Resources** – I used available tools, information, and support effectively.
- ☐ **Financial and Economic Literacy** – I considered costs, value, feasibility, or economic impact.
- ☐ **Mobilising Others** – I encouraged, supported, or influenced others in the group.

Into Action

- ☐ **Taking the Initiative** – I took action rather than waiting for others.
- ☐ **Planning and Management** – I helped organise tasks, time, or priorities.
- ☐ **Coping with Uncertainty, Ambiguity and Risk** – I stayed open-minded when the answer was unclear or incomplete.
- ☐ **Working with Others** – I collaborated constructively with the group.
- ☐ **Learning through Experience** – I reflected on what worked, what did not, and what I would improve.

AI Reflection Checklist

- ☐ I used AI to support my thinking, not replace it.
- ☐ I checked whether the AI response was accurate and relevant.
- ☐ I challenged weak, biased, or incomplete AI outputs.
- ☐ I improved the final idea using my own judgement.
- ☐ I can explain clearly what came from AI and what came from me or my team.

Final Reflection Prompts

What were your **strongest 3 competencies** in this activity?
What were your **weakest 3 competencies**?
How did AI help or limit your entrepreneurial thinking?
What would you improve next time?

Don't just use AI - think, question, and improve.

Dooyeweerd's 15 Aspects – Student Reflection Sheet

Think Beyond the Idea

What is this?

Dooyeweerd's 15 Aspects help you analyse your idea from multiple perspectives, not just "is it a good idea?"

It forces you to think:

- Who does this affect?
- Is it ethical?
- Is it realistic?
- What are the hidden consequences?

The 15 Aspects (Simplified)

Thinking & Structure

- **Analytical** – Is the idea logical and clear?
- **Formative** – How is the idea designed or structured?
- **Lingual** – Is the idea communicated clearly?

Reality & Function

- **Quantitative** – What numbers or data matter?
- **Spatial** – How is it organised or positioned?
- **Kinematic** – How does it move or change over time?
- **Physical** – What real-world constraints exist?
- **Biotic** – Does it affect wellbeing, health, or environment?

People & Society

- **Sensitive (Psychological)** – How does it affect emotions or behaviour?
- **Social** – How does it impact relationships or communities?

Value & Meaning (MOST IMPORTANT)

- **Economic** – Is it viable, efficient, or valuable?
- **Aesthetic** – Is it appealing, engaging, or well-designed?
- **Juridical** – Is it fair, legal, and compliant?
- **Ethical** – Is it morally right?
- **Pistic (Faith/Vision)** – Does it have purpose, belief, or long-term meaning?

Dooyeweerd Reflection Checklist

Tick what you considered:

Thinking

- ☐ My idea is clear and logical (Analytical)
- ☐ I structured or designed it well (Formative)
- ☐ I communicated it clearly (Lingual)

Reality

- ☐ I used data or numbers (Quantitative)
- ☐ I considered how the idea is structured, organised, or positioned within its context (Spatial)
- ☐ I considered how the idea develops, evolves, or changes over time (Kinematic)
- ☐ I thought about how it works in real life (Physical)
- ☐ I considered health or environmental impact (Biotic)

People

- ☐ I considered how people feel or react (Sensitive)
- ☐ I considered social or community impact (Social)

Values

- ☐ I checked if it is financially viable (Economic)
- ☐ I considered design and user experience (Aesthetic)
- ☐ I checked legal or fairness issues (Juridical)
- ☐ I considered ethical implications (Ethical)
- ☐ I defined purpose or long-term vision (Pistic)

Critical Insight (THIS IS KEY)

AI tends to focus on:

- ✓ Social
- ✓ Analytical
- ✓ Formative

But often ignores:

- ✗ Ethical
- ✗ Juridical
- ✗ Biotic
- ✗ Pistic

Final Reflection

- Which aspects did you use most?
- Which did you ignore?
- What risks did you miss?

Good ideas solve problems. Great ideas consider consequences.

Dooyeweerd's 15 Aspects – Think Beyond the Idea

Analyze Your Idea from Different Perspectives.

Who does this affect? Is it ethical? Is it realistic? What are hidden consequences?

The 15 Aspects



Thinking & Structure



Analytical – Is the idea logical and clear?



Formative – How is the idea designed or structured?



Lingual – Is the idea communicated clearly?



Reality & Function



Quantitative – What numbers or data matter?



Spatial – How is it organised or positioned?



Kinematic – How does it move or change over time?



Physical – What real-world constraints exist?



Biotic – Does it affect wellbeing, health, or environment?



People & Society



Sensitive (Psychological) – How does it affect emotions or behaviour?



Social – How does it impact relationships or communities?



Value & Meaning (MOST IMPORTANT)



Economic – Is it viable, efficient, or valuable?



Aesthetic – Is it appealing, engaging, or well-designed?



Juridical – Is it fair, legal, and compliant?



Ethical – Is it morally right?



Pistic (Faith/Vision) – Does it have purpose, belief, or long-term meaning?

Dooyeweerd Reflection Checklist



Thinking

- ☐ My idea is clear and logical (Analytical)
- ☐ I structured or designed it well (Formative)
- ☐ I communicated it clearly (Lingual)



Reality

- ☐ I used data or numbers (Quantitative)
- ☐ I thought about how it works in real life (Physical)
- ☐ I considered health or environmental impact (Biotic)



People

- ☐ I considered how people feel or react (Sensitive)
- ☐ I considered social or community impact (Social)



Values

- ☐ I checked if it is financially viable (Economic)
- ☐ I considered design and user experience (Aesthetic)
- ☐ I checked legal or fairness issues (Juridical)
- ☐ I considered ethical implications (Ethical)
- ☐ I defined purpose or long-term vision (Pistic)



Critical Insight (THIS IS KEY)



AI Tends to Focus On:

- ✓ Social
- ✓ Analytical
- ✓ Formative



But Often Ignores:

- ✗ Ethical
- ✗ Juridical
- ✗ Biotic
- ✗ Pistic



Final Reflection

- ☐ Which aspects did you use most?
- ☐ Which did you ignore?
- ☐ What risks did you miss?



Bottom Line

Good ideas solve problems. Great ideas consider consequences.

AI Prompt Library for Entrepreneurial Learning

Structured Prompts Aligned with the EntreComp Framework and Dooyeweerd's 15 Aspects

How to Use This Prompt Library

This prompt library is designed to support entrepreneurial learning through the combined use of Generative AI, the EntreComp Framework, and Dooyeweerd's 15 Aspects. Prompts are organised to guide students through a structured and iterative process of idea generation, development, action, critical evaluation, and reflective learning. This structure ensures that AI-supported learning is not only competency-driven (EntreComp) but also grounded in ethical and value-based reflection (Dooyeweerd), enabling more responsible and context-aware entrepreneurial decision-making.

Students should use AI as a thinking partner, not a shortcut. They are encouraged to:

- refine prompts iteratively
- challenge and question AI-generated outputs
- apply their own judgement and critical thinking
- reflect on ethical, social, and practical implications

The prompts are not intended to be used in isolation, but as part of a continuous learning cycle aligned with the AI-enabled dual-framework learning model (Generate → Evaluate → Reflect → Act).

SECTION 1: IDEAS & OPPORTUNITIES

(Spotting Opportunities, Creativity, Vision, Valuing Ideas, Ethical & Sustainable Thinking)

Spotting Opportunities

Identify gaps or unmet needs in the [industry/market].

What problems are currently ignored or poorly addressed?

Creativity

Generate five innovative business ideas addressing [problem/industry].

For each idea, explain the problem it solves and the target user.

Vision

What is the long-term vision of this idea?

How could it evolve or scale in the future?

Valuing Ideas

Which of these ideas has the strongest potential?

Justify your choice.

Ethical & Sustainable Thinking

What are the ethical, social, or environmental implications of this idea?

Integrated Creativity Prompt (Advanced)

Generate ideas for [problem] under the following constraints:

- Low budget
- Limited resources
- Short time frame

SECTION 2: RESOURCES

(Self-Awareness & Self-Efficacy, Motivation & Perseverance, Mobilising Resources, Financial Literacy, Mobilising Others)

Self-Awareness

What strengths and skills do I bring to this idea?

Where do I need improvement?

Motivation & Perseverance

What challenges could arise?

How would I stay motivated and overcome them?

Mobilising Resources

What resources (people, tools, knowledge) are needed?

How can they be accessed?

Financial & Economic Literacy

What are the key costs and potential revenue streams?

Is this idea financially viable?

Mobilising Others

Who needs to be involved?

How would I convince them to support this idea?

Integrated Resource Constraint Prompt (Advanced)

Develop this idea under the following constraints:

- Limited resources
- Small team
- Time pressure

SECTION 3: INTO ACTION

(Taking the Initiative, Planning & Management, Coping with Uncertainty & Risk, Working with Others, Learning Through Experience)

Taking Initiative

What is the first action I would take to move this idea forward?

Planning & Management

What are the next three steps required to develop this idea?

How would I organise tasks and time?

Coping with Uncertainty & Risk

What uncertainties or risks exist?

How can they be reduced or managed?

Working with Others

How will I collaborate effectively with others?

What role will I play in the team?

Learning Through Experience

What did I learn from developing this idea?

What would I improve next time?

Integrated Action Challenge Prompt (Advanced)

Test this idea in a real-world scenario:

- What would happen if resources fail?
- What would you do if the plan fails?
- How would you adapt quickly?

Note on Use

Students are not expected to use all prompts within a single activity. Instead, they should select and apply prompts based on the task, context, and stage of development.

Feedback should be used to refine both the idea and the prompts themselves, reinforcing an iterative process of improvement across all stages of the framework. Students are encouraged to revisit earlier stages, adjust their approach, and deepen their thinking over multiple cycles.

SECTION 4: CRITICAL EVALUATION & JUDGEMENT

(Reinforcing EntreComp competencies: Decision Making, Coping with Uncertainty & Risk, and Learning Through Experience)

Challenge the Idea

Critically evaluate this idea.

What are the flaws, risks, or unrealistic assumptions?

Bias Detection

Does this idea rely on assumptions or biases?

What might be missing or overlooked?

Risk Analysis

What are the main risks associated with this idea?

Consider financial, operational, and market risks.

Opposite Thinking

Argue against this idea.

Why might it fail?

Refinement Through Critique

Based on the critique above, how can the idea be improved or strengthened?

SECTION 5: DOOYEWEERD REFLECTION PROMPTS

Thinking & Structure

Analytical

Is this idea logical and clearly explained?

Formative

How well is this idea designed or structured?

Lingual

Is the idea communicated clearly and effectively?

Reality & Function

Quantitative

What data, numbers, or metrics are important?

Spatial

How is the idea organised or positioned?

Kinematic

How does the idea change, scale, or evolve over time?

Physical

What real-world constraints (resources, materials, limits) exist?

Biotic

Does this idea affect health, wellbeing, or the environment?

People & Society

Sensitive (Psychological)

How does this idea affect emotions, behaviour, or user experience?

Social

How does it impact relationships, communities, or society?

Value & Meaning

Economic

Is the idea financially viable and sustainable?

Aesthetic

Is it appealing, engaging, or well-designed?

Juridical

Is it fair, legal, and compliant?

Ethical

Is it morally responsible? Who could be harmed?

Pistic (Faith / Vision)

What is the deeper purpose of this idea?

Does it align with long-term vision, values, or meaning?

Note - Students are not expected to apply all aspects equally, but to use them as a structured lens to deepen critical and ethical evaluation

SECTION 6: AI REFLECTION PROMPTS (CRITICAL USE)

AI Awareness

What parts of this output are useful?

What parts are weak or generic?

Human vs AI Thinking

What did AI contribute compared to my own input?

Limitations of AI

What important aspects did AI fail to consider?

Improve AI Output

Rewrite this idea to make it more realistic and impactful.

SECTION 7: FINAL REFLECTION (Metacognition)

Which EntreComp skills did I use?

Which Dooyeweerd aspects did I apply?

What did I learn from using AI?

What would I improve next time?

Scenario Testing

How would this idea perform in:

- a recession?
- a different country?
- a crisis situation?

Iterative Prompting

Improve this idea 3 times, each time addressing a different weakness.

CRITICAL RULE (VERY IMPORTANT)

If you accept the first AI answer, you are not thinking.

The value comes from questioning, refining, and improving.

These prompts are designed to support iterative thinking and should be revisited, adapted, and refined across multiple cycles of learning.

Think deeper. Refine smarter. Don't let AI think for you.

AI-Enabled Dual Framework Reflective Template

Using AI, EntreComp, and Dooyeweerd's Aspects

The **AI-Enabled Dual Framework Reflective Template** (developed in this project) integrates EntreComp competencies with Dooyeweerd's aspects to support structured reflection in AI-supported entrepreneurial learning.

1. Idea and Action (What did you do?)

- What idea did you develop?
- What actions did you take?
- How did you use AI in this process?

2. EntreComp Reflection (Skills)

- Which entrepreneurial competencies did you use?
- Where did you perform strongly?
- What skills need further development?

3. Critical Evaluation (Judgement)

- What were the weaknesses or risks in your idea?
- What assumptions did you identify?
- How did you refine your idea?

4. Dooyeweerd Reflection (Values & Impact)

- What ethical, social, or legal issues did you consider?
- What are the wider impacts of your idea?
- What is the deeper purpose or value of your idea?

5. AI Reflection (Use of Technology)

- How did AI support your thinking?
- What limitations or weaknesses did AI show?
- How did you improve AI outputs?

6. Learning and Improvement

- What did you learn from this process?
- What would you do differently next time?
- How would you improve your idea further?

This template supports iterative reflection and should be used across multiple stages of the learning process.

Reflection turns ideas into informed and responsible action.

AI Usage Declaration Template

For Transparency in Assessment

Student Declaration

I confirm that I have used Generative AI tools in the development of this work in a responsible and transparent manner.

1. AI Tools Used

List any AI tools used (e.g., ChatGPT, Copilot):

- _____
- _____

2. How AI Was Used

Tick all that apply:

- ☐ Idea generation
- ☐ Research support
- ☐ Structuring or outlining
- ☐ Editing or improving clarity
- ☐ Other (please specify): _____

3. Description of Use

Briefly explain how AI supported your work:

4. Critical Engagement

Confirm the following:

- ☐ I have reviewed and critically evaluated all AI-generated content
- ☐ I have refined and adapted AI outputs using my own judgement
- ☐ I understand and can explain all content submitted

5. Original Contribution

Confirm the following:

- ☐ This work reflects my own understanding and ideas
- ☐ AI was used to support, not replace, my thinking

6. Ethical Use

Confirm the following:

- ☐ I have used AI in line with institutional and module guidelines
- ☐ I have not submitted AI-generated content without modification

Student Name: _____

Signature: _____

Date: _____

AI Usage Assessment Criteria and Rubric: In addition to the generic University marking criteria and correct use of the required referencing format and style, the specific criteria by which Learning Outcomes are assessed in:

Evaluating Responsible and Effective Use of Generative AI

Criterion	Description	Weighting (%)
Transparency of AI Use	Clarity and completeness of AI usage declaration	10
Appropriateness of AI Use	Extent to which AI supports learning objectives	15
Critical Engagement with AI	Evidence of questioning, evaluating, and refining AI outputs	20
Ownership and Understanding	Student's ability to explain and justify their work	15
Integration with Entrepreneurial Thinking	Alignment with EntreComp competencies	15
Ethical and Reflective Awareness	Consideration of ethical, social, and value-based implications (Dooyeweerd)	15
Iterative Use of AI	Evidence of refinement and development across cycles	10
Total		100

Transparency of AI Use (10%)	0 – 4 No or unclear declaration of AI use. Lacks transparency.	5 -7 Basic declaration provided but lacks detail or clarity.	8 – 10 Clear, detailed, and transparent declaration of how AI was used.	
Appropriateness of AI Use (15%)	0 – 5 AI use is inappropriate or replaces student thinking.	6 – 10 AI is used appropriately but with limited alignment to task.	11 - 15 AI use clearly supports learning objectives and enhances the quality of work.	
Critical Engagement with AI (20%)	0 – 5 No critical engagement. AI outputs accepted without question.	6 – 10 Limited critique of AI outputs; mostly descriptive use.	11 - 15 Good evidence of questioning and refining outputs.	16 - 20 Excellent critical engagement; outputs are challenged, refined, and improved with strong judgement.
Ownership and Understanding (15%)	0 – 5 Work appears AI-generated with little understanding.	6 – 10 Partial understanding; some reliance on AI.	11 - 15 Clear ownership; student can explain, justify, and defend their work.	
Integration with Entrepreneurial Thinking (15%)	0 – 5 Limited evidence of entrepreneurial thinking.	6 – 10 Some evidence of creativity and decision-making.	11 - 15 Strong demonstration of EntreComp competencies, including creativity, judgement, and decision-making.	
Ethical and Reflective Awareness (15%)	0 – 5 No consideration of ethical or wider implications.	6 – 10 Some awareness of ethical or social issues.	11 – 15 Strong reflection aligned with Dooyeweerd’s aspects (ethical, social, legal, and purpose-driven considerations).	
Iterative Use of AI (10%)	0 – 4 One-off use of AI with no refinement.	5 -7 Some evidence of refinement and iteration.	8 – 10 Clear iterative use of AI, with multiple cycles of improvement and development.	

Responsible Use of Generative AI in Entrepreneurial Learning

Purpose

These guidelines support the effective, ethical, and critical use of Generative AI within entrepreneurial learning, ensuring that AI enhances thinking rather than replaces it. They align with both EntreComp competencies and value-based reflection (Dooyeweerd's aspects) to promote responsible, context-aware decision-making.

1. Use AI as a Thinking Partner, Not a Substitute

AI should support:

- idea generation
- exploration
- refinement

Students must still:

- make decisions
- justify choices
- apply their own judgement

AI can assist thinking — it cannot replace it.

2. Question and Challenge AI Outputs

Do not accept responses at face value. Always:

- identify assumptions
- check for gaps or weaknesses
- challenge unrealistic or generic ideas

Use prompts such as:

- *What is missing here?*
- *What are the flaws in this idea?*

3. Maintain Ownership of Work

Students must:

- understand all outputs used
- be able to explain and defend their ideas
- clearly distinguish between AI input and their own thinking

If you cannot explain it, you do not own it.

4. Apply Ethical and Value-Based Judgement

AI-generated ideas should be evaluated using:

- ethical considerations
- legal implications
- social and environmental impact
- purpose and long-term value

This aligns with **Dooyeweerd's 15 Aspects**, ensuring decisions are not purely technical or economic.

5. Be Aware of Bias and Limitations

AI may:

- reflect biases in data
- oversimplify complex issues
- produce generic, incomplete or inaccurate responses

Students should:

- critically assess outputs
- cross-check important information
- avoid over-reliance on AI-generated content

6. Use AI Iteratively

Effective use of AI involves:

- refining prompts
- improving outputs
- revisiting earlier ideas

Students should move through multiple cycles of:

Generate → Evaluate → Reflect → Act

Students should expect to revisit and refine their ideas multiple times, using each cycle to improve both the quality of their thinking and the outcomes produced.

7. Use AI Transparently

Students should:

- acknowledge when AI has been used
- explain how it contributed to their work
- demonstrate how outputs were critically evaluated and refined

8. Focus on Learning, Not Just Output

The goal is not to produce quick answers, but to:

- develop entrepreneurial thinking
- improve decision-making
- build critical and reflective skills

Key Principle

The value of AI lies not in the answers it gives, but in how those answers are questioned, refined, and applied.

How This Connects to the Toolkit

These guidelines complement the prompt library and dual-framework learning model, ensuring that AI use supports both entrepreneurial competency development (EntreComp) and value-based, reflective judgement (Dooyeweerd).

Use AI to support your thinking, not replace your judgement.

References

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