Context

Date	3 day workshop	**Time**	One online session: 1 hour Two in-person sessions: 4 hours
Faculty	Any	**Educational programme**	Any
Course	Any	**Cohort**	N/A
No. participants on location	20 - 25	**No. participants online**	20 -25
Teacher(s) (incl. TA etc.) needed	1 or 2 depending on the size of the group		
Room	On-campus / Online		

Lesson plan

Subject of the lesson

Directed at teachers, professors or lecturers, these workshops aim to provide a hands-on practical approach on how to implement Challenge Based Learning in the classroom (from theory to practice). Participants will bring to class a session, class or module etc. that they'd like to transform into Challenge Based Learning.
The session was tailored to the participants needs within **two subject areas**:

- Agriculture
- Law (in relation to agriculture)

Targetgroup(s)

University Teachers, Professors, Lecturers and anyone who is interested in boosting in-classroom pedagogy.

Learning outcomes

After this session, participants should be able to:

- **Understanding CBL**: Participants will be able to define CBL, identify its key components, and explain the benefits of using CBL in higher education.
- **CBL Application**: Participants will be able to identify relevant real-world challenges within the field of agronomy that can be used as the basis for CBL projects.
- **Assessment Strategies:** Participants will be able to recognise appropriate assessment methods to measure student learning and progress in CBL projects.
- **CBL Project Design**: Participants will be able to design a CBL project, including defining the challenge, identifying learning objectives, and outlining the project timelines.
- **Facilitating CBL**: Participants will be able to facilitate CBL projects, including creating a supportive learning environment and providing guidance and feedback.
- **Interdisciplinary Collaboration**: Participants will be able to collaborate with colleagues from other disciplines to develop and implement interdisciplinary CBL projects.

Assessment criteria	Assessment instruments
- See learning outcomes above.	Discussion, feedback and debating best practices on the implementation of CBL.

Participant activities

Listening, discussing, answering questions.

Teacher activities

Presenting, answering questions, leading group exercises.

WORKSHOP 1 (2 hours)

Stage and Aim	Time	Procedure	Preparation Comments, potential issues & solutions
PRIOR TO WORKSHOPS	**Ss** = Participants **T** = Teacher	Find an open-plan classroom (boards, chairs, desks which are movable) Get materials (crayons, paper, sticky notes, legos etc) Confirm the number of participants	
FLIPPED CLASSROOM	PRIOR TO IN-PERSON CLASS	**FLIPPED-CLASS Tasks:** - **Ask participants (Ss) to bring the module they'd like to transform into CBL** to the online session. - Send Ss a **handout**:CBL at home for the Flipped Classroom	WOOCLAP WAS USED to introduce stages, manage polls & gather data. See **Appendix 1** with Sample Questions for Wooclap.
Introduction	4'	● Think of how you will introduce the facilitators (use of a PPP?)	

ICE BREAKER as WARM UP: Four picture Game
- Ss meet and group cohesion.
- Recognise the importance of contextualising the challenge
- Practise working in pairs
- Recognise different outcomes to legal disputes, mainly:
  - Litigation
  - Negotiation
  - Arbitration/Mediation
 	
SS GROUPING through True Colours Technique:
- Ss should acquire a better understanding of themselves;
- T builds groups based on Ss strengths and weaknesses;
- T assigns roles in CBL as in PBL
  - Reporter
  - Spokesperson
  - etc.
	/ARM	2'
		3'
		5'
		5'
		5' Ss-Ss
		5' Ss-Ss
			● **FOUR PICTURE GAME (Appendix 2)**
			- **T GIVES RULES**
			1. Ss work individually and in secret
			2. Don't write any words that may give away the story behind the drawing.
			3. Draw the images in random order. Do NOT number the drawings.
			- **T GIVES INSTRUCTIONS:**
			1. Draw a picture of a time when you had to negotiate to get something.
			2. Draw a picture of a time when you got ripped off after negotiating.
			3. Draw a picture of a time when you had to ask someone for help to get what you wanted.
			4. Draw a picture of a time when you had to fight to get what you wanted.
			- **T - Ss: STUDENTS DRAW:**
			- **Ss - Ss: STUDENTS PERFORM**
			
			● **Ss GROUPING (OPTIONAL)**
			GSs grouping technique True Colours Survey **(P.14 + P.15)** but other student-grouping techniques/tests include:
			→ behaviorally anchored rating scale
			→ CATME (This is a more complex and complete tool, used by universities in the US, e.g. Purdue)
			 
			 
				PRIOR TO CLASS:
				● Must have Sample drawings ready for students to see (Appendix 2). This should help avoid problems
				● What questions can I anticipate? Most questions were asked during the online session and these included:
				→ Challenge creation within CBL based on students' choices (not imposed challenges)
				→ Learning Goals within CBL
				→ Assessment in CBL
				
				COMMENTS POST WORKSHOP
				● Next time include a survey that asks participants to mark from 1-5 each of the sections or activities, *e.g. Mark from 1-5 the the 4-picture icebreaker*.
				● Did not have time to do the True Colours grouping exercise, an extra 30 minutes would be needed for this activity. A simplified version can be an alternative: e.g. project or explain the colour-personality traits and then let people decide.
				● Playing background music while they drew was a success ;)

BIG IDEA (BI*): - **Learning outcomes**: Learners personally connect to the subject matter through the identification, development and ownership of a compelling Challenge	**NGAG**	2' T-Ss Ss Ss-Ss	- **T very briefly tells Ss what the purpose of the Big Idea is or Project it on a PPP for Ss to discuss.** - **T tells Ss to link the workshop activities to the module/class they wish to transform into CBL** This class revolves around two big ideas: **Sustainable Agriculture & Law** **Time: 2'** WHAT IS THE BIG IDEA IN CBL **(only mention if necessary but see comments →):** - CBL is used when resolving global issues at the local level. - Starting with a BI* & developing engagement through identifying a captivating Challenge is ideal but not mandatory. - The framework allows flexibility and multiple points of entry for challenges (Teacher/Stakeholder/Students). - In some cases, it makes sense to start with a Challenge without focusing on the BI*and EQ*?. - It can be educational to start with a Challenge and work backward to discover the EQ* and BI*. - Decisions on where to begin depend on goals, time, adventure boundaries, learner age, and experience with CBL.	IN CLASS Tell students they are going to go through the challenge creation part of the CBL framework **COMMENTS POST WORKSHOP** ● The description of what the BI* is (here on the left) was not made as thoroughly as described. However, this was mentioned broadly. Perhaps projecting on a screen these points and then having them discuss in groups would be an interesting way of doing it.
ESSENTIAL QUESTION EQ* - **Learning Outcomes**: Learners should be able to: - To differentiate personal connection questions from concept questions - Brainstorm and critically analyse a topic putting their views at the centre of the issue		10'	**1. QUESTIONS & ANSWERS** **Ss - Think-2/4-Share - Level 1 - Sustainable Agriculture:** | **Ss - Think-2/4-Share - Level 2 - Law & Sustainable Agriculture:** 1. T asks Ss to **individually** write on a sheet of paper as many questions as they can think about **Sustainable Agriculture** (see some examples below). Their question should be asked from a personal point of view, i.e. how are you affected by the subject in question? E.g. of prompts to give Ss (Write them on the board or on a PPP): a. **What are some of the global challenges facing sustainable agriculture?** b. **What would you like to know about this subject?** c. **What impact does this subject have on your (daily) life?** a. **how the law intersects with or affects sustainable agriculture (also think about Qs a. b. c.)** ← Questions to 2. **In pairs**, Ss go over their questions and produce a consolidated version of the questions they are both most interested in and to which they'd like to know the answer.	**Do Level 1 first**, all the way to the group questions then, **Do Level 2 second**, all the way to the group questions. Essential Questioning allows the Learners to contextualise and personalise the BI*. The end product is a single Essential Question that is relevant to the individual or group (e.g. What do I need to do to be healthy?). This is a group brainstorming exercise where Ss focus their attention to the big idea and how it is relevant to them personally. e.g.: - **Why is this important to me?** - **Where does this concept intersect with my world?** - **Answer intuitively, don't do the research** The essential questions enable learners to

- Work collaboratively and transversally (likelihood of unbalanced group as mostly Agronomy Faculty)

2. ANSWERS & QUESTIONS
Learning Outcomes: Ss should be able to:
- Determine whether the questions they have asked thus far are truly relevant to them personally and for their learning of the subject matter;
- Have a sense of engagement and feel curious about the questions at hand;
- Discern good from bad questions using their own understanding of the subject matter as reference, they should consider and be aware of any gaps in their knowledge and thereby think of strategies to fill the gaps. To do so we use CBL's framework for challenges:
  - *Is it a real world challenge;*
  - *What is the local impact;*
  - *Does it appeal to you;*
  - *Are the multiple solutions;*
  - *Will you need to do research;*
  - *etc.*

10'

10'

15'

3. **In groups of 4**, Ss go over their two lists of consolidated questions and produce one consolidated version of the questions they are both most interested in and to which they'd like to know the answer.
4. Repeat 1, 2, 3 if merging two topics as in the e.g. here (Sustainable agriculture + Law) then in groups Ss choose 2 questions they'd like to explore in more detail.

Sustainable agriculture: Personal connection (sample questions)

1. What does sustainable agriculture mean to me?
2. Why should I be interested in the legal challenges of sustainable agriculture?
3. What challenges does sustainable agriculture face in my region?
4. How do the challenges of sustainable agriculture affect me personally?
5. What sustainable farming practices am I familiar with?
6. Do I think it is important to adopt sustainable farming practices? Why or why not?
7. How can sustainable agriculture benefit my local community or region?
8. Am I aware of any challenges in the field of agriculture that have an impact on my life, my region or the world? For example, in my consumption of products from local agriculture?

Law & Sustainable agriculture 2: Exploring concepts. Sequence

1. What legal frameworks govern the sustainable farming practices that I am familiar with?
2. How do these legal frameworks affect the development and adoption of sustainable farming technologies (e.g. intellectual property, land law, contract law, etc.)?
   - How do existing laws affect the use of pesticides, fertilisers and other agricultural inputs?
   - How do these laws affect farmers in the Montpellier region and producers or the final consumer?
   - How do water rights and land use laws affect sustainable farming practices?
   - What international trade agreements can influence the adoption of sustainable agriculture?

2. ANSWERS & + QUESTIONS

1. **Individually =** You will test the questions in your groups. Are the questions very obvious (if they are, it means that you already know the answer and that the question is not necessarily right)?
   - Answer the 2 questions posed by your group. Take the following criteria into account when testing your questions:
     a. **Does my question relate to real-world issues or problems?**
     b. **Does it have a local impact?**
     c. **Is it meaningful and relevant to you, your interests and your learning objectives?**
     d. **Does it offer several valid solutions and approaches?**
     e. **Does it require research, information gathering and analysis from a variety of sources?**
2. **Pairs =** Share your answers with your shoulder partner:
   a. Find the common points in your answers;
   b. Do the questions and answers concern you personally? and
   c. Produce **two questions** to share with the rest of the group (you can rephrase, regroup and/or consolidate your questions).
3. **In your 4-Ss groups, share your two questions and :**
   a. Rephrase, group and/or consolidate your questions so that they are sound; and
   b. produce one essential question per group

Examples of essential questions

1. What local laws affect the ability of local farmers to produce sustainable, quality food in the Montpellier region?
2. How can existing laws and regulations be adapted or reformed to support the transition to sustainable agriculture in the Hérault?
3. What legal mechanisms exist to promote community involvement and awareness of sustainable agriculture in Montpellier?
4. How do the current legal frameworks in Montpellier encourage or hinder the adoption of innovative sustainable agriculture technologies?
5. What role can legal education and training play in helping farmers understand and comply with the laws and regulations governing sustainable agriculture?

3. PITCHES IN GROUP

3.B. Alternative to pitching could be the use of JIGSAW - EQ*

1. 4-Ss groups present their Essential Questions in Jigsaw distribution as in photo —→
2. In JigSaw groups Ss pick 2 Essential Questions and write them on common board
3. All Ss vote for the ONE essential question they'd like to answer

4. VOTING (WOOCLAP)

The essential questions that were produced in the first workshop were:

1. *In the Montpellier metropolitan area, can/should the solutions to waste (water and food) be individual or collective and can/should they be based on the law?*
2. *What legal levers can be used to support PAT farmers?*
3. *What legal levers can citizens use to change legislation in favour of environmental protection and sustainable agriculture?*
4. *What legal training should students at the Institut Agro be given to imagine, define and implement sustainable agriculture?*
5. *What would be the ideal process for realistic and applicable rules?*

contextualise and personalise the BI*. The end product is a single essential question relevant to the individual or group (for example: What do I need to do to be healthy?

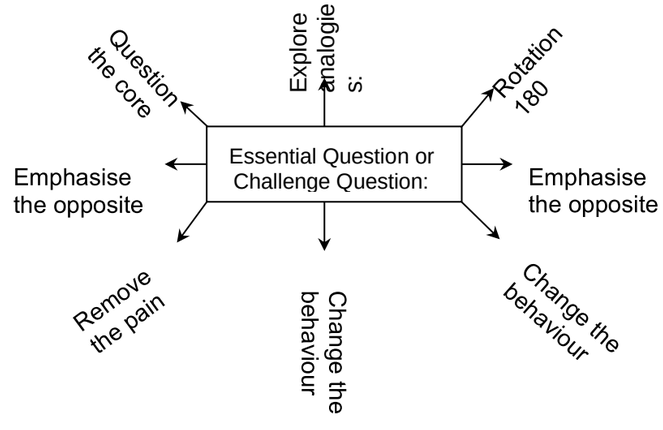
COMMENTS POST WORKSHOP

- The Think-Pair-Share iterations in this part were too many, which meant that this was too repetitive and the tool lost strength. This was due to having two Big Ideas in one (sustainable agriculture and law). If this is the case in a future example, then, it will be necessary to think of an alternative to Think-Pair-Share for either the first or the second Big Idea. Other solutions may be:
  - → Make "Sustainable agriculture & Law" the BI in itself and right from the start. For this, a warm-up activity can be created to get Ss focused, for example, by providing a case study or real life situation where the two are merged.

VOTING: Wooclap, I have 2 options here:

1. One challenge for the whole group
2. As many challenges as there are groups
3. As many challenges as there are people interested in working in them, i.e. only the 2 or 3 challenges that had the most votes.

- It is likely that choosing one Essential Question to build the Challenge for the whole group will create conflict (participants' whose essential questions (thus potential challenges) were discarded may feel demotivated/frustrated).
- **A solution for the above is to move the voting for after the creation of the challenges in the next stage (e.g. there may be 4 challenges)**. This, in retrospect, might be the best option in order to ensure that the challenges are liked by everyone and that they are clearly drafted. This also means that the pitches could be either:
  - → A way to evaluate that the essential questions before drafting the challenges e.g. participants give feedback to presenters on how to improve their essential question (and thereby the challenges);
  - → Then do the voting whereby:
    - Participants all choose one Essential Question and then develop the corresponding challenge; or
    - Participants move on to build a challenge for each Essential Question, in which case a second vote might be required after the challenges have been drafted (see below)

			IMPORTANT NOTE: *The co-facilitator helped me type the questions into the wooclap so participants could vote. The versions here are defective as we opted to write keywords to remind participants of each essential question, the actual essential questions were better drafted than seen here.*	
15' BREAK		15' BREAK	15' BREAK	
GAME AFTER BREAK		7'	**Good games:** **Dance Game:** at 36'30 there is a good game in this video: https://www.youtube.com/watch?v=_tRC0UuCvOg **Dance Game:** continued from previous video at 47' there is variation: https://www.youtube.com/watch?v=_tRC0UuCvOg	
CHALLENGE Learning outcomes: - Critical thinking		10'	**USING "***How might we…"* **TO CREATE THE CHALLENGES :** 1. **In pairs: Take your group's key question and produce 2/3 challenges that you would like to work on. You can write your challenges using the format below, but other methods are also possible:** **a.** How might we help _____ (who are you trying to help/what are you trying to solve) Who _____ (for whom r u doing this?/you or somebody else? -this will be further defined at guiding Qs stage) To _____ (What do they want to achieve/goals/tasks? - if this is for you, what do you want to achieve? **b.** Tell participants to consider the following questions when writing their challenge: Why is this problem an issue? Who is the user? What is the need that must be met? With what can the demand be met? 2. In quartets: review the challenges proposed and produce 2 challenges. 3. Group presentation. 4. **EXAMPLE OF HOW TO DEVELOP A CHALLENGE:** ***a.*** *Designing a family-friendly law firm:* *'After the Covid-19 pandemic, we noticed that customers and staff sometimes brought their children to the practice. The children's presence usually lasts less than an hour. However, we sometimes have four to six children in reception. We welcome children to the practice, but they can be very noisy.'* ***b.*** *Challenge: Designing a family-friendly law firm* - *Question 1: How can we stop children making noise when they are in reception?* - *Question 2: How can we design a positive waiting experience for the children of our clients and staff?* - *Question 3: How can we create a calm, work-friendly environment for lawyers and staff, while providing a safe, playful space for children to minimise disruption?* 5. **ENSURE** Challenge is sound, techniques (*make sure the challenges are well constructed, perhaps do a test to see if the challenge is feasible, pertinent, etc…):* a. 180° rotation: b. Change the status quo: c. Separate challenges: d. Emphasise the positive: e. Remove the pain: f. Explore the opposite: g. Question the core: h. Explore analogies: *Worked out examples based on the one above:* ● ***180° rotation:*** *how do you design a soundproof reception area or one that is far enough away from staff offices?* ● ***Separate challenges :*** ○ *How can we reduce the anxiety and boredom felt by children while waiting?* ○ *How can we raise the awareness and responsibility of accompanying adults?* ● ***Exploring the opposite:*** *How can we create a calm and soothing waiting experience for children?* **Legal levers to support PAT farmers (Projets Alimentaires Territoriaux)** **Mapping out the legal levers to support farmers in understanding and deploying TAPs in Occitanie:**	**IMPORTANT: The scope and duration of a challenge depend on the time students have available to work on it:** - The challenge transforms the essential question into a call to action. - The challenge is for participants to develop a local solution to a global problem. - The challenge is immediate, achievable, measurable and generates enthusiasm. - It is important to choose the right challenge - interesting, relevant and of global importance. - The challenge should be neither too broad nor too narrow. - The challenge should be difficult, have multiple solutions and be organised for the learners. - The time allocated to the challenge is important - not too big, not too small. - Learners can start to form groups when identifying the challenge. - The challenge should be real and meaningful to the learners. **COMMENTS POST WORKSHOP** Testing the CHALLENGE: ● The challenge in this workshop was poorly drafted, unclear, and participants (despite having voted for it). This in itself is not an issue, as a poorly drafted challenge can still be used to exemplify the types of problems Ts and Ss are faced with when building the challenges. ● A good example of how refining the challenge: 

WORKSHOP 2 (2 hours)

<table>
<tr><th>Stage and Aim</th><th colspan="2">Time</th><th>Procedure</th><th>Preparation Comments, potential issues & solutions</th></tr>
<tr><td>Warm-up</td><td rowspan="6"></td><td>5’</td><td>Think back to when you were a university student (perhaps you still are). Academically :
a. What is your worst memory of your student life?
b. What's the best memory you have of your life as a student, perhaps a teacher, a class or a module that made the biggest impression on you?</td><td>Ask the first question, give Ss time to respond, then ask the second question.</td></tr>
<tr><td>Recap</td><td>5’</td><td>- We're going to take a look back at last week, I'd like to build it together, do you remember how we started?
- Let's talk about The Big Idea,
- Essential questions</td><td>SHOW 1ST WOOCLAP</td></tr>
<tr><td>Guiding questions</td><td>20’

20’

20’</td><td>GUIDING QUESTIONS

1. T provides Guiding Questions & Activities & resources Matrix (See Appendix 4 for an alternative Matrix)
a. Using the Challenge participants write all the questions they’ll need to answer in order to acquire a full understanding of the challenge (in this case “Mapping out the legal levers to support farmers in understanding and deploying TAPs in Occitanie) ; then
b. Based on the Guiding Questions, participants write all the activities and resources they’ll need to answer those questions (this may include calling on experts, inviting stakeholders, interviewing users, doing research etc.)
c. After the guiding activities have been carried out and the resources analysed, participants write the results.

<table><tr><th>Guiding questions
(What we need to learn)</th><th>Guide activities and resources
(How we are going to learn)</th><th>Results
(what we learnt)</th></tr><tr><td>e.g. 3 Categories of questions:

Framing questions:
- What is the current legal context for TAPs in Occitania? What national and regional laws and regulations apply to TAPs?
Analysis question::
- Identify the various institutional players involved in the management of TAPs in Occitanie (administration, local authorities, chambers of agriculture, professional bodies, etc.).
Proposal questions:
- Propose measures to simplify legal texts and administrative procedures.</td><td>e.g. 2 Categories, activities & resources:

Activities:
Data collection:
- Review of legal and institutional literature relating to TAPs in Occitanie.
Data analysis:
- Identification of the main legal obstacles to farmers' participation in TAPs.
Recommendations:
- Formulation of concrete proposals to improve the legal framework for TAPs.</td><td></td></tr></table></td><td>LEARNING GOALS:
● It was suggested I showed them how to write learning goals, but this is not the objective/purpose of this workshop, nor my expertise.</td></tr>
<tr><td>Guiding Activities</td><td></td><td>See above</td><td></td></tr>
<tr><td>Guiding Resources</td><td></td><td>See above</td><td></td></tr>
<tr><td>Solution: Implementation</td><td rowspan="2"></td><td></td><td></td><td></td></tr>
<tr><td>Evaluation/assessment</td><td>20’</td><td>LEARNING OUTCOMES:
In this class, Learning Outcomes result from two sources Teacher & Students:
STUDENT-LED LEARNING OUTCOMES:
1. Ss have created their own questions and a challenges to work on, thus have a general idea of what they know and ignore;
2. Ss should ask questions that will help them identify the knowledge they need to understand the challenge and develop a solution. This can be done by either:
a. If Challenge comes from Ss: Ss come up with as many questions as they can on the challenge (e.g. what legislation is in place in relation to PAT…?
b. If Challenge is provided to Ss: Ss should now come up with hypotheses, explanations as to why the problem exists

CHALLENGE: Leviers juridiques de soutien aux agriculteurs PAT (Projets Alimentaires Territoriaux)
1. Split class in four groups. Each group will prepare the learning objectives for each category:

<table><tr><td>OBJECTIFS: PROFESSEUR</td><td>OBJECTIFS : JURIDIQUES</td></tr><tr><td>OBJECTIFS : AGRICULTURE DURABLE</td><td>OBJECTIFS : ENVIRONNEMENTALES</td></tr></table>
ASSESSMENT is based on the Programmatic Assessment technique (beyond the scope of this workshop but it is mentioned, nevertheless)</td><td></td></tr>
</table>

Publishing				
POST CLASS			SHARE YOUR WORKED-OUT CBL CLASS WITH YOUR COLLEAGUES and WHEEL OF LIFE **(Appendix 3)**	

Appendix 1

1.

Bonjour

Bienvenue à notre première rencontre pour découvrir l'apprentissage par défi ! (*Challenge-Based Learning*, **CBL**).

2.

2. En tant qu'enseignant, qu'attendez-vous de ces ateliers ?

Bla

3.

3. Est ce que vous vous inspirez des idées/initiatives de vos étudiants pour préparer vos cours ? 7 respondents

Pas du tout	43%	3 votes
25% du temps.	57%	4 votes
75% du temps.	0%	0 votes
100% du temps.	0%	0 votes

4.

4. Est ce que les activités en groupes font partie de vos cours ? 7 respondents

Pas du tout	0%	0 votes
25% du temps.	0%	0 votes
75% du temps.	86%	6 votes
100% du temps.	14%	1 vote

5.

5. Dans quelle mesure votre enseignement favorise-t-il les compétences transversales telles que l'autonomie, le leadership et la pensée critique ? 8 respondents

10% du temps ou moins.	0%	0 votes
25% du temps.	50%	4 votes
75% du temps.	50%	4 votes
100% du temps.	0%	0 votes

6.

6. Des intervenants externes sont-ils impliqués dans vos cours, et à quelle fréquence ? 6 respondents

10% du temps ou moins.	67%	4 votes
25% du temps.	17%	1 vote
75% du temps.	17%	1 vote
100% du temps.	0%	0 votes

7.

7. Intégrez-vous des situations authentiques pour un apprentissage au plus proche de la vie réelle ? 7 respondents

10% du temps ou moins.	43%	3 votes
25% du temps.	29%	2 votes
75% du temps.	29%	2 votes
100% du temps.	0%	0 votes

8.

D'où vient CBL ?

- Un cadre éducatif basé sur l'**apprentissage expérientiel**.
- **Objectif** : Apprendre en résolvant des problèmes concrets et réels.
- **Apprentissage collaboratif** pour l'acquisition de compétences et de connaissances.
- Former et être formé par ses **pairs**.
- L'enseignant comme **facilitateur**.

9.

Avez vous des questions

Paragraph goes here, on one or several lines. It all depends on what you have to say.

10.

Infos pratiques:

- **Où**: L'institut Agro Montpellier
- **Salle**: à confirmer
- **Dates**: 8 et 15 Février, 2024
- **Horaires**: 14h - 16h
- **Format**: Pédagogies actives

11.

Créez une carte mentale

- pensez à vos compétences en tant qu'enseignant.
- Écrivez le mot "Compétences" au centre d'une feuille de papier.
- Ajoutez 3 à 5 compétences principales autour du mot "Compétences".
- Reliez chaque compétence principale à des éléments de soutien.

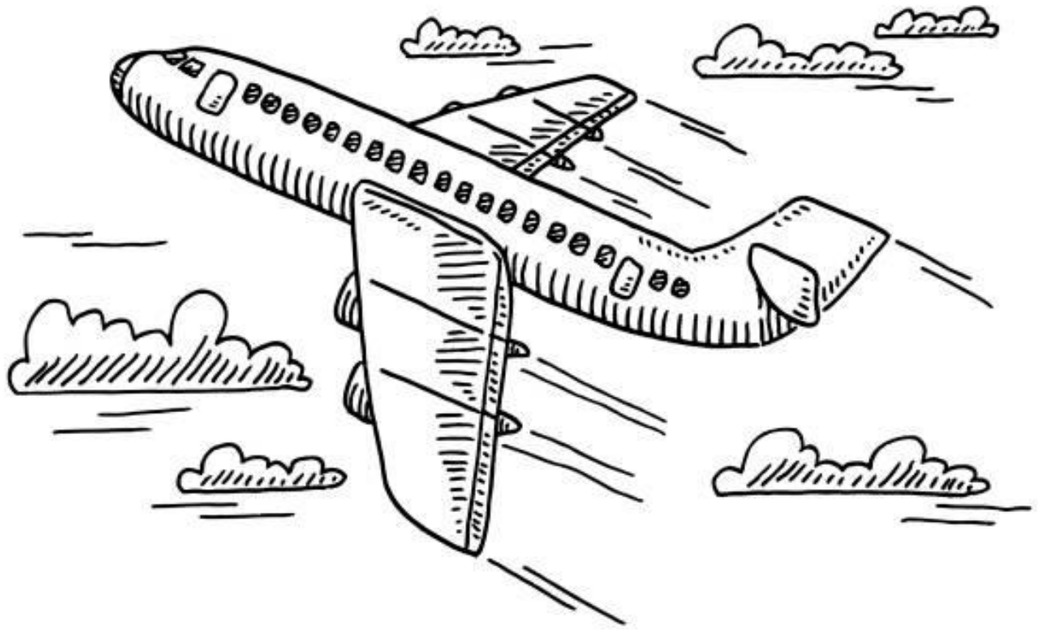
12.

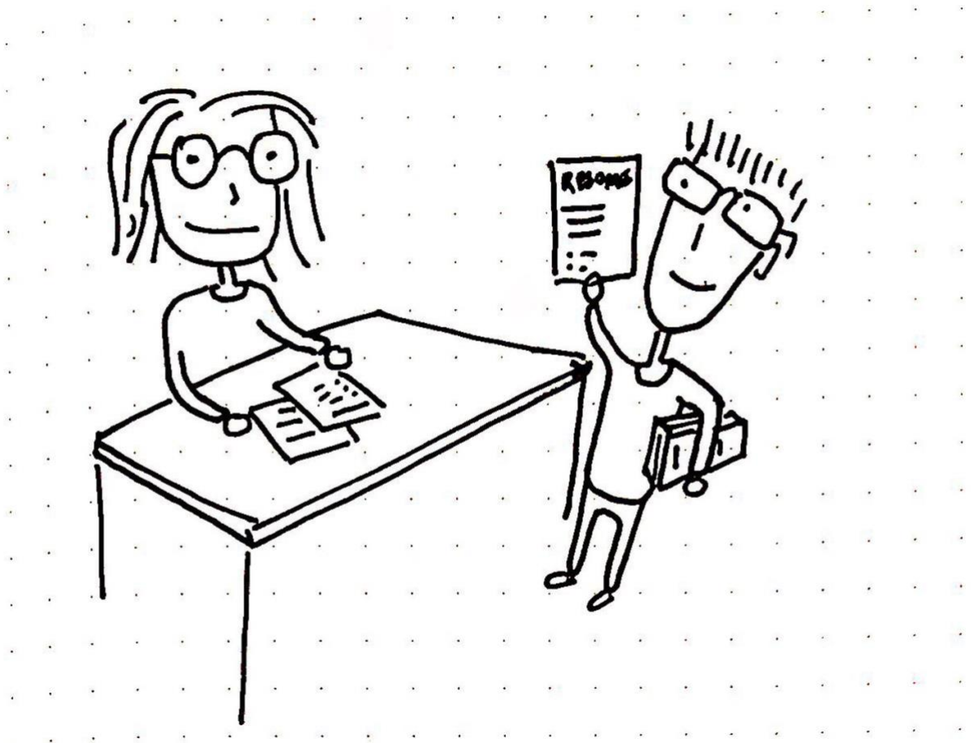
... carte mentale

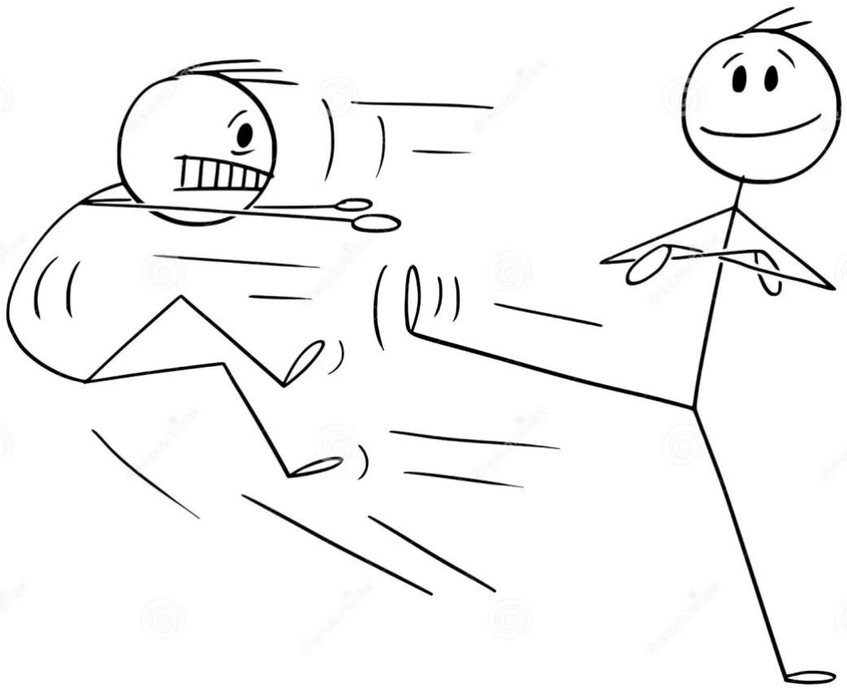
Maintenant, examinez vos compétences en tant qu'enseignant.

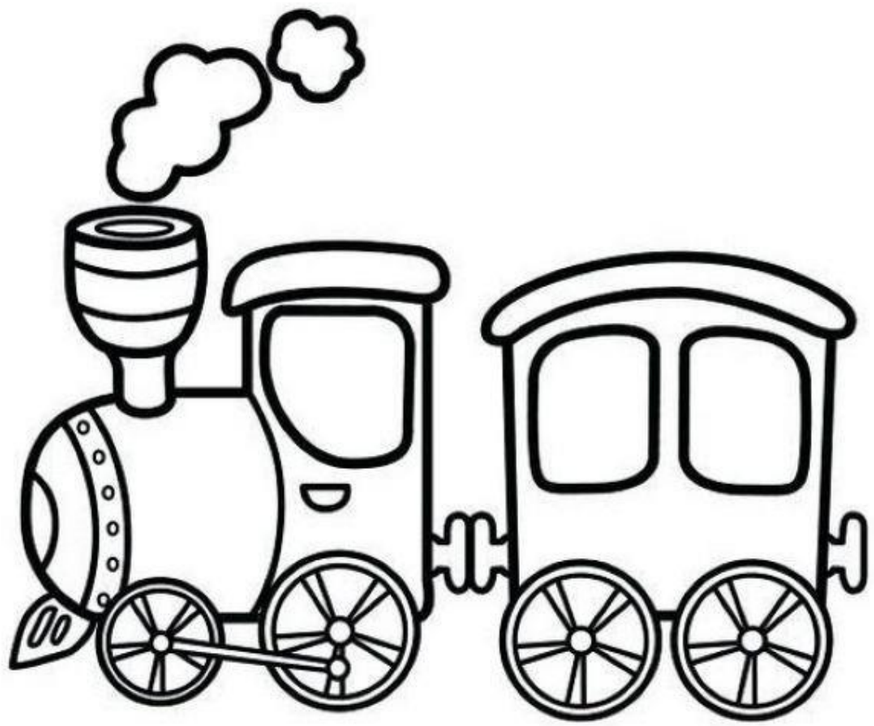
- Que pensez-vous de vos compétences ?
- Qu'est-ce que vous faites bien ?
- Que pourriez-vous améliorer ?
- Où y a-t-il de la place pour l'amélioration ?

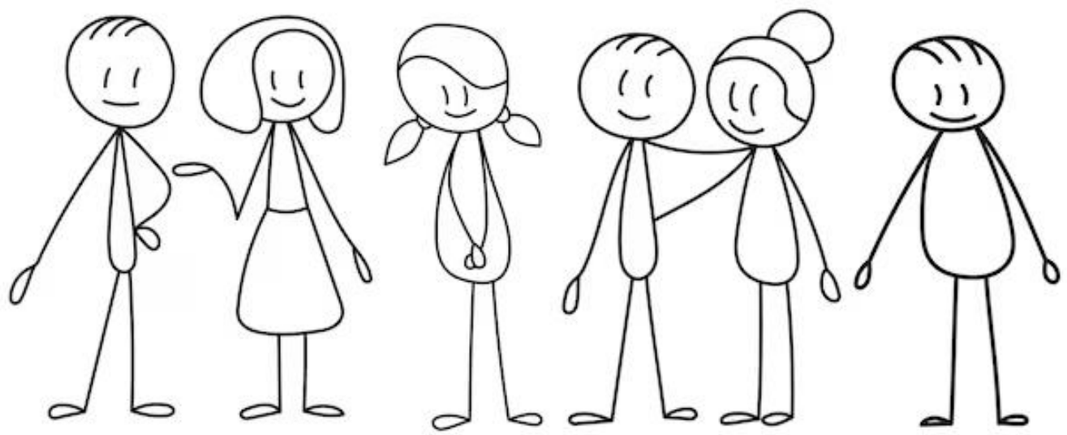
Appendix 2











Appendix 3

Understanding and Improving Your CBL Program with the CBL Wheel of Life[1]

The CBL Wheel of Life is a tool designed to help you assess and improve your Challenge Based Learning (CBL) program. It is based on the principle that every CBL program has room for growth and that improvements are driven by teacher motivation and the specific context of the course or project.

- There is no such thing as a perfect CBL programme, course or project.
- Any change or improvement towards a more effective CBL programme is based on the intrinsic interest and motivations of the teacher (see also the students).
- Any change or improvement towards a more effective CBL programme is based on the context and specific characteristics of the project/course in which the teacher operates.

How to Use the CBL Wheel of Life

You will now determine your level of motivation to implement CBL elements in your course/project. Follow the instructions below:

STEP 1: Start by reading the definitions of each CBL element.

1. **T Professionals (Cross-Disciplinary Learning):** Train students to become problem solvers with deep expertise in a specific field and the ability to take a broader view. By the end of the course/project, they should have a range of skills and perspectives to adapt to new situations and complex real-world challenges.

2. **Open-ended and realistic challenges:** Present students with complex, real-world problems requiring knowledge and skills from multiple disciplines. These challenges reflect real-world problems and require critical thinking, creativity, and perseverance. Students must collaborate with peers from other disciplines to develop innovative solutions.

3. **Global themes:** Address broad interdisciplinary topics reflecting real-world issues and challenges. Encourage students to think about issues such as sustainability, social justice, and global citizenship.

4. **Stakeholder involvement:** Involve people and groups with a vested interest in the challenge at hand, such as community members, industry experts, and policymakers. This provides valuable insights, perspectives, and feedback to inform students' solutions and ensure their ideas are relevant and impactful.

5. **Teaching as coaching:** teachers act as coaches, providing advice, support, and feedback as students work through challenges. Coaches offer advice on research methods, provide technical expertise, facilitate group discussions, and help students reflect on their progress.

6. **Independent/self-directed learning:** Students take charge of their learning journey by identifying their own learning objectives, conducting research, seeking feedback, and reflecting on their progress. This enhances motivation, independence, and lifelong learning skills.

7. **Interdisciplinary learning:** Students integrate knowledge and perspectives from multiple disciplines to solve complex real-world problems, drawing on expertise from different fields and backgrounds to develop innovative solutions.

8. **Collaborative learning:** Students work together to develop solutions to challenges, identifying problems, generating ideas, and refining solutions. Collaboration develops teamwork, communication skills, and a sense of common purpose.

[1] Adapted from " The Wheel of Life ", Université de technologie d'Eindhoven (TU/e), 2024

9. **Learning technologies:** Use digital tools and resources to support student learning and collaboration, such as video conferencing, online discussion forums, digital whiteboards, and project management software.

10. **Assessment:** Support continuous and iterative evaluation of student learning and progress by collecting and analysing data from multiple sources, such as formative assessments, student reflections, and peer reviews. This emphasises continuous improvement and the development of a growth mindset.

STEP 2: Assess your Course/Project. Assign a score for each CBL element on the wheel:
***1** = not at all present*
***10** = fully implemented*

STEP 3: Connect the marks on the wheel to create a 'spider's web' visualisation of how you currently perceive each CBL element in your course. Reflect on the insights this provides.

STEP 4: In the table provided, write down each score you gave yourself; first column (Score (x)).

STEP 5: In the Improvement column, indicate the margin of possible improvement for each aspect. This is calculated using the formula 10 minus the score you entered in the (Score) column: ***10 - Score (x)***.

STEP 6: In the Motivation column, indicate your level of motivation to improve each aspect. Give a score between: 1 (no motivation) and 10 (high motivation).

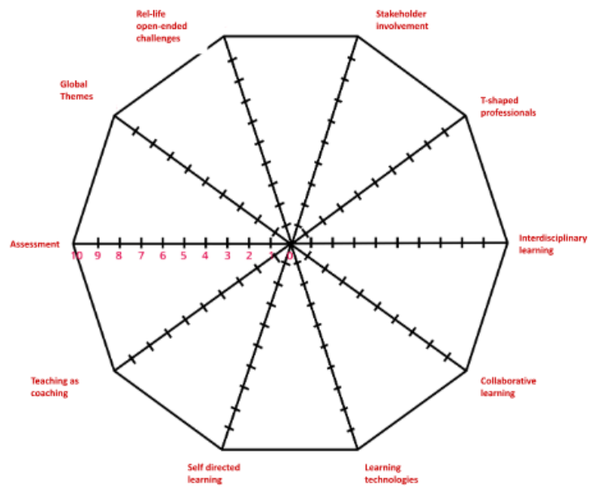
STEP 7: In the Priority column, determine the level of priority for each aspect of CBL you will work on first. Calculate the priority level by multiplying the numbers in the Improvement column by the numbers in the Motivation column.

STEP 8: After you have completed Steps 1 through 7, craft your development plan by asking yourself:

- **Which aspects** of the CBL wheel of life need improvement?
- **Why** are these improvements important?
- **What actions** can be taken to address these areas?
- **Who or what** is needed for implementation?
- **How** might other aspects be affected, and how can they be balanced?

Remember, while multiple improvements are possible, **focused efforts** often yield better results. Maintain a **holistic perspective** to ensure all aspects of the CBL wheel receive attention.

The wheel of life, where do I stand, where do I go?



CBL Aspect	Score (x)	Improvement(i) *(i = 10 - x)*	Motivation (m)	Level or Priority (p) *(p = i * m)*
Global Themes				
Real-life, open-ended challenges				
Stakeholder involvement				
T-shaped professionals				
Interdisciplinary learning				
Collaborative learning				
Learning technologies				
self -directed learning				
Teaching as coaching				
Assessment				

Appendix 4 – available at : https://www.challengebasedlearning.org/wp-content/uploads/2023/08/CBL_Canvas.pdf

CBL CANVAS

CHALLENGE TYPE

TEAM

VERS.

BIG IDEA

ESSENTIAL QUESTIONS

ESSENTIAL QUESTION

CHALLENGE

GUIDING QUESTIONS
CATEGORIZED AND PRIORITIZED

GUIDING ACTIVITIES AND RESOURCES

RESEARCH SYNTHESIS (WHAT WE LEARNED)

SOLUTION CONCEPT

NEXT STEPS

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NAPOLI iOS Academy And Foundations