

CHALLENGE-BASED LEARNING ECIU

TEAMCHER TOOLKIT

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EDITOR

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Figure 1. About challenge-based learning (ECIU.org, 2021)

Dear reader,

This document can be used as a toolkit to support your endeavour of coaching a CBL team. As a teamcher, you are expected to conduct team meetings to uphold the team's progress. We recommend focusing the meetings on one of the nine steps of CBL. For each step, we have gathered support tools (follow the hyperlinks) and outlined step outcomes for you to have a grasp of what is expected from the learners by the end of each step.

<i>Support Tools</i>	<i>Meeting Focus</i>	<i>Outcome</i>
General recommendations		
<ul style="list-style-type: none"> ✓ Introduction to CBL ✓ CBL in a nutshell ✓ How to support online cooperation ✓ Manage multidisciplinary work <ul style="list-style-type: none"> ✓ Team building ✓ Tips on project management ✓ Keep the team motivated <ul style="list-style-type: none"> ✓ Conflict resolution ✓ Prompting reflection ✓ Enhancing CBL implementation 		
Engage		
<ul style="list-style-type: none"> ✓ Asking Essential Questions ✓ Defining stakeholders ✓ Strategies for stakeholder identification (learners' guide) 	Big Idea & Essential Questions	<ul style="list-style-type: none"> ▪ Learners have developed a list of questions with an indication of answers to them ▪ Learners have clarity on the essence of the Big Idea ▪ Learners have a broader understanding of the identified stakeholders
<ul style="list-style-type: none"> ✓ Building up a concise challenge statement ✓ Exploring group dynamics and identifying personal roles 	Actionable Challenge	<ul style="list-style-type: none"> ▪ Learners have a compelling and actionable challenge statement ▪ Learners have developed their action plan for the project ▪ Learners have identified their clear tasks and roles
<ul style="list-style-type: none"> ✓ Making the most of stakeholder feedback ✓ Activities for establishing personal learning goals ✓ Video editing tips and tricks 	Finalising Actionable Challenge	<ul style="list-style-type: none"> ▪ Learners refine and finalise the challenge definition in accordance with the stakeholder feedback ▪ The team (the learners, the stakeholder, the teamcher) have defined personal learning objectives ▪ Learners are ready to make and submit their challenge proposal

Investigate		
<ul style="list-style-type: none"> ✓ <u>Promoting self-directed learning</u> ✓ <u>Asking the “right” questions</u> ✓ <u>Choosing relevant resources</u> ✓ <u>Working with stakeholders</u> ✓ <u>Guiding Questions, Resources, and Activities Matrix</u> 	<p style="text-align: center;">Guiding Questions Guiding Activities Guiding Resources</p>	<ul style="list-style-type: none"> ▪ Learners get an overview of information to acquire and where to get that information ▪ Learners are engaging in activities to get the required knowledge ▪ Learners gain insight into own competencies ▪ Learners can find and interpret relevant sources ▪ Learners collect data from various sources ▪ Learners work with the stakeholders
	<p style="text-align: center;">Synthesis</p>	<ul style="list-style-type: none"> ▪ Learners have analysed the gathered information ▪ Learners answered the guiding questions ▪ Learners are able to interpret their data ▪ Learners are able to present and share their findings
Act		
<ul style="list-style-type: none"> ✓ <u>Promoting design thinking</u> ✓ <u>Facilitating idea consideration and idea checking</u> 	<p style="text-align: center;">Solution Concepts and Development</p>	<ul style="list-style-type: none"> ▪ Learners engage in design thinking ▪ Learners define solution requirements ▪ Learners brainstorm on possible solutions and solution design ▪ Learners critically consider different solutions, check their inner logic and potential viability in the given setting ▪ Learners choose their final solution and present it
<ul style="list-style-type: none"> ✓ <u>Promote stakeholder involvement</u> 	<p style="text-align: center;">Solution Implementation</p>	<ul style="list-style-type: none"> ▪ Learners implement the solution in the real-life situation of the stakeholder
<ul style="list-style-type: none"> ✓ <u>Group Reflection Report</u> ✓ <u>Individual Reflection Report</u> ✓ <u>Assessing a CBL project</u> ✓ <u>Final reflection – getting learner feedback</u> 	<p style="text-align: center;">Evaluation and Sharing</p>	<ul style="list-style-type: none"> ▪ Learners critically evaluate their results to see whether the challenge is really solved ▪ Learners are able to derive conclusions from the process and from the content ▪ Results are shared with the wider public

Bibliography and recommended readings

MANAGING MULTIDISCIPLINARITY¹

PLAN A KICK-OFF MEETING

You now are facing the challenge of fostering productive multidisciplinary cooperation among pronounced individuals to form a united team. It is crucial to have a kick-off meeting to establish common goals and internalise a shared purpose. During the meeting, discuss and put in writing:

- The purpose of the project, i.e., the common goal of the team
- Who the core team members are and what their expertise/functions are
- Why this project is valuable for all the team members involved
- A team charter, such as the one pictured below

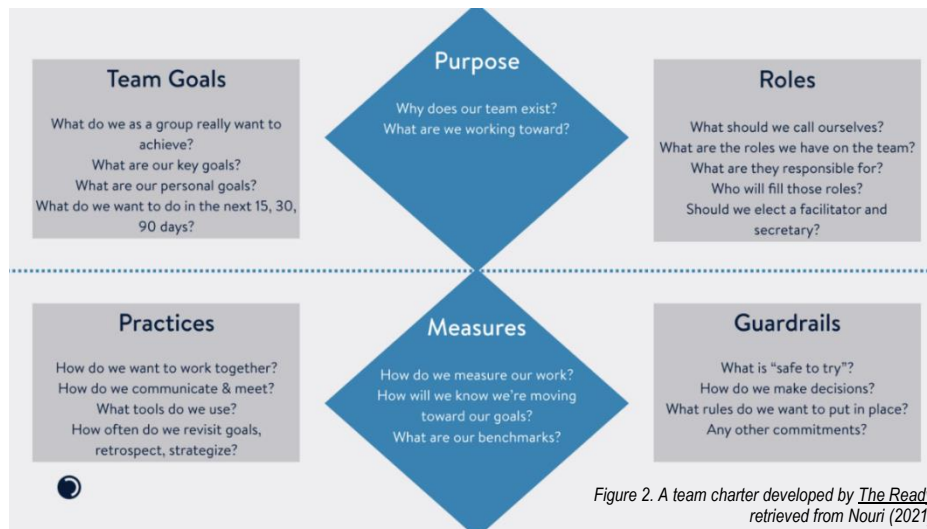


Figure 2. A team charter developed by *The Ready* retrieved from Nouri (2021)

Encourage the team members to contribute ideas about what goes on within the team charter. This helps everyone internalise project goals and team culture. A visual charter is also something that people can refer back to after the kick-off meeting is done and dusted.

ENCOURAGE MAKING A PLAN AND A TIMELINE

Multidisciplinary teams should come equipped with a plan of action for the entire project. This might mean that the team must already know the rough due date and has a general understanding of the overall plan and timeline. Thus, encourage the learners to draft a plan and a timeline for the whole project from the very beginning. You can use [Gantt chart](#) makers for that.

DEFINE ROLES AND RESPONSIBILITIES

Have your team think about the roles the project might need to succeed. This will prompt the learners to ponder about the responsibilities they would like to take on during the project and share what expertise they have.

ENCOURAGE COMMUNICATION

Ideally, team members should communicate amongst themselves regularly throughout the project. Everyone should be informed of the project status and what their responsibility is at that moment. Remind your learners of that. Meetings should happen regularly and be seen as a valuable use of everyone's time. Encourage your team to have clear agendas before each meeting.

¹ This tool is **based** on the article titled *Practices for Developing and Managing Cross-Functional Teams* by Nouri (2021).

PROMPTING REFLECTION²

Please reflect on the work process in your team using the following questions. Make additions independently if an aspect of your teamwork that you think is important is not listed. After each team member has filled in the table, you can exchange what is on your mind.

What CBL step are you doing right now? Is everyone aware of what needs to be achieved? Are you satisfied with the achieved team answer(s)?	
Are you still in time concerning your project plan? Why/Why not? What do you plan to change to stay on track? Why?	
How did you develop solutions to problems that might have appeared during your teamwork? Did you ask for help (by your teacher/other learners)? Why/Why not?	
At which stages of your teamwork did you deviate from your initial project plan and why? Did everyone agree on the way of proceeding?	
What have you learned so far from your work as a team? What is still bothering you? What could help to come over this hurdle?	
What else is there to be asked at this stage?	

Please fill in the following evaluation form anonymously by ticking to what extent the following statements apply:

Statements on teamwork	Fully agree	Rather agree	Rather disagree	Totally disagree
I think that our team approached the challenge in a structured and focused way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know the tasks of my role in this team and think it is useful and important.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The discussions in our team were mostly effective and based on the subject matter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In our team, we helped each other and focused on solutions rather than problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Everyone tried to resolve conflicts in the group constructively.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The process of decision-making is transparent and fair.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Important decisions in each CBL step were made together.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The difficulty level of this teamwork is appropriate.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I know my responsibilities and have no problems fulfilling my tasks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am satisfied with the process of our teamwork.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

² This tool is **retrieved** from *CBL @ ECIU, Assessment for pilot 2 Teamcher manual* (Simon et al., 2021).

Here you have space for your personal comments. What do you particularly like about this teamwork, what do you like less? What would you like to change?

POSSIBLE QUESTIONS AFTER EACH CBL STEP³

Below you can find suggestions for questions you can discuss with the team at the end of each step of CBL to foster discussion and help the team to realize if they have thought about everything necessary. Feel free to use this or not, add questions, ask the team at an earlier or later time.

Step 1: Share a Big Idea

What is your interpretation of the Big Idea? Why did you choose it? What interests you? How does this Big Idea relate to your life? Do you have a personal relation to the Big Idea? Do you have competencies that could be useful? Do you have contacts that could help?

Step 2: Find essential questions

Are these all questions you need to ask? Do the questions give an idea of the complexity of the big idea? Are all questions open-ended (without an idea of a solution included)?

Step 3: Create a Challenge

Is the challenge defined in a specific way? How do you know this? Can it be done in the time you have available? Does the challenge provider agree with this? Is it motivating for you and your team?

Step 4: Identify guiding questions

Did you define every aspect of the challenge you need to know more about? Have you defined all additional knowledge you need to know to solve the challenge? Have you used all currently available knowledge in the team? How and when will you know you have gained sufficient new knowledge?

Step 5: Identify guiding activities and resources

What could be useful to find answers to the guiding questions? Does everyone know exactly what to do during research time? Do you plan to do some experimental research? What resources are you going to use?

Step 6: Do the analysis

Did you explain the core ideas of the new information? How do these relate to the challenge? What does this mean for the challenge? Are all questions from step 4 answered?

Step 7: Come up with a solution

Are the proper requirements considered? How do you know? What do the stakeholders think about this? Does the solution concept still fit your challenge definition (of step 3)? Is all relevant information of step 6 considered?

Step 8: Set up implementation

Does the solution meet the requirements of step 7? How do you know? Does it actually solve the problem? What are the stakeholders' responses? Does it meet the expectations of the challenge provider?

Step 9: Share evaluation

What method did you use for evaluation? Why this method? What did you find? Have you found a solution for your original challenge? Looking back, what did you do well and what could you have done better? Why and how?

³ This tool is **retrieved** from CBL @ ECIU, *Assessment for pilot 2 Teamcher manual* (Simon et al., 2021).

RECOMMENDED ACTIONS FOR TEACHERS⁴

Next are a few recommendations for **teachers**, prepared by the Observatory of Educational Innovation to enhance the implementation of Challenge Based Learning.

Address challenges close to the reality of the learners to incite their interest and motivation.



Make sure there is a strong relationship between content, course objectives and the competencies you seek to develop in learners through the challenges.



Design challenges that require learners to make decisions and make judgments based on facts and logical information to back up their decisions and reasoning.



Clearly define what learners are expected to do during the challenge, create evaluation tools and explain how learners will be evaluated.



Allow learners to participate in the definition of the challenge or determine the direction of the research and solution proposal.



Help learners to divide the challenge in reasonable segments.



Match the challenge with the available resources and time to enhance its scope and feasibility, and to ensure learners have the opportunity to act on their solutions.



Resist the temptation to rush the process or to give the learners the solution.



Encourage creative thinking to guide the process, take risks and experiment.



Form a team with teachers from other disciplines to enrich the learners' experience.



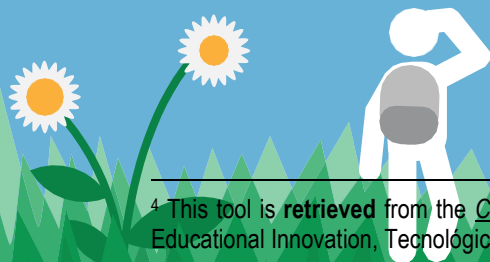
Link the contents with the environment and external entities like companies, academic leaders, government, and other institutions.



Prepare a clear methodology for both teacher and learners.



Evaluate the entire learning implementation experience, both products and processes. The evaluations may be conducted by the teachers, guests, or external agents.



⁴ This tool is **retrieved** from the *Challenge Based Learning* guide edited by Fuerte Cortés (2015) and published by the Observatory of Educational Innovation, Tecnológico de Monterrey.

ESSENTIAL QUESTIONS⁵

"It's so much easier to suggest solutions when you don't know too much about the problem"
- Malcolm Forbes

A good essential question

1. is *open-ended*; that is, it typically will not have a single, final, and correct answer.
2. is *thought-provoking* and *intellectually engaging*, often sparking discussion and debate.
3. calls for *higher-order thinking*, such as analysis, inference, evaluation, prediction. It cannot be effectively answered by recall alone.
4. points toward *important, transferable ideas* within (and sometimes across) disciplines.
5. Raises *additional questions* and sparks further inquiry.
5. requires *support* and *justification*, not just an answer.
6. *recurs* over time; that is, the question can and should be revisited again and again.

Avoid that the question itself hides a part of the answer.

- Example question "how to plan a birthday party for a friend?" Then you already assume it is going to be a party.
- Changing the question into "how can we make his birthday an unforgettable day?", you will find different kinds of solutions (Seelig,2015)

Example:

General idea: Smart Resilient and Happy Communities

Essential questions (examples)

- When is a community Happy?
- Are the conditions for being a resilient community for every community the same?
- Could an increasingly resilient community also put another community at a disadvantage? - How does a decrease in the well-being of elderly people relate to happy communities?
- Should the decreasing well-being of elderly people be a priority for society?
- Was consumer technology ever used before for increasing wellbeing in elderly people? Why did this not work?

Challenge: Developing a roadmap, based on the universal needs of the elderly, for the use of consumer technology to increase wellbeing.

⁵ This tool is **retrieved** from CBL @ ECIU, *Assessment for pilot 2 Teamcher manual* (Simon et al., 2021).

A CONCISE CHALLENGE STATEMENT⁶

The following is a checklist that can be used for building a concise, robust, compelling and actionable challenge statement. It can be given to the learners as a guiding tool when refining the statement.

- The challenge turns the essential question into a call to action by charging participants with developing a local solution to a global problem.
- The challenge is immediate and actionable.
- The challenge is interesting and sufficiently close to home.
- The learners can derive personal meaning and feel a sense of accomplishment upon proposing and implementing a solution for the challenge.
- The challenge has greater global significance.
- Through the challenge, the learners can engage with issues they know to be truly important.
- The challenge is real and meaningful to the learners.
- The challenge is difficult and has multiple possibilities for solutions.
- The amount of time the learners have to work on the challenge fits the project timeline.
- The challenge is not too broad/vague and not too narrow. *

**If the challenge is too broad or vague, learners will flounder. If it is too narrow, they will not be able to fully experience the self-direction that is required to develop the skills that Challenge Based Learning cultivates.*

⁶ This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011). This teacher toolkit is an independent publication and has not been authorised, sponsored, or otherwise approved by Apple Inc.

GROUP CHALLENGE GUIDE⁷

The following can be filled out by the team members to thoroughly plan the project, identify the roles and responsibilities, and be used as a guide throughout the whole project.

The Big Idea: _____

The Essential Question: _____

The Challenge: _____

Group Members and Roles/Responsibilities

(Possibilities include project manager, product manager, public relations, media specialist, documentarian, add any other jobs that our group will need)*

Name Roles/Responsibilities

1. _____
2. _____
3. _____
4. _____
5. _____

Our Guiding Questions

(Questions we need to answer—what we think we need to know to find a solution)

Our Guiding Activities

(Learning activities, research, experimentation, interviewing, exploring—how we will get information)

Our Guiding Resources

(Websites, podcasts, movies, people, tools—sources we can access to find information)

⁷ This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011).

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Training

(Skills we need and our professional development plan—could include video production, interviewing techniques, and so on)

Our Production Schedule

(Events we want to record, what format, necessary resources, and dates)

Things We've Learned—and How We Learned Them

(Important information about the big idea and the challenge—keep a running list on another sheet or on a wiki)

⁷ This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011).

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*Project Manager—Manages the overall process, including keeping track of progress toward meeting project deadlines, team productivity, team morale, and so on.

Documentarian—Develops a structure and strategy for documenting the entire CBL experience through text, audio, and video. Works closely with the production team to capture key events.

Media Specialist—Manages the production process for all of the media captured during the process. Plans how best to capture, edit, organise and distribute the media assets.

Product Manager—Responsible for managing the final deliverables including presentations, print materials, web products, videos, and so on.

Research Librarian—Manages the development of guiding questions as well as the process and resources necessary for answering them. Collects and organizes content from the researchers. Works with the teacher to organize directed learning experiences and guest lectures when appropriate.

Researcher—Works with the Research Librarian to identify activities and gather resources for answering the guiding questions. Assists with documentation and sharing of the answers.

Public Relations/Marketing Director—Keeps all of the stakeholders informed about the CBL process. Keeps the school, home, and local community up to date on progress and events. With the assistance of the educational officials, handles any inquiries from the community. Creates any necessary marketing materials for the solution.

Social Media/Collaboration Director—Manages the private and public online communities for the project. Works closely with the teacher and other directors to ensure that online space is available for collaboration and documentation. Recommends, approves, and manages the use of public environments, including social networking and video distribution sites.

⁷ This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011).

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STAKEHOLDER ENGAGEMENT⁸

Once the first challenge statement is constructed, attention must be given to determining the setting and actors that will be able to provide the information necessary to understand the challenge, context, and stakeholder needs. This will help in refining the challenge statement.

For that, we present questions that can be answered during the orientation:

- How is the challenge related to discrepancies between stakeholder perceptions and/or practice?
- How do stakeholders perceive the challenge? Why do stakeholders think it exists?
- How does the challenge manifest itself? What does it look like?
- What factors in this setting mitigate or contribute to the existence of the challenge?
- What are stakeholder feelings, beliefs, attitudes, knowledge, skills, and relevant demographic characteristics?
- What factors would inhibit or enable a change in this setting?
- To what extent do stakeholders experience this as a challenge worth facing?

To answer these questions, two helpful strategies: perception poll and field portrait. Taken together, these strategies can also help shape understanding of factors that determine the implementation and spread of a potential solution as well as help answering essential questions.

PERCEPTION POLL

The perception poll strategy gathers information on stakeholder perceptions of the challenge and their own context, as well as beliefs, attitudes, feelings, needs, and wishes.

FIELD PORTRAIT

The field portrait aims to gain a clear understanding of what is actually happening in the context of the challenge. Depending on the challenge, field portraits may portray a variety of settings.

While stakeholder perceptions and the field portrait can be collected in written form, they are usually best obtained verbally, most often through interviews and focus group discussions.

INTERVIEWS

Interviews can be used to deliberately target the views of the challenge and first-hand understandings from the stakeholder perception. A semi-structured interview can be planned to gain insight.

FOCUS GROUP

Establishing stakeholder focus groups can allow opportunities to gather insights about the challenge, as participants bounce ideas off each other, and about social interaction among the participants.

⁸ This tool is **retrived** from the book titled *Conducting educational design research* (McKenney & Reeves, 2018).

GOAL-SETTING ACTIVITIES⁹

SET SMART GOALS

<div style="font-size: 2em; font-weight: bold; margin: 0;">S</div> <p style="margin: 0; font-weight: bold;">Specific</p>	<div style="font-size: 2em; font-weight: bold; margin: 0;">M</div> <p style="margin: 0; font-weight: bold;">Measurable</p>	<div style="font-size: 2em; font-weight: bold; margin: 0;">A</div> <p style="margin: 0; font-weight: bold;">Attainable</p>	<div style="font-size: 2em; font-weight: bold; margin: 0;">R</div> <p style="margin: 0; font-weight: bold;">Realistic</p>	<div style="font-size: 2em; font-weight: bold; margin: 0;">T</div> <p style="margin: 0; font-weight: bold;">Time-bound</p>
<p>Do: Set real numbers with real deadlines.</p> <p>Don't: Say, "I want more visitors."</p>	<p>Do: Make sure your goal is trackable.</p> <p>Don't: Hide behind buzzwords like, "brand engagement," or, "social influence."</p>	<p>Do: Work towards a goal that is challenging, but possible.</p> <p>Don't: Try to take over the world in one night.</p>	<p>Do: Be honest with yourself- you know what you and your team are capable of.</p> <p>Don't: Forget any hurdles you may have to overcome.</p>	<p>Do: Give yourself a deadline.</p> <p>Don't: Keep pushing towards a goal you might hit, "some day."</p>

Figure 3. Setting SMART Goals (Merrihew, 2017 in Ackerman, 2021).

MAKE A GOAL EXECUTION PLAN

Goals and Action Steps	Date Start	Responsible	Starting Metrics	Budget	Notes	Final Metrics	Date End
Goal #1:							
1							
2							
3							
4							
5							
6							

Figure 4. The Goal Execution Plan template (Ackerman, 2021).

EXPLORE YOUR GOALS

Have your learners explore the set goals by answering these five prompts:

1. I am good at...
2. I am bad at...
3. What will I improve?
4. How will I make these improvements?
5. If my plan doesn't work, what will I do?

SECRETS TO SUCCESSFUL GOAL-SETTING

- Write clear and measurable goals.
- Create a specific action plan for each goal.
- Read your goals daily and visualize yourself accomplishing them.
- Reflect on your progress to see if you are on target.
- Revise your action plans if needed.
- Celebrate your accomplishments.

⁹ This tool is based on the article titled *Goal Setting for Learners, Kids, & Teens (Incl. Worksheets & Templates)* by Ackerman (2021).

GUIDING QUESTIONS, RESOURCES, AND ACTIVITIES MATRIX¹⁰

Guiding Questions (What we need to learn)	Guiding Activities and Resources (How we will learn it)	Results (What we learned)
<i>Example: How much paper does the school use in a week?</i>	<i>Example: Monitor the copy machines and printers for a week.</i>	<i>Example: The school printers and copiers use X number of sheets a week.</i>

⁸ This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011). This teacher toolkit is an independent publication and has not been authorised, sponsored, or otherwise approved by Apple Inc.

IDEA CONSIDERATION & IDEA CHECKING¹¹

The following are generalised techniques that are useful to stimulate critical thinking and check ideas for their inner logic.

DE BONO'S HATS

Participants take turns considering ideas from one of six roles, each of which focuses on different aspects:

- White hat – facts and information;
- red hat – feelings and emotions;
- black hat – being cautious;
- yellow hat – being positive and optimistic;
- green hat – new ideas;
- blue hat – the big picture.

Considerations are captured aloud or on paper.

COURTROOM CHALLENGE

The two best ideas are represented in a mock courtroom. Their 'cases' are made by opposing teams, who try to convince the judge that one is superior (or guilty/not guilty of a particular design flaw).

STRENGTH/WEAKNESSES MATRIX

Design requirements are listed vertically, and design options are listed horizontally. As the matrix is completed, each design option is ranked in terms of its perceived ability to meet each criterion.

Rankings can be +/-; +++/- --, numerals, happy/sad faces, etc.

WEIGHTED RANKING

This is an extension of the strengths/weaknesses matrix, in which each of the criteria is given a weight of importance. A design that scores equally well on 'cost' and 'reliability' will have a higher score for the latter, if the feature of 'reliability' has been weighted as more important (e.g., multiplied by a factor of 3).

LOGIC MODELS

Logic models depict the solution and its outcomes, showing the assumed 'if-then' relationships. Specifically, they portray inputs (including, but not limited to, the designed intervention), processes (implementation of the designed intervention), outputs (evidence of implementation) and outcomes (benefit or change that results). As such, logic models represent the theory of change underlying an intervention. Logic models can be basic, showing the four elements described above, or elaborate, depicting great detail or additional influences, such as contextual factors. Logic models frequently evolve as insights are gained from subsequent steps. There are many formats and templates for logic models, showing relationships and feedback loops, with varying levels of detail and even nested layers of concepts. These can be found on the web. A basic template of a logic model is provided below:

Input (what is needed)	Processes (activities)	Output (immediate results)	Outcomes (effects)	Impact (Measurable change)

¹¹ This tool is **retrived** from the book titled *Conducting educational design research* (McKenney & Reeves, 2018).

GROUP REFLECTION REPORT¹²

PROJECT IDENTITY

Number of the Project Group, Year / Semester, Name of the Project Group
University or Faculty, Institution

Participants of the group

Name	Role of the participant	Phone	E-mail
	<i>Responsible for Customer relations (CUS)</i>		
	<i>Responsible for the Documentation (DOC)</i>		
	<i>Responsible for the design (DES)</i>		
	<i>Responsible for the testing (TEST)</i>		
	<i>Responsible for the quality (QA)</i>		
	<i>Responsible for the implementation (IMP)</i>		
	<i>Project leader (PL)</i>		

e-mail list for the whole group:

group web site:

Customer: *customer description*

Customer phone:

Customer e-mail address:

Course leader: *course leader, office, e-mail address*

Tutor: *name, phone number, e-mail address*

¹² This tool is **retrieved** from CBL @ ECIU, Assessment for pilot 2 Teamcher manual (Siska et al., 2021).

1. TIME REPORT

Text

Distribution of the work between the project participants

Text

Comparison between planned and spent time

Text

Phase	Planned time	Used time
Before		
During		
After		

ANALYSIS OF WORK EFFORTS AND PROBLEMS

Text

What happened during the different Phases?

Text

Collaboration in the group

Text

Collaboration with the sponsor

Text

Collaboration with the supervisor

Text

Technical problems/success

Text

2. FULFILLMENT OF THE GOAL

Text

Summary of achievements

Text

How did the delivery work out?

Text

How did the study situation influence the project?

Text

3. SUMMARY

Text

The three most important experiences

Text

Good advice to those who are going to perform a similar project

Text

¹² This tool is **retrieved** from *Challenge Based Learning: A Classroom Guide* by Apple Inc. (2011).

INDIVIDUAL REFLECTION REPORT¹³

Text

My personal learning goals

Text

My role/task/contribution in the team

Text

My strength and next development steps

Text

You can also use this table to focus on your development.

Grow: What do I want to improve in the future in relation to my learning goal?	My learning goals and what I have learned	Glow: What can I do already very well and want to keep?	Comments of me or others
<i>Example: I want to speak louder and with more power.</i>	<i>Example: I can deliver a professional presentation.</i>	<i>Example: I can design a powerpoint with a clear structure and well readable slide.</i>	<i>Example: My timing was according to plan, and everyone could hear me speak.</i>

¹³ This tool is **retrieved** from CBL @ ECIU, Assessment for pilot 2 Teamcher manual (Siska et al., 2021).

SINGLE-POINT RUBRIC - EVALUATION FORM¹⁴

Note for teachers:

Please include in your evaluation *what* can be improved and a suggestion on *how* to improve.

Some aspects are on an individual level, other aspects are on the group level. In the last column, we give suggestions on how to get information for each aspect.

Please think about how you can involve learners in this evaluation process. Maybe teams can describe their own aspects. Also, some aspects might be evaluated by peer-to-peer evaluation (learners evaluate each other) or/and you can use the reflection forms provided in the document.

Points and tips for improvement	Description of level to achieve - standard	Exceeds standard	Information: Individual / Group
<i>Example: Bring up problems in the group early so that they do not escalate.</i>	Collaboration cooperates well with multi-disciplinary, international team members and other parties involved; fulfils agreements and executes tasks.	<i>Example: Great how you divided the tasks among yourselves so that you all could learn the most.</i>	<i>Individual + Group</i>
	Communication Communicates clearly and uses appropriate language, both orally, in writing and digitally, with all stakeholders involved (peers, teacher, challenge provider, other stakeholders).		<i>Individual + Group</i>
	Problem-solving Clear challenge definition, academic approach to finding a solution (including critical thinking, use of literature, analysis of data, systematic working, design cycle etc.).		<i>Group Look at outcomes of CBL-steps</i>
	Knowledge development Has mastered new disciplinary knowledge at the appropriate level, and applied it when the team designed, implemented and evaluated a solution to the challenge.		<i>Individual See reflection report on the content contribution of team members.</i>
	<i>Criterion 1 to be decided by the learner</i>		<i>Individual</i>
	<i>Criterion 2 to be decided by the group</i>		<i>Group</i>

¹⁴ This tool is **retrieved** from CBL @ ECIU, Assessment for pilot 2 Teacher manual (Siska et al., 2021).

FINAL REFLECTION¹⁵

Example for the final individual and team reflection after finishing the whole CBL project – feedback

What do you need?

You can do it online (e. g., using a Padlet or a Flinga board) or offline using a board and pin cards.

How does it work?




You ask your learners to spend at least 10 minutes to write down what they want to say for each part of the table below (one thought on one card). They keep their cards or their posts outside the table. Ask after ten minutes if they need another 5 minutes or so.

After everyone has stopped writing, the first one starts moving her/his card (one after the other) and explaining her or his thoughts to the group. Everyone can ask questions if something is not understood.

Learners are not supposed to comment before everyone was at the board and has pinned/put their thoughts into the right spot at the table.

After that, you look at the table together and open the discussion on the mentioned topics and thoughts.

You end with summarizing the lessons learned and thank the group for their feedback. Everybody should leave the room feeling great and with a bunch of new ideas and thoughts.

	 I liked	 I did not like	 My solution, advice, or open question
Organisational level (e. g., teamcher, university, ECIU)			
Team level (e. g., meetings, tasks, project plan, working process)			
Personal level (e. g., learning experience, high lights, low lights, personal gains, or losses)			

¹⁵ This tool is **retrieved** from CBL @ ECIU, Assessment for pilot 2 Teamcher manual (Siska et al., 2021).

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The list below consists of the sources and recommended readings (available via the hyperlinks) used to compile this toolkit

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