



UNIVERSITY OF TWENTE
CENTRE OF EXPERTISE IN LEARNING AND TEACHING (CELT)

CHALLENGE BASED LEARNING: TABLE OF RELEVANT TOOLS AND SOURCES FOR LEARNERS

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Dianneris Díaz
Student Assistant
CELT

Sources & Tool Kit for Challenge Based Learning ECIU - Pilot 3

In the following table you will find access to online tools and sources that could be relevant during your Challenge-Based learning process. These are meant to support the development of the challenge solution both individually, and as a team, without limiting the use of other sources and tools known and/or found by you. In this sense, the listed tools and sources should not be thought to be set in stone, but instead must be approached as references to inspire, support and develop the needed skills.

Take into account that though the most relevant CBL skills have been identified and classified per phase, their implementation might be suitable in other phases, if not throughout the learning cycle. Remember that CBL encourages flexible learning paths, meaning that any other sources and tools that you consider relevant are welcome to be used and shared with your team members, coach, challenge provider and us.

Phase 1 ENGAGE			
GENERAL SKILLS	SPECIFIC SKILLS	TOOL/SOURCE DESCRIPTION	LINK
Project management	International Cooperation	<i>Article.</i> Instructional article on how to develop a broader perspective on global changes and challenges. The approach presented is relevant to approach and get familiarise with a given challenge.	Developing a critical awareness of global changes and challenges
		<i>Information blog.</i> An interactive informational blog on the Global Goals For Sustainable Development. It allows one to dive into the goal, and have a better understanding of the factors and actions developed to achieve it.	Global Goals For Sustainable Development
	Process tracking and collaboration	<i>Platform.</i> Project management platform to organise, divide, track and share activities developed by the team.	Monday
		<i>Platform.</i> Project management platform to organise, divide, track and share activities developed by the team.	Trello

		<p><i>Platform.</i></p> <p>"Mind mapping tool that lets you capture, develop and share ideas visually". It allows multiple users to work simultaneously, as well as to use additional features to review, manage and present results.</p>	Mind Meister
		<p><i>Platform.</i></p> <p>Collaborative platform to share, comment and discuss content. The interactions can easily be overviewed in a canvas that supports most types of files.</p>	Padlet
		<p><i>Platform.</i></p> <p>Collaborative tool to share availability of the team members and decide on suitable time and days to meet.</p>	Lettucemeet
	Process methodology	<p><i>Information blog.</i></p> <p>Introduction to Design Thinking methodology(ies). Useful for an overview of the background, steps and tools to implement the method in a project.</p>	Design Thinking
		<p><i>Information blog.</i></p> <p>Introduction to Agile methodology(ies), with a focus on Scrum, a subset of Agile. Useful for an overview of the background, steps and tools to implement the method in a project.</p>	Agile process
	Stakeholder analysis	<p><i>Information blog.</i></p> <p>Overview of the relevance, use and methods to introduce people and parties involved in the challenge approach.</p>	What, Why and How: Stakeholder Analysis
		<p><i>Video.</i></p> <p>Illustrative explanation of the theory and method to develop a stakeholder analysis.</p>	Visual explanation: Stakeholder Analysis
	Team management	<p><i>Video.</i></p> <p>TEDtalk where Mike Vaughan shares insights from his practice helping leaders solve big problems with the power of a good question.</p>	How to ask better questions
		<p><i>Video.</i></p> <p>TEDtalk where Praveen Wadalkar shares his unique perspective on approaching those we do not know, getting to know their experiences and realities.</p>	Why you should speak to strangers

Positioning	Self-awareness	<p><i>Article.</i></p> <p>Research-based article on self-awareness, the misbeliefs about it, what hinders and what enhances it.</p>	What Self-Awareness Really Is (and How to Cultivate It)
		<p><i>Quiz and information blog.</i></p> <p>Question-based test to determine personality types based on Myers-Briggs Type Indicator. Further information about the personality type, such as traits, strengths, weaknesses, professional advice, etc, is provided.</p>	Personality Types
	Self- growth	<p><i>Article.</i></p> <p>Clear and straightforward overview of habits and traits that make someone Growth-Minded.</p>	What Having a "Growth Mindset" Actually Means
		<p><i>Video.</i></p> <p>Illustrative comparison of the different perceptual and experiential characteristics of a Growth and a Fixed mindset.</p>	Growth Mindset vs. Fixed Mindset

Phase 2 | INVESTIGATE

GENERAL SKILLS	SPECIFIC SKILLS	DESCRIPTION	LINK
Self-directed learning	Knowledge acquisition/Mindset	<p>Platform.</p> <p>Collection of short-video talks from people from different academic, professional, cultural, etc., backgrounds. The topics covered are diverse, and provide alternative perspectives on individual and global topics.</p>	TED: Ideas worth spreading
		<p>Videos</p> <p>YouTube account of the global organisation The School of Life. The platform provides text and visual content on self-development, social and global matters.</p>	The School of Life: videos
		<p>Platform</p> <p>Website of the global organisation The School of Life. The platform provides text and visual content on self-development, social and global matters.</p>	The School of Life: website
		<p>Videos.</p> <p>Short-videos with information about scientific, academic, and global matters. The topics are presented in a nutshell, with relevant visual explanations.</p>	Seeker

	Research	<p>Information blog.</p> <p>Tips and tricks to improve the results of your search in google, narrowing down your options and filtering only what is relevant.</p>	Google Search Tips for Learners
		<p>Video.</p> <p>Short-video guide on how to use Google search features to improve the relevance, suitability and reliability of your results.</p>	How to use Google Scholar for Academic Research
		<p>Platform.</p> <p>Educational platform with free access to knowledge on diverse topics. From short animated videos to 24-hour courses to support your self-directed learning journey.</p>	Open Learning
		<p>Platform.</p> <p>Informational platform development and knowledge from different engineering fields. For anyone wanting to get inspired and engaged on engineering topics.</p>	Engineering.com
		<p>Platform.</p> <p>Articles on global matters, with further access to external websites, reports, analysis,, etc., on the discussed topics.</p>	Global Issues
Reflection and Critical Thinking	Flexible perspective on Education	<p>Video.</p> <p>TEDtalk of the educational researcher Sugata Mitra, where he proposes a new approach to education, and learning in general. He is an educational scientist and the winner of 2013 TED prize.</p>	Build a School in the cloud
Phase 3 ACT			
GENERAL SKILLS	SPECIFIC SKILLS	DESCRIPTION	LINK
Information Analysis	Information Analysis methods	<p>Information blog.</p> <p>Brief introduction to methods to collect information. Further and more detailed information provided by external links used as source.</p>	Data collection methods
		<p>Information blog.</p> <p>Introduction and guide to data analysis with relevant examples and considerations to make during the analysis process.</p>	Data Analysis in research

		<p>Information blog.</p> <p>Overview of the most useful and used collection methods: Observations, Surveys, Interviews and Focus Groups.</p>	Data collection methods and techniques
Results documentation	Academic English	<p>Application.</p> <p>Extension of Google Chrome to improve your writing. Grammarly provides grammar feedback on text written by you while using Chrome. Useful for documentation and online communication.</p>	Grammarly
		<p>Application.</p> <p>Desktop application to improve your writing skills. Hemingways provides live feedback with colour coding to suggest changes to your textual content.</p>	Hemingway
		<p>Application.</p> <p>Online application to look up words and phrases in comprehensive, reliable bilingual dictionaries and search through billions of online translations.</p>	Linguee
		<p>Application.</p> <p>Online application to explore phrases and words related to an original phrase or word. "Your description can be anything at all: a single word, a few words, or even a whole sentence."</p>	Reverse dictionary and Thesaurus
		<p>Interactive platform.</p> <p>Visual and interactive dictionary to find relations and concepts around a word. Through visual coding (lines, colors and shapes) the relations to a word are defined.</p>	Visuwords
Results presentation	Content creation & delivery	<p>Programs.</p> <p>"Collection of over 20 desktop and mobile apps and services for photography, design, video, web, UX, and more". Adobe programs serve as tools to present results, visualising and organising information.</p>	Adobe creative cloud
		<p>Platform.</p> <p>Online platform for website creation. Find templates, manage and develop your online site. Use additional features for marketing, communication, analytics or simply website design inspiration.</p>	Wix
		<p>Platform.</p>	Esri

		<p>Online mapping and spatial analytics software.</p> <p>"Data meets geography at Esri, a billion-dollar company whose mapping technology enables feats like predicting flash floods, managing supply chains in real time, and cutting disease outbreaks off at the pass".</p>	
		<p>Platform.</p> <p>Online presentation builder, offering tools to create engaging and effective presentations. Highly personalized, professional looking video-presentations and graphics.</p>	Prezi
		<p>Platform.</p> <p>Online-education facilitator. Google Open Online Education allows you to create, plan, design and deliver your online course.</p>	Google: Open Online Education
		<p>Platform/Application.</p> <p>Video editor with easy-to-use features. Find accessible advanced features that can be learnt quickly.</p>	OpenShot Video Editor
		<p>Program.</p> <p>"Blender is the free and open source 3D creation suite. It supports the entirety of the 3D pipeline—modeling, rigging, animation, simulation, rendering, compositing and motion tracking, video editing and 2D animation pipeline".</p>	Blender
		<p>Platform.</p> <p>Online portfolio creator, for visual content mainly. Customize and use templates to display digital content.</p>	Portfoliobox : online portfolio creation
		<p>Platform.</p> <p>Online platform creator for business, entrepreneurship and commercial ideas. Implement features that increase (social and economic) support from the audience.</p>	Squarespace
	Public speaking	<p>Article.</p> <p>Tips to improve public speaking, and presenting your idea to an audience.</p>	Tips for Improving your speech

