

COLLABORATIVE COURSE (RE)DESIGN: ADAPTING ABC LEARNING DESIGN TO SUPPORT CURRICULUM TRANSFORMATION

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ABSTRACT

The COVID-19 outbreak set in motion a ripple of changes that continue three years after the pandemic has subsided. Under pressure to provide flexible education, higher education institutions called for an increase in online and blended learning offerings. This placed a burden on educators to rapidly develop new pedagogical knowledge and skills and master online course design principles. The objective of this paper is to share the results of a pilot curriculum design process, based on the ABC Learning Design method, which has been effective in helping teachers to (re)design courses quickly and collaboratively. The process consists of a series of workshops, that encourage intense collaboration with the course team to create a visual map or storyboard of the course from the learners' perspective. To support this process in our faculty, our eLearning team modified the storyboard template and developed a course profile tool designed to enhance alignment between the course team members before they start (re)designing their course. This externalizes the vision that each team member has for the course, making it easy to have an in-depth group reflection about course goals, aiming for consensus, and helping to produce a more cohesive product.

1 INTRODUCTION

1.1 Background

In response to the post-pandemic trend towards online and blended education, our faculty determined to transition our programme to multi-modal delivery. Rather than designing one course for blended delivery and another for online delivery, a multi-modal design would mean that the same course could be delivered either fully online or face-to-face in a blended mode with only minor adjustments required. In addition to accommodating changing student expectations, the strategy is intended to offer more flexible education. A 5-phase curriculum design process was set up to enable the transformation of our programme. The process consists of Inventory, Analyse, Evaluate, Design, and Implement (Blanford and Verplanke 2023). This paper focuses on the process in Phase 4, the redesign of the courses and enabling faculty to deliver flexible education. The outputs from the first three phases were used to develop a series of workshops and resources to support educators in designing and redesigning their courses for multi-modal delivery.

The most logical first step to implement the multi-modal approach is to design fully online versions of our courses. It's easier to adapt an online course to blended or face-to-face delivery, than working the other way around. However, we are cognizant of the challenges of transitioning to a fully online mode of delivery (Kebritchi, Lipschuetz and Santiago 2017). Rather than recommending this, we focussed on equipping teachers with practical tools and skills to support the course design

process. We also wanted to provide exposure to alternative teaching approaches and best practices for online learning.

Three learning design methodologies caught our attention in terms of their practical, hands-on approach and effectiveness in supporting the design of online and blended courses: Carpe Diem Learning Design (Salmon and Wright 2014), the Creating Aligned Interactive educational Resource Opportunities workshops (Usher 2014), and ABC Learning Design (Young and Perovic 2016). All three methods are discipline-agnostic and require teachers to design courses collaboratively. However, Carpe Diem and the 7C's have a two-day workshop format. Considering the size of our programme, the workload of our academic staff, and the limited capacity of our support staff to run the workshops, these approaches were not viable for our faculty. In the case of Carpe Diem, by the end of the workshop, participants will have partly built their module in their learning management system (Salmon and Wright 2014). We didn't want any learning materials to be built until after we had aligned all courses within the programme. Courses might require a couple of iterations before the course design is finalised.

With this in mind, we developed a workshop based on the ABC Learning Design (ABC) method which was developed by Nataša Perović and Clive Young at University College London (Young and Perović 2016) and incorporates Laurillard's six learning types (Laurillard 2012). These workshops run over ninety minutes and are designed to help course teams quickly redesign their curriculum using a storyboard or visual representation of the student's journey through the course.

At the beginning of 2023, we ran several workshops and used this experience to gauge interest, determine challenges, and test and refine workshop materials so that we could start a full rollout in 2024 to support the revision of our programme. In this paper, we discuss how we adapted the ABC learning design method to meet the requirements of our programme revision process. We consider the results of the 2023 workshops and how we have further modified the course (re)design process for the upcoming workshop sessions in 2024.

1.2 The ABC Learning Design method & Laurillard's learning types

ABC Learning Design Workshops were first offered at UCL from 2015 to 2016 as a streamlined approach to curriculum (re)design (Young and Perović 2016). Since then, it has been adopted and modified by tertiary institutions in the United Kingdom and beyond. The method is built on the conversational framework developed by Prof Diana Laurillard (Laurillard 2002). Laurillard's six learning types (Laurillard 2012) are used to create a storyboard or visual overview of the course that outlines the sequence of learning activities that the student will follow. The learning types include Acquisition, Collaboration, Discussion, Investigation/Inquiry, Practice, and Production (Laurillard 2012). Five of these are active learning types, helping to prioritise active learning in the design of the course.

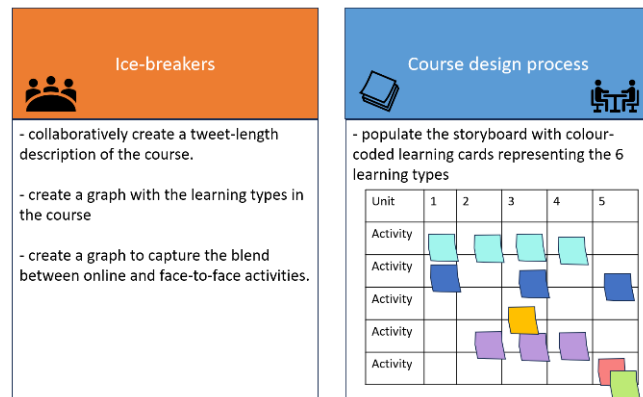
Overview of the original ABC workshops

The workshops were designed to encourage collaborative course creation. To do so, a series of activities are used to encourage interactive team discussions. Course teams are seated around large-format storyboards to provide opportunities to focus

attention on educational strategies, gain an overview of course activities, and discuss issues raised by teachers or students.

The workshops are comprised of a series of activities that (i) start with icebreakers to encourage open discussions among course teams followed by (ii) creating a high-level map or storyboard using sequences of learning types (iii) selecting learning activities for each of the learning types in the sequence (Fig 1) (iv) and evaluate the storyboard based on several criteria e.g. learning types, online/offline mix, active learning etc. The method can be adapted to a variety of contexts by customizing the workshop introduction and the discussion and evaluation at the end.

Fig 1. Overview of icebreakers and colour-coded storyboard capturing the 6 learning types used in a course.



There are many reasons that this method is a logical choice for our purposes. ABC Learning design has been particularly effective for (re)designing programmes and in transitioning courses to blended delivery. The process is activity-

based, flexible, student-centered, prioritises active learning, is scalable, encourages discussion and collaboration, and is time-efficient. A map of the entire course can be created in ninety minutes to two hours (Young and Perovic 2016).

2. THE COLLABORATIVE COURSE (RE)DESIGN PROCESS: ADAPTING THE ABC METHOD FOR OUR FACULTY

Localisation of the ABC method is easy to implement and was incorporated into the Collaborative Course (Re)Design (CCRD) workshop process. At UCL, most courses were verified courses, with approved learning outcomes and assessments. This was not the case for the CCRD workshops. Our programme learning outcomes have recently been revised and the course approval process in our faculty is being reconceived. As a result, we will need to support the constructive alignment of courses within the workshop.

The classic or 'Base' ABC Learning Design workshop process focuses on active learning, and diversifying learning activities. These strategies are beneficial in most educational contexts. However, in our faculty, due to the practical nature of our spatial engineering and geographic information science courses, most of our teachers already take an active approach, which means that the primary benefit for our faculty would be that it gets participants to think about diversifying their learning activities. To increase the value and impact of our Workshops, we wanted to include additional strategies and best practices for online and blended learning in the workshop process. The ABC method provides an opportunity to mention these strategies during the workshop introduction, but they are not integrated into the workshop activities. The Course Profile met this requirement in that it stimulates

discussion about several course characteristics that impact online/blended learning before participants start with the design process.

Besides these adjustments, the CCRD workshop tasks and structure remain close to the original ABC method.

In 2023 we ran a pilot to test and evaluate the effectiveness of these workshops. The goal of the workshop was to enable teachers to (re)design their course within a two-hour workshop session.

2.1 Modifications to the storyboard

To make the ABC Learning Design fit for our purpose, we modified the design of the storyboard (Fig 2). One of the most important requirements was to align with a project being developed in our faculty to create a searchable catalogue of the education that we offer. The platform being developed will allow teachers and students in our Spatial Engineering and Geographic Information Science programmes to search for content by properties such as topic, software, delivery mode etc, and view elements linked to courses such as learning outcomes, European Credit and Accumulation Transfer System credits (ECTS), delivery mode, didactical approach etc. The output of our programme revision process needed to be in a format that is easy to transfer to the platform. We also needed to be able to customise the structure of the tool to our requirements.

We considered several open-source versions of the ABC Learning Design storyboard. Among these were templates created on Trello, Mural and Google Sheets and two web applications: the Learning Designer (Laurillard et al. 2018), developed at UCL and the Balanced Design Planning (BDP) tool which was developed at the University of Zagreb (Divjak et al. 2022). However, each of these presented challenges, either in terms of the General Data Protection Regulation (GDPR) requirements or adaptability. As a result, we created our own template in Microsoft Excel which is a modified version of the original ABC storyboard with some elements of the BDP tool and the Learning Design Planner (Gallenne and Jourde, 2023).

Although we modified the storyboard tool significantly, we adhered closely to ABC's storyboarding process, except for the addition of a step to write learning outcomes. Once learning outcomes and assessments have been aligned, the storyboarding process is the same as the original ABC method. First, the sequence of learning types is determined with the use of colour-coding. (See # 2 in Fig 2). Thereafter learning activities are selected for each of the cards (original ABC method) or coloured cells (CC(R)D process (see #3 in Fig2)

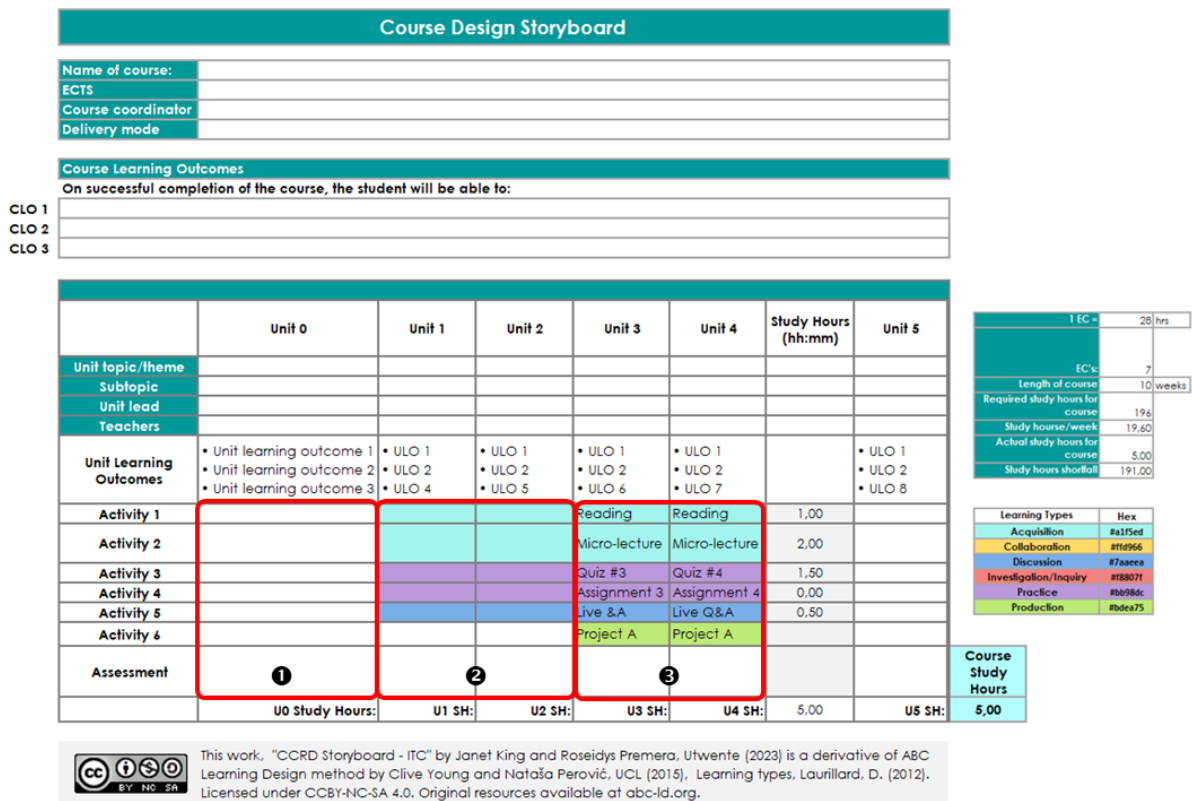


Fig. 2. Collaborative Course (Re)Design Storyboard 2023 and 2024

Adjustments included:

- **Course Learning Outcomes (CLOs).** CLOs are entered at the top of the storyboard and assessments at the bottom to support constructive alignment. There are also unit learning outcomes (ULOs) which are particularly helpful for fully online courses, if there is less interaction and feedback from teachers, because they help students monitor their own progress.
- **Storyboard layout.** The units/weeks run vertically from top to bottom rather than horizontally from left to right across the page, to make it easier to check alignment.
- **Assess workload for students.** Formulas calculate workload based on the ECTS (e.g. 1 ECTS=28 hours) and length of the course (e.g. 10 weeks). The formula captures the number of hours required to complete an activity based on the estimated times entered for each of the learning activities. The time fields are hidden by default but in Fig. 2, one of the fields has been unhidden.
- **Digital tools.** We selected MS Excel because it's easier and less time-consuming to store, share, compare and modify data. For each course team, we created an Excel workbook to capture all their workshop activities for example the course overview, the course profile, the storyboard the action plan.

2.2 Modifications to the workshop process

Our pilot workshops in 2023 followed a similar structure to the original ABC method with the addition of a couple of activities. Besides the tweet, course shape, and blend activity, we asked teams to define several other course characteristics e.g.

synchronous vs asynchronous learning and group work vs individual activities, which together became the course profile.

Table 1: Overview of workshops, structure, and the activities used during the workshops.

Workshop	ABC Learning Design	Workshop 2023 (Pilot)	Workshop 2024
Workshop tools Format	<ul style="list-style-type: none"> Physical 	<ul style="list-style-type: none"> Physical & Digital 	<ul style="list-style-type: none"> Digital only
Preworkshop tasks	N/A	<ul style="list-style-type: none"> N/A Read definitions of learning types Colour code inventory storyboard 	<ul style="list-style-type: none"> video on learning types
Workshop(s)	<ul style="list-style-type: none"> Storyboarding workshop 	<ul style="list-style-type: none"> Storyboarding workshop 	<ul style="list-style-type: none"> Preworkshop Prerequisite: Quality aligned CLOs Workshop 1: Course profile, LO's & introduction Workshop 2: Storyboarding Workshop 3: Optimising course design
Workshop activities	<ul style="list-style-type: none"> Tweet Course shape (learning types) Blend (online vs. face-to-face) 	<ul style="list-style-type: none"> Tweet Course shape Online vs. face-to-face blend Synchronous vs. instructor paced Individual vs. group work Instructor/content centred vs. student-centred/active 	<ul style="list-style-type: none"> Tweet Faculty vision on education Course shape (learning types) Online vs. Face-to-face Self-study vs teacher-led activities Synchronous vs asynchronous Types of assessment e.g. summative, peer, self-assessment, auto-graded etc Group vs individual Kinds of feedback e.g. instructor to group or individual,

Based on feedback from the pilot workshops we made several adjustments and have established a set of three workshops to support the course design process (Table 1), each running between 1 hour and 2.5 hours. Workshop 1 is the introduction and includes the creation of a course profile and learning outcomes, Workshop 2 is the storyboarding workshop where teams create a first draft of their course design, and Workshop 3 introduces alternative teaching strategies and best practices and allows participants to optimise their course design by implementing some of these strategies.

The course profile activity was further extended to include among other characteristics, contact hours vs self-study, assessment types, and alignment with our faculty's vision on education (Fig.2). The discussion stimulated by this activity can help course teams to reach consensus about their goals for the course (in terms of these characteristics) before the course design process starts. This can potentially make course design quicker and easier and produce a more cohesive course.

Besides the pedagogical discussions within teams, we scheduled moments of sharing between teams to facilitate alignment and eliminate redundancies in the programme. Sharing the course profile is one of the tools that course teams can use to communicate their vision of the course with other teams.

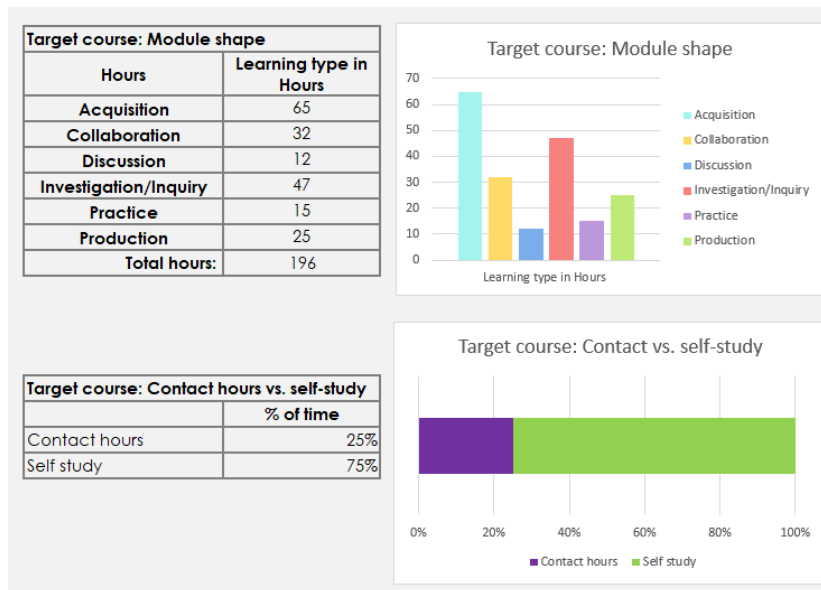


Fig. 2. Examples of some of the charts that make up the CC(R)D Course profile: Module shape chart and Contact hours vs. Self-study chart.

The course profile is easily transferable to other settings, however, the characteristics included in the tool should be selected based on the priorities of the context it's used in. For example, in our faculty we want to increase online and blended learning and reduce contact hours, therefore, it's useful to discuss the balance of self-study and teacher-led activities as well as synchronous vs. asynchronous learning. The amount of group work is significant because this can impact the sense of community online as will the quality and distribution of feedback.

3 RESULTS

In March and April 2023, seven course teams attended a CCRD workshop. Four workshops took place and 25 participants attended in total. Participants completed a Wooclap survey at the end of the workshop and we received responses from 17 of the 25 participants.

We are currently running the CCRD with the 3 workshops for the complete development of a new course for one-course team (N=7 participants).

Table 2: Workshops conducted, duration of workshops and number of participants.

Year	Workshop	N	Duration
2023	CCRD Pilot workshop	25	2 hours
2024	CCRD Workshop 1: Introduction to CC(R)D process & creating a course profile	+/-7	1 hour
	CCRD Workshop 2: Storyboarding	+/-7	2.5 hours
	CCRD Workshop 3: Optimise your course for online/blended delivery	+/-7	2.5 hours

3.1 2023 Workshops Results

Participants found the workshop process and tools valuable and most said that they would continue to use the tools after the workshop. Although the course storyboards differed in the level of detail, all but one team achieved the workshop objective which was to complete a first draft of their storyboard. Five of the course teams revised an

existing course and one designed a new course. The team that didn't complete their storyboard spent time discussing learning outcomes and ran out of time as a result.

Once the storyboards had been completed, teams were asked to evaluate them. Evaluating the extent of active learning in the storyboard was easy because of the colour-coded learning types. Evaluating other elements of the storyboard was not as successful. We had not provided an effective way to connect the best practices and strategies that we discussed to the evaluation step. Nor was there a way to reflect and record the additional detail. Further extending the course profile is one of the ways that we will tackle this challenge. Course teams define their target course characteristics (e.g. a ratio of 25% contact hours to 75% self-study) using the course profile tool, before designing the course. After their storyboard is completed they create a second course profile that reflects the actual course design. A comparison can be made between the two versions and discussed within the team.

Table 3: Survey results for 2023 pilot

question	response
Most useful aspects of the workshop	<ul style="list-style-type: none"> • having the opportunity to think about, discuss, and brainstorm their course design • usefulness of applying Dianna Laurillard's learning types to their course design (N=6) • storyboard was useful (N=4) • A hands-on approach, • allocated time with the course team to talk about the course, • checking the boxes regarding the synchronous/asynchronous and online/face-to-face blend, • having to argue about the validity of activity types for the various LOs, • discussing the organization in the storyboard, • brainstorming in a structured manner, • colourful storytelling, • ideas and models for practical redesign online
What will staff continue to use	<ul style="list-style-type: none"> • use the process/tools that were shared with them in the workshop (N=13), one said that they already use it, and another gave an unclear answer
Improvements	<ul style="list-style-type: none"> • more time to complete the activities (N=4) • more examples would be helpful (N=2) • clearer instructions on how to use the workshop tools and complete the tasks (N=2)

3.2 2024 Trial Observations/Results

The team completed their storyboard design for a fully online course. The course profile activity proved to be a highly effective method to stimulate discussion within the group, particularly if the team is not yet fully aligned. As a result of our experiences with this trial, we will eliminate all pre-workshop tasks, except for an optional video about the learning types. Teachers are already overburdened so we have designed future workshops to ensure all tasks can be completed within the time they have set aside to attend a workshop.

Future goals

We will continue to develop and evolve the CCRD process, by adding and upgrading resources and providing examples of storyboard designs that have proved to be

effective for online environments. What we ultimately hope for is to develop the process and tools to a point where teachers want to use these independently, outside of the workshop process. We are looking for suitable alternatives to the MS Excel storyboard. If we want it to include all of the features that we need, we will have to build this ourselves. The ABC learning design method was the right choice for our faculty because it didn't put an unnecessary time burden on our teachers or support staff and we were able to adapt it to our goals, priorities, and vision without affecting the consistency and effectiveness of the outcomes.



The "Collaborative Course (Re)Design Workshops" by Janet King & Roseidys Primera, University of Twente, is a derivative of ABC Learning Design method by Clive Young and Nataša Perović, UCL (2015) and is licensed under [CC BY-NC-SA 4.0](https://creativecommons.org/licenses/by-nc-sa/4.0/). Original resources are available at abc-ld.org.

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