

Design methods

for blended learning



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Completeness

For which steps of the entire design process does the method lend itself?
The ADDIE model was chosen as the frame of reference, given that it describes all phases of the design process.



Level

The level at which the design method can be used.



this product was created in collaboration with
the SURF Blended Learning Special Interest Group.



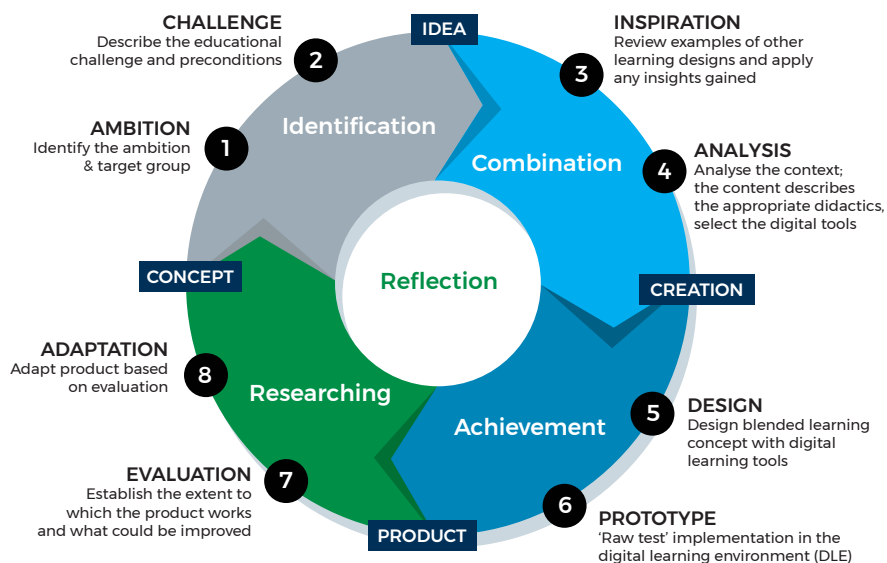
Design Cycle for Education (DC4E)

With the DC4E model, which is an iterative process model, lecturers or teams of lecturers work towards designing or redesigning blended learning in eight steps. Reflection is a central concept in this model. This means that the design cycle not only takes a cyclical design process as its starting point, but at each of the eight steps it obliges the designing lecturer to look critically at the output of that step, reflect on it and properly document the design choices made.

Completeness	<ul style="list-style-type: none">✓ Analysing✓ Designing✓ Developing✓ Implementing✓ Evaluating
Level	<ul style="list-style-type: none">✓ Learning activity✓ Course✓ Programme

Steps

A brief description of the different steps in the method.



Getting started

What resources can you use to implement the method quickly or to get more information?

- [Overview of design cycle \(Official website: Dutch\)](#)
- [Explanation 8 steps \(PDF; Dutch\)](#)
- [The Design Cycle for Education \(DC4E\) \(Article\)](#)



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Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Relatively complete and context-specific.
- Combines and integrates multiple principles from other design methods.

Weaknesses:

- Somewhat big in scale, which may deter users.
- It is time-consuming



Considerations and conditions

What aspects should you consider when implementing this method?

- Especially for team design sessions.
- The practical information is also useful for individual use.

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Background information

Who developed the method and on what basis.

Developed by:

Scheffel et al. (2021)

Based on:

- ADDIE model
- Curricular spider web



Curriculum kit for Higher Education

The Curriculum kit for Higher Education (CurriculumKit HO) is a practical card game in which you work with a team, step-by-step, towards assessment and learning activities according to backward design of learning outcomes (learning objectives), with reflection on constructive alignment and vision. This is done by means of a canvas, clear structure and multiple suggestions. At the end of the game, you and your team will have produced, through collaborative learning, a blueprint for the curriculum and inspiration for your future lessons.

Completeness	<ul style="list-style-type: none"> ✗ Analysing ✓ Designing ✓ Developing ✓ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✓ Programme

Steps

A brief description of the different steps in the method.

CurriculumKit is played in eight stages based on pre-formulated learning outcomes or learning objectives:

Assessment

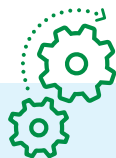
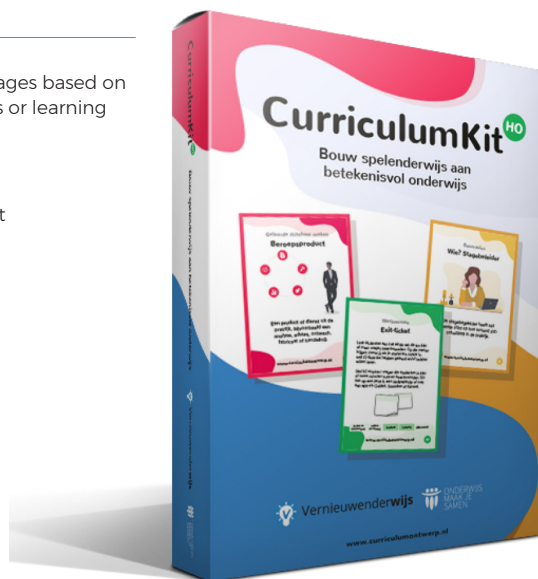
1. Discovering forms of assessment
2. Emotion
3. Selecting forms of assessment

Learning activities

4. Selecting forms of working
5. Concretisation

Constructive alignment

6. Reflecting
7. Dividing tasks
8. Completion



Getting started

What resources can you use to implement the method quickly or to get more information?

- [CurriculumKit – Vernieuwonderwijs \(Officiële website; in Dutch\)](#)
- [Curriculum design \(in Dutch\)](#)
- [Build your education through play with the CurriculumKit \(review\)](#)

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Provides a lot of inspiration.
- Easy to play.
- Fun to do, which makes the time fly.
- Structured, but with freedom to deviate from it.
- Apart from creating a blueprint, you also actively work on a shared language.

Weaknesses:

- Not so guiding in blended learning.
- Mainly suitable for a period or semester, which means several 'games' have to be played in a year or more.



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Considerations and conditions

What aspects should you consider when implementing this method?

- It can be played by 3 - 8 players, so multiple sets are needed when you get started with the training.
- The game moderator (chosen from among the players) determines the game's success.

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Background information

Who developed the method and on what basis.

Developed by:

Vernieuwonderwijs (2020)

Based on:

- Constructive Alignment
- Backwards design

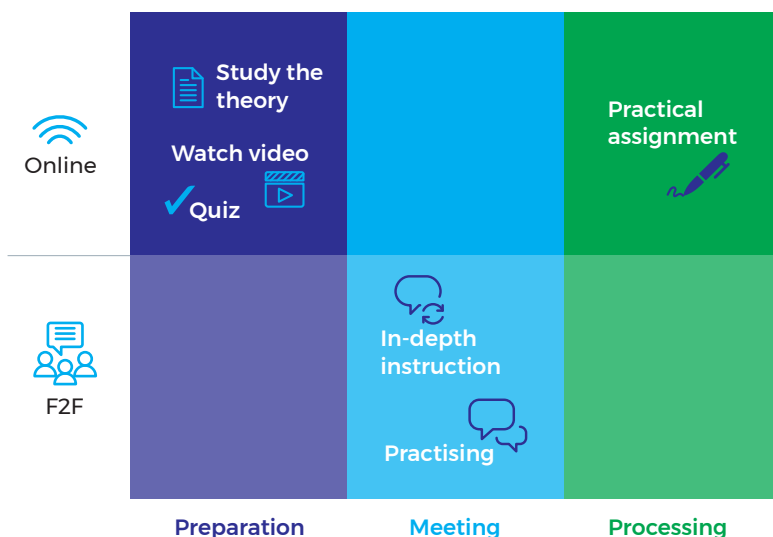


SHUFFLE

SHUFFLE is a design method for designing or redesigning an entire learning unit. It provides insight into the educational design and ensures that the lecturer engages at the right level, with the right learning activities and with the right digital learning resources (IT tools).

Given that assessment is the primary determinant of learning activities in SHUFFLE, constructive alignment is essential. Before getting started with SHUFFLE, it is important to ensure that the assessment, learning outcomes and learning content are (largely) fixed.

Completeness	<ul style="list-style-type: none"> ✗ Analysing ✓ Designing ✗ Developing ✗ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✗ Programme



Getting started

What resources can you use to implement the method quickly or to get more information?

- [SHUFFLE | Saxion University of Applied Sciences \(official website; in Dutch\)](#)
- [SHUFFLE your blend\(y\) \(Blog; in Dutch\)](#)
- [Blendy \(Tool database; in Dutch\)](#)

Steps

A brief description of the different steps in the method.

1. What is being assessed and what are the underlying learning outcomes?
2. What learning content is needed to achieve each learning outcome?
3. Link activity cards to learning content, at the appropriate level.
4. Complete the activity cards further and SHUFFLE!

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Clear, with rapid insight into constructive alignment.
- Specifically with examples of working forms and IT tools ([blendy.saxion.nl](#) as an extension).
- Also available as a spreadsheet to record elaborations digitally.

Weaknesses:

- Analysis phase and curriculum-level alignment are not included; this should be addressed outside SHUFFLE.
- The process does not end after completion of SHUFFLE; the activities have to be elaborated further.

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Considerations and conditions

What aspects should you consider when implementing this method?

- A manual is available for this and should be read carefully.
- It is preferable to do SHUFFLE with support, at least the first time.
- Similarly, the analysis phase should be completed at curriculum level and there should be a foundation for developing the learning unit.



4C/ID

4C/ID stands for Four Component Instructional Design. It is a design model based on cognitive-psychological knowledge about learning and problem-solving. It can be seen as a tool to systematically design education for complex professional tasks. Application of the complete model for curriculum design is an option of course, but an educational programme can also improve if only some parts of the model are used.

Completeness	<ul style="list-style-type: none"> ✓ Analysing ✓ Designing ✓ Developing ✗ Implementing ✗ Evaluating
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LEARNING TASKS

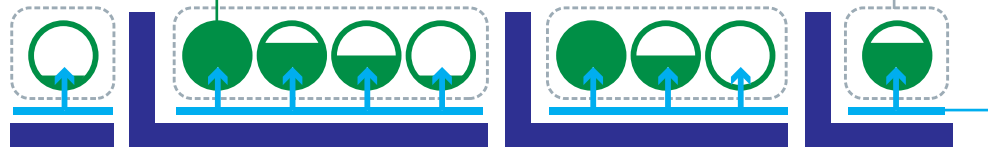
- Educational learning situation
- Meaningful, whole-task based
- Variation
- From easy to difficult
- Gradual reduction in guidance and assistance

SUB-TASK EXERCISE

- Additional exercise for routine aspects
- Much repetition
- Previously covered learning task

TASK CLASSES

- Professional practice situations
- Main sorting order
- Increasingly more complex



SUPPORTING INFORMATION

- Problem solving, reasoning, decision-making
- Domain knowledge
- Approach to problem

PROCEDURAL INFORMATION

- Routine aspects of learning tasks
- Step-by-step instructions
- Just-in-time, precisely when needed



Getting started

What resources can you use to implement the method quickly or to get more information?

- [4CID.org \(Official website\)](https://4CID.org)
- [Ten steps to complex learning: A tutorial \(Slide show\)](#)
- [Explanation of 4C/ID model \(PDF; in Dutch\)](#)
- [Ten steps to 4C/ID: training differentiation skills in a professional development program for teachers \(Article\)](#)

Steps

A brief description of the different steps in the method.

1. Design learning tasks.
2. Design assessment tools.
3. Sort learning tasks.
4. Design supporting information.
5. Analyse cognitive strategies.
6. Analyse mental models.
7. Design procedural information.
8. Analyse cognitive rules.
9. Analyse contingent knowledge.
10. Design sub-task exercise.

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Suitable for complex professional tasks.

Weaknesses:

- Relatively complex method makes it difficult to get to grips with.
- Does not lend itself well to individual design.
- Not specifically aimed at blended learning.



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Considerations and conditions

What aspects should you consider when implementing this method?

- Especially for team design sessions.
- Guidance from an expert with substantive experience is highly recommended.

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Background information

Background information:
Who developed the method and on what basis.

Developed by:

Jeroen van Merriënboer (1997)

Based on:

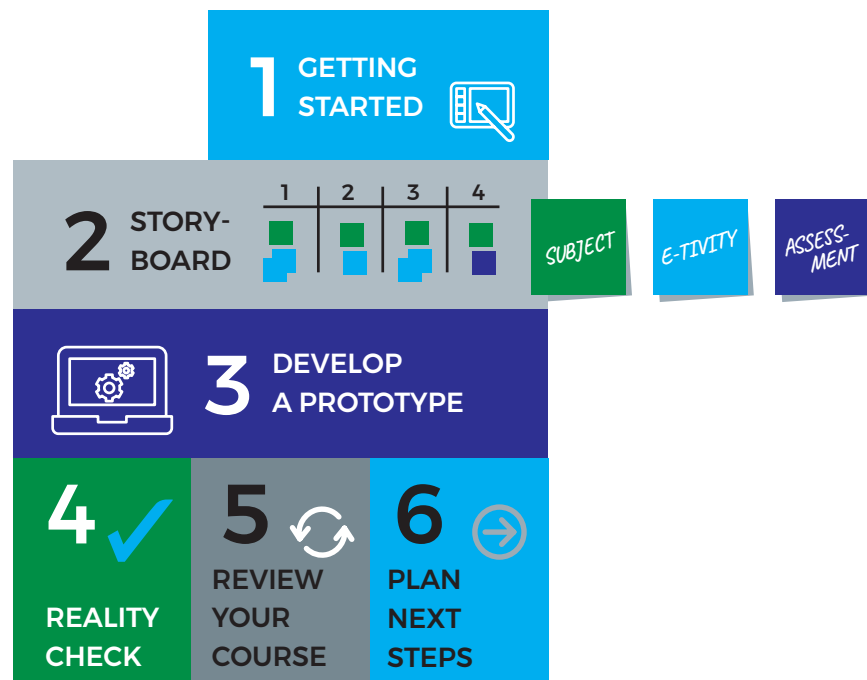
- Cognitive Load Theory (CLT)



Carpe Diem

While the Carpe Diem design model was originally designed to design and develop online education, it lends itself well to designing and developing blended learning. It uses rapid prototyping, where you develop prototypes of learning activities that make them concrete in terms of content relatively quickly. Moreover, as it is a rapid method you can develop an entire course from start to finish in two days.

Completeness	<ul style="list-style-type: none"> ✓ Analysing ✓ Designing ✓ Developing ✓ Implementing ✓ Evaluating
Level	<ul style="list-style-type: none"> ✗ Learning activity ✓ Course ✗ Programme



Getting started

What resources can you use to implement the method quickly or to get more information?

- [Carpe Diem - A team based approach to learning design \(Officiële website\)](#)
- [Developing blended according to the Carpe Diem method \(Blog, in Dutch\)](#)
- [Carpe Diem in brief \(Article, in Dutch\)](#)

Steps

A brief description of the different steps in the method.

1. Developing a blueprint (bigger picture).
2. Develop a storyboard in which you visualise the learning process.
3. Develop an online prototype (detailing a number of online learning activities).
4. Perform a reality check: have colleagues test the prototype then gather and process feedback.
5. Review and modify your course.
6. Plan the next steps.

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Lends itself well to team design. The working forms focus on collaboration.

Weaknesses:

- It takes a fair amount of time to get this right. You need to put real effort into it.
- It is a method for developing education, but it says nothing about 'good' education. You have to implement evidence-informed strategies yourself.

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Considerations and conditions

What aspects should you consider when implementing this method?

- It requires a commitment in time from lecturers, as they have to spend a few days working on it together.
- It is highly recommended to work with a facilitator and/or educational advisor.

Background information

Who developed the method and on what basis.

Developed by:

Gilly Salmon (2014)

Based on:

- Constructive Alignment
- Rapid Prototyping
- Agile working
- E-tivities
- 5 stage model & e-moderating



The Blended Learning Wave

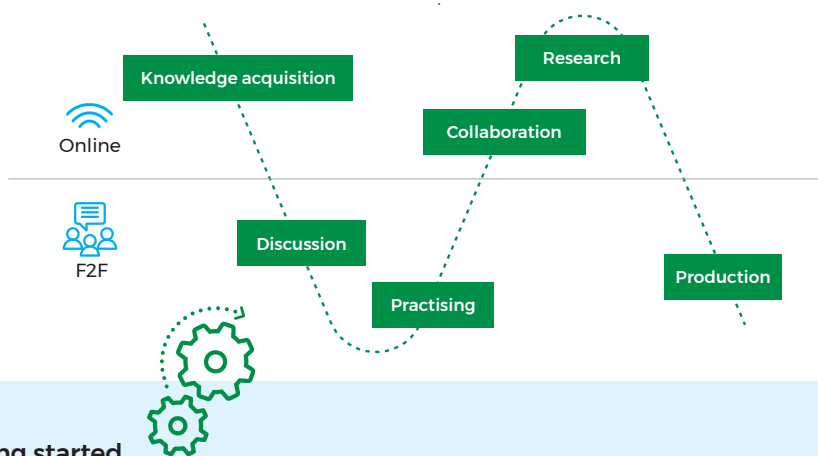
The Blended Learning Wave is a practical design approach that connects F2F learning activities with online learning activities in a meaningful way. The basic premise is to visualise a logical learning path along various locations of learning, creating a wave movement, so to speak. Visualising the learning path then provides quick insight into various aspects, such as opportunities for assessment and forms of interaction. The method lends itself best to designing courses and learning activities.

Steps

A brief description of the different steps in the method.

Various roadmaps are available for this. These usually adopt the idea of backwards design, in other words: starting with the intended outcomes in mind and then working backwards to assessment and learning activities.

1. Choose a course you are going to design or redesign. Keep the intended learning outcomes to hand.
2. If necessary, perform a baseline measurement: how is your current course set up in terms of learning activities and balance between F2F/online?
3. Develop a course structure and elaborate on a storyboard.
4. Visualise the student's learning path by designing a wave motion, both for learning and assessment activities.
5. Ask colleagues and students for feedback.



Getting started

What resources can you use to implement the method quickly or to get more information?

- [Educational design for blended learning \(Blog, in Dutch\)](#)
- [Blended learning and educational design: From theory to practice \(Book, in Dutch\)](#)
- [Workshop resources for Blending Your Education \(Working documents, in Dutch\)](#)

Completeness	<ul style="list-style-type: none"> ✗ Analysing ✓ Designing ✗ Developing ✗ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✗ Programme

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Low-threshold and relatively easy to set up.
- Easy to use independently.
- Fosters constructive conversation about education.
- Focus is on integration of F2F with online education, which strengthens constructive alignment.
- Often leads to innovation.

Weaknesses:

- Less suitable for curriculum design, as it can quickly become confusing.
- The result is a blueprint. After that, a lot of development is still needed.

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Background information

Who developed the method and on what basis.

Developed by:

Sonja Wagenaar (2017)

Based on:

- Constructive Alignment
- Backwards design



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Considerations and conditions

What aspects should you consider when implementing this method?

- Is best suited for designing in groups of 3-5 people.
- It is highly recommended to have a student participate in the design process.
- Large sheets of paper and post-its are needed (but this can also be done online, for example with a digital whiteboard tool).
- Guidance from an educational advisor is highly recommended.
- Various roadmaps are available for this.



Playbook model

The Playbook model is part of a broader design approach for varied and flexible education, aimed at creating varied learning activities. The model uses the so-called 3-3-5 formula: 3 different learning environments (online, contact and professional practice), 3 main forms of learning (individual, interaction with expert and collaborative learning) and 5 types of learning activities: introduction and activation, instruction and demonstration, processing and application, feedback and assessment, and reflection.

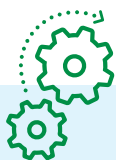
Completeness	<ul style="list-style-type: none"> ✗ Analysing ✓ Designing ✗ Developing ✗ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✗ Programme

Playbook for learning activities

	Individual self-study	learning through experts	collaborative learning
Online			
Professional practice			
School			

Types of learning activities

- Introduction and activation
- Instruction and demonstration
- Processing and application
- Feedback and assessment
- Reflection



Getting started

What resources can you use to implement the method quickly or to get more information?

- [White paper on personal learning paths \(in Dutch\)](#)
- [Explanation of the Playbook \(Blog, in Dutch\)](#)
- [Designing differentiated and blended education \(Slide show\)](#)

Steps

A brief description of the different steps in the method.

The Playbook model is not a stand-alone design model but part of a roadmap for designing blended learning according to the Constructive Alignment principle and elements of Design Thinking.

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- The Playbook model can be used in all educational settings, from secondary vocational education to research universities.
- Suitable for providing more clarity on what blended learning is all about.
- Easy to work with (low-threshold).
- The model is conducive to constructive conversations about student learning during the design stage (i.e., student-centred).

Weaknesses:

- It lacks proper integration into a broader design approach.
- The Playbook model is not suitable for curriculum-level design, although it can provide a framework for reflection.
- There is no interpretation of the learning activity in terms of time: does something happen synchronously or asynchronously?

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Background information

Who developed the method and on what basis.

Developed by:

2BLearning (2018)

Based on:

- Constructive Alignment
- *Instrumentatie van betekenisvolle interacties* (Instrumentation of meaningful interactions, J. Fransen, 2015)
- Conversational Framework of Diana Laurillard (2002)



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Considerations and conditions

What aspects should you consider when implementing this method?

- There is no thorough explanation of the Playbook model, so it takes some figuring out to get started with it.
- It lends itself well to both individual lecturers and teams of lecturers.
- It is (usually) necessary to combine the Playbook model with another design method, given that it only focuses on the design component.



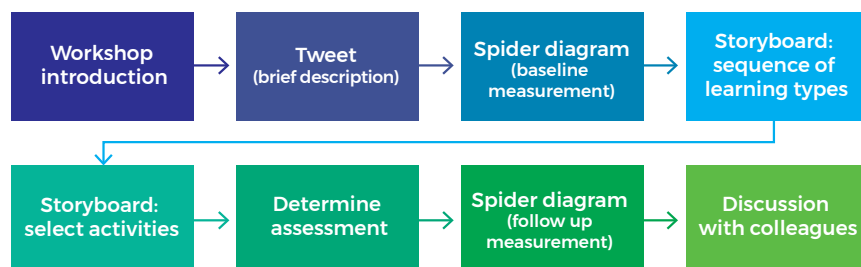
ABC Learning Design

The Arena Blended Connected (ABC) Learning Design methodology is a 90-minute design workshop for designing a course or programme component. Small teams work together to elaborate a learning journey on a visual storyboard, for which they arrange pre-printed cards with learning activities in a certain order. The underlying principle is to achieve your learning objectives by defining learning activities and making choices between what you will support with digital tools and what not.

Steps

A brief description of the different steps in the method.

- | | |
|---|---|
| 1. Workshop introduction. | 5. Specification of learning activities. |
| 2. Summary of the course in a Tweet. | 6. Selecting assessment. |
| 3. Analyse the current situation in a spider diagram. | 7. Analyse the new situation in a spider diagram. |
| 4. Storyboarding global learning activities. | 8. Plenary sharing of results. |



Abc workshop activities as a flow chart (Pieroni, 2019)

Completeness	<ul style="list-style-type: none"> ✓ Analysing ✓ Designing ✗ Developing ✗ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✓ Programme

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Relatively rapid method. It takes about 90 minutes to produce a blueprint, which you can then develop yourself later.
- Very hands-on and action-oriented.
- Fast-paced, pressure-cooker style.
- Puts the student at the centre, based on the student journey.
- Has a full online version, in which lecturers can continue to work independently on their design.

Weaknesses:

- There is a rather strong emphasis on learning activities and working forms, with less consideration of F2F teaching spaces (although this also applies to other methods).
- It is a little more difficult to carry out the workshop online; it can be done but is not optimal.
- One pitfall is getting into too much detail too quickly, when what matters most is developing the framework of a course design.



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Considerations and conditions

What aspects should you consider when implementing this method?

- You need a trained professional to conduct this workshop successfully.
- Good time management is crucial.
- The workshop requires thorough preparation, such as printing all the necessary materials.

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Getting started

What resources can you use to implement the method quickly or to get more information?

- [ABC Learning Design @ UCL \(official website\)](#)
- [90-minute ABC method and storyboard for designing a module or programme component \(Slide show; in Dutch\)](#)
- [The Learner Designer \(Online tool for this method\)](#)

Background information

Who developed the method and on what basis.

Developed by:

Clive Young and Nataša Perović (2014), based on the six learning types from the Conversational Framework by Diana Laurillard (2012).

Based on:

- Connected Curriculum
- Constructive Alignment
- Conversational Framework



Integrated Course Design

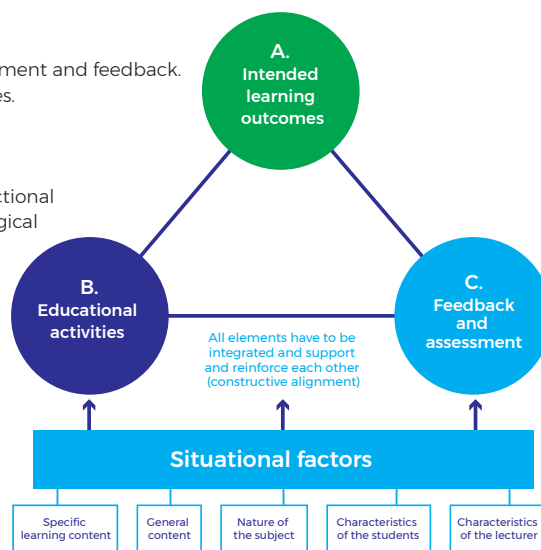
The Integrated Course Design method is based on the concept of backwards design, in other words: starting with the intended outcomes in mind and then working backwards to assessment and learning activities. Central to this is constructive alignment between objectives, assessment and learning activities. It is a systematic approach which an individual or team can undertake in a completely self-directed way. It also provides quality criteria to determine when the design is of excellent quality.

Completeness	<ul style="list-style-type: none"> ✓ Analysing ✓ Designing ✗ Developing ✗ Implementing ✗ Evaluating
Level	<ul style="list-style-type: none"> ✓ Learning activity ✓ Course ✓ Programme

Steps

A brief description of the different steps in the method.

1. Identify key situational factors.
2. Formulate the learning objectives.
3. Develop appropriate means of assessment and feedback.
4. Develop appropriate learning activities.
5. Ensure constructive coordination.
6. Devise a suitable course structure.
7. Establish instructional strategies.
8. Integrate course structure and instructional strategies while working towards a logical sequence of learning activities.
9. Develop the assessment system.
10. Eliminate potential constraints and problems.
11. Write the course syllabus.
12. Evaluate the course



Getting started

What resources can you use to implement the method quickly or to get more information?

- [Designing Courses for Significant Learning \(official website\)](#)
- [Self-Directed Guide for Designing Courses for Significant Learning \(publication\)](#)
- [Integrated Course Design \(information page\)](#)

Strengths and weaknesses

What are the advantages and disadvantages of the method?

Strengths:

- Ensures a well-integrated whole, focused on constructive alignment.
- Meticulous design, thought out in detail.
- Also discusses quality indicators.
- Strongly focused on the individual lecturer (which can also be a disadvantage).

Weaknesses:

- Time-consuming and rather linear. You have to complete each stage before you can move on to the next one.



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Considerations and conditions

What aspects should you consider when implementing this method?

- Highly individualistic process.
- Only lends itself to courses.

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Background information

Who developed the method and on what basis.

Developed by:

L. Dee Fink (2003)

Based on:

- Backwards design
- Constructive Alignment