CRISS

GUIDE FOR THE ADAPTATION OF CRISS DIGITAL COMPETENCE ASSESSMENT SCENARIOS FOR CERTIFICATION

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1. INTRODUCTION

The H2020 CRISS project (http://www.crissh2020.eu/) is the demonstration of a scalable and cost-effective cloud-based digital learning infrastructure through the Certification of digital competences in primary and secondary schools.

The CRISS Operational Concept (see Annex: Figure 1 and 2) proposes five areas that group 12 sub-competences. Each sub-competence is composed of a set of performance criteria (PC) (between 2 and 4) which translate the competences into more concrete elements of what students should be able to demonstrate. Each performance criterion is assessed according to a set of indicators. These indicators are observable characteristics of the PC and consist of predefined measures or other types of qualitative information with which learner evidence will be measured against or evaluated with.

COMPETENCE ASSESSMENT SCENARIO (CAS): is a **scenario** where the learner or learners are the center to solve problems, develop projects or search for solutions in realistic contexts and meaningful situations. It is comprised of more precise or detailed components. In CRISS the **CAS** proposes a set of **activities** and **tasks** enabling the assessment of one or more performance criteria.

- **ACTIVITY:** integration activities are those activities that enable to assess different competences and subjects in a specific learning scenario. Integration pedagogy means developing integration activities that require a higher level of sophistication or complexity than typical standard test on digital skills or knowledge.
- **TASK:** Specific assignment to conclude a part of an activity (e.g. calculate, copy, create, download, edit, elaborate, share, upload, etc.). The actions that are 'done' to complete a function. A clearly defined piece of work, sometimes of short or limited duration, assigned to or expected of an individual.
- **EVIDENCE:** Is the formulation of the indicator that expresses whether or not it is achieved.
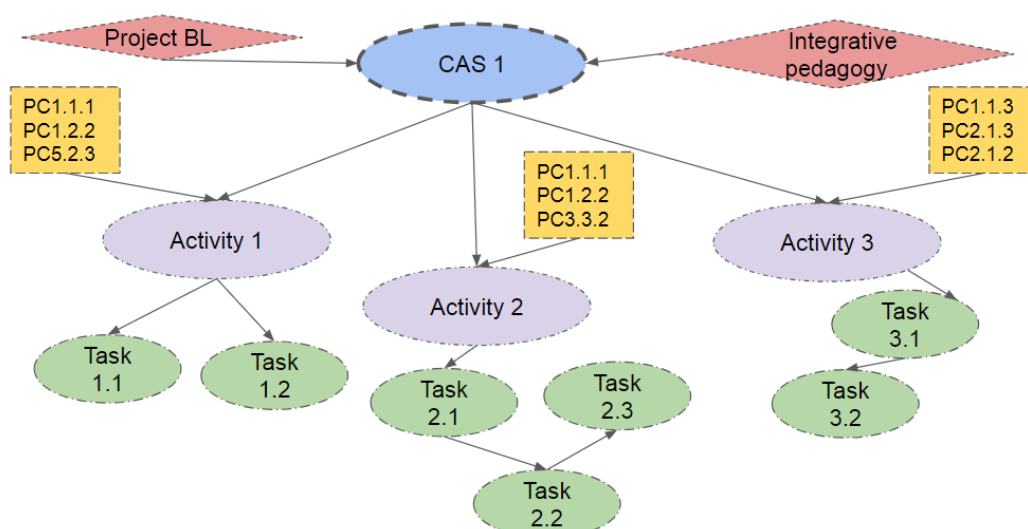
CRISS present a SET of CAS to certify the Digital Competence. It includes 10 CAS:

- Was Oliver Twist a soon of the Industrial Revolution?
- How could you promote your country or region?
- My Internet...
- We welcome our guests
- Publish an electronic school newspaper
- Reach 20 first!
- Tips to be a good digital citizen
- Through the Screen, and What Alice Found There
- Improve Employee Competence
- Locked-in

Each CAS can be adapted according to local needs as long as the following guidelines are followed. It is important to respect them in order to maintain the Certification Rules.

2. FORMAT STYLE

In order that all CAS have the same characteristics with regard to the writing format, the CAS must follow the following guidelines:

Writing style guidelines:

- **Neutral:** in third person (the student, the teacher, the group…).
- **Proofreading:** <u>Detect and correct</u> all the mistakes.

Writing content guidelines: All the descriptions should answer the following questions to avoid miss information: (especially the tasks)

- **WHAT** (what they need to do, what is the product that the students will do - <u>the evidence</u> which will be assessed),
- **BY WHO** (student, peers, groups, teacher…),
- **WHEN** (describe the steps - *e.g. The students will write an essay about (...). <u>Once it will be finished</u>, his/her peer will review it taking into account (...)*.
- **HOW** (individually, by group, by peers...),
- **WHERE** (all the activities should be done in class but the designer's CAS can suggest tasks that can be done at home if needed)
- **DEVICES** (specify the number of devices that are needed to perform the activity or task: one device for each student, one device for each group…).

3. TEACHING NOTES

The description of the activities and tasks are available to students and teachers. If any information should be hidden to the students (e.g. solution, results, etc.) or if the information

is specific for teachers, the CAS designer can include that information in the "Teaching Notes" document. Also, additional explanation on how to carry out the evaluation process can be added in the "Teaching Notes".

4. MAPPING SET OF CAS

All the elements previously mentioned can be adapted as soon as the Assessment Structure of the CAS remains unchanged (see document: *SET_ of_ CAS_mapping.xlsx*).

		1										2						3					4							5					
Area		1.1				1.2			1.3			2.1			2.2			3.1			3.2		4.1					4.2		5.1		5.2		5.3	
Sub-comp		1.1				1.2			1.3			2.1			2.2			3.1			3.2		4.1					4.2		5.1		5.2		5.3	
P. Criteria	1.1.1	1.1.2	1.1.3	1.1.4	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	2.1.1	2.1.2	2.1.3	2.2.1	2.2.2	2.2.3	3.1.1	3.1.2	3.1.3	3.2.1	3.2.2	4.1.1	4.1.2	4.1.3	4.1.4	4.1.5	4.2.1	4.2.2	5.1.1	5.1.2	5.2.1	5.2.2	5.3.1	5.3.2
1 Was Oliver Twist a son of the Industrial Revolution?		1					1				1			1	1	2	1	1	1	1	1	2		2	1	1								
2 How could you promote your county or region?												1			1	1		1	2		1	1	1	1	1	2	1	2						
3 My Internet...	1	1		3	1										1	1	1	1		1					1	1	2		1					
4 We welcome our guests							1		2		2	2	1		1	2			1					1			1			1	1	1		
5 Publish an electronic school newspaper							1									1				1	1	1		1								1		
6 Reach 20 first!																																		2
7 Tips to be a responsible digital citizen	2	1	3			3											1				1			1			1							
8 Through the Screen, and What Alice Found There					2			3	1	3													1											
9 Improve Employee Competence																													1	2	2	1	1	
10 Locked-in																													1				2	1
Total events	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	3	3	4	3	3	4	3	4	4	5	4	3	3	3	3	3	3	3

Changing the assessment structure the CAS could not comply anymore with the certification rules. Indicators from the same Performance Criteria can be changed but there are some rules that need to be respected (see 5.1 Indicators and Performance Criteria).

5. ASSESSMENT METHODOLOGY

The assessment methodology includes:

- **Indicators**
- **Assessment Methodology** (approach): Group assessment, Self-assessment, Peer assessment and Teacher assessment.
- **Assessment instruments**: Rubric, Scale, Checklist, Test[1].
- **Evidence**: product/artefact made by students (individually, pairs or groups) that will be assessed.

In the case that any feature will be adapted, it is important to make sure the coherence between the other elements of the assessment and make all the changes needed. The adaptation of the assessment methodology should be done in agreement with the assessment indications (instrument's descriptors, the person who perform the assessment and student/s who are being assessed).

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[1] CRISS forsees the use of different assessment instruments. However at this stage of the project just rubrics have been implemented. Future implementations will add also additional options.

5.1. Indicators and Performance Criteria

To follow the certification rules, each time that a Performance Criteria (PC) is being assessed at least two indicators from the same PC are needed. There are two ways to assess evidence: assessing all the indicators in the same task (option A) or assessing them in different tasks (option B). To avoid *problems* we recommend respecting as much as possible the distribution of the assessment of the PC in each CAS.

Note: Each PC assessment opportunity is called **event**.

In the CAS "*Tips to become a responsible digital citizen*", the PC 1.1.1 is assessed through two events. The first event is the example of Option A and the second one is the example of Option B.

OPTION A: It is the easiest option. In each event, a minimum of 2 indicators -from the same PC- have to be used.

Example: The first event: in task 1.2 *Information spreads like wildfire* from CAS "*Tips to become a responsible digital citizen*" the PC 111 is assessed by indicators 1.1.1.1-1.1.1.2-1.1.1.3. The three indicators are from the same task 1.2.

PC	Indicator	Task 1.2
1.1.1	1.1.1.1	x
	1.1.1.2	x
	1.1.1.3	x

OPTION B: It is the complex option.

Example: The second event: in task 1.1 *Digital Footprint* (using 2 indicators: 1.1.1.2-1.1.1.3) and in task 4.1 *Digital Poster Creation* (using 1 indicator: 1.1.1.1).

PC	Indicator	Task 1.1	Task 4.1
1.1.1	1.1.1.1		x
	1.1.1.2	x	
	1.1.1.3	x	

5.2. Approach

The assessment approach can be adapted in each **activity**. The task can accept more than one "*actor*" to assess (teacher -teacher assessment-, student -self-assessment, peer assessment, group assessment-). The adaptation should be done in agreement with the

assessment indications (instrument's descriptors, person who perform the assessment and student/s which are being assessed), if the assessment approach has adapted check that fits with all the other assessment's elements.

Teacher assessment   Self-assessment   Peer assessment   Group assessment

The CRISS assessment approach foresees that the assessment can be conducted by different actors. Nevertheless, at the current project stage, only the teacher assessment has been implemented in the platform. Additional assessment approaches (self, peer and/or group) can be performed separately (i.e. not in the platform) and can be recorded and uploaded by the teacher. As the project continues to develop, further assessment approaches will be implemented into the platform allowing for wider use of the tool itself.

To perform additional assessment approaches separately, the teacher may follow the steps shown below:

- decide which assessment approaches to use to assess an indicator,
- assign a weight to each assessment approach,
- assess the indicator with the related assessment instrument,
- gather the evaluation conducted by the different actors and calculate the global assessment,
- upload the global evaluation to the digital rubric on the platform.

The following table shows an example of how teachers may conduct the assessment using different approaches:

In this case, the total % is not 100%. Then, we need to change them (to 60-40, for exemple).

Here you can test if your total assigment is 100%
100

			Descriptors			Teacher		Peer		Self		Global
	Indicator	1	2	3	4	eval	assigned %	eval	assigned %	eval	assigned %	
4.1.2.3	Quality of the graphs (type, legend, colours, title, etc.).	The graph does not present the information requested, or it is not in the appropriate format.	The graph presents the requested information only on one axis. It has errors in the title, legends, units.	The graph presents the requested information. It has small errors in the title, legends, units.	The graph presents the requested information and is correct in terms of title, legend, units.	3	40	3	30	4	30	3
4.1.2.2	Appropriate use of one or more sheets to manage data and graphs.	Most calculated data are wrong and references to the data cells are not used.	The calculated data are right but references to the data cells are not used.	Most of the calculated data are right and are calculated using references to the data cells.	The calculated data are right and are calculated using references to the data cells.	2	40	1	30	3	30	2
4.2.2.2	Appropriate use of the different tools to represent knowledge.	The use of the different tools to represent knowledge is not appropriate.	The use of the different tools to represent knowledge is not often appropriate.	The use of the different tools to represent knowledge is appropriate, but something should be done better-	The use of the different tools to represent knowledge is always appropriate.	3	40	4	30	1	30	3
4.2.2.3	Coherence between content and representation.	There is no coherence.	There is a simple coherence.	The coherence is right.	The coherence is very good.	3	40	3	30	1	30	2

Task to evaluate

Indicators provided by the platform for this task

Descriptors suggested by CRISS

Numbers in blue are the evaluation for each indicator. In this case numbers range from 1 to 4.

Numbers in bold and blue are the percentage assigned to each evaluator. In this case, 0 indicates that there is not self-assessment (then the numbers in "eval" column do not affect to the Global result).

5.3. Instrument

The assessment instrument can be changed and adapted in the **activity**. Remember to include the pertinent descriptors in the case that you changed the assessment instrument to a *Rubric*.

The order of the *levels* and the *descriptors* is from the lower to the higher level.

Examples:

Scale:
4 levels
higher on the right
lower on the left
level to acquire the indicator: The third from left

Scale
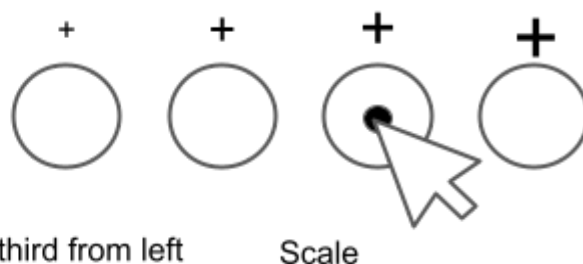
Checklist:
2 levels: Yes - No
Yes on the right
No on the left
level to acquire the indicator: Yes

No   Yes

- 4 levels (even number)
- higher on the right
- lower on the left
- level to acquire the indicator: The second from right

	NOVEL	APPRENTICE	ADVANCED	EXPERT
Indicator	○	○	◉	○
Indicator	○	○	◉	○

6. INSTRUCTIONAL APPROACH

The instructional approach can be replaced with the one that best suits the local curriculum or be blended with others. Here you have a list of **examples**:

- Gamification
- Problem-solving
- Problem-based Learning
- Case-based Learning
- Inquiry-based Learning
- Project-based Learning
- Peer Learning
- Open Source Learning

7. WORKING DYNAMICS

The adaptation should be done in agreement with the assessment indications (instrument's descriptors, person who perform the assessment and student/s which are being assessed).

7.1. Number

1 student (individually) ⟷ **2 students (pair)** | **4 students (group)** ⟷ **6 students (group)**
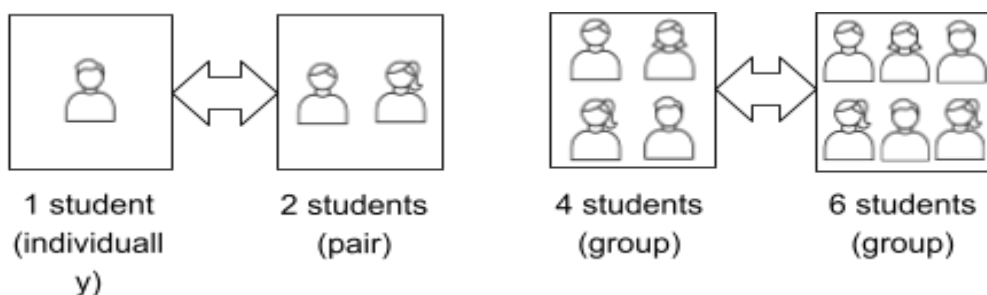
- Groups or individually: In some tasks that are predetermined individually work, it is possible to adapt into group work and vice versa. It is important to fix the other characteristic that can be affected by this adaptation in order to follow a coherence between them.

- <u>Number of students in each group</u>. When creating workgroups, the number of students in each group may vary according to the ratio of each country.

- It is necessary to pay attention if the important characteristic is the number of groups or the number of students per group, depending on each CAS. For example: if we have to investigate 4 subjects and we have to do 4 groups of experts, then what will be modifiable is the number of students per group, or failing that, add groups and duplicate the task. For example 8 groups (2 for each theme). If on the other hand, we need the groups to be formed by 4 students because each one adopts a different role, then we will have to divide the total number of students in the class by 4.

7.2. Person who create the groups

In some CAS the work dynamics is to work in groups. That groups can be formed by the teacher, by the students, randomly… Indicate in the task or activity who is in charge to create the groups and the strategy to do it.
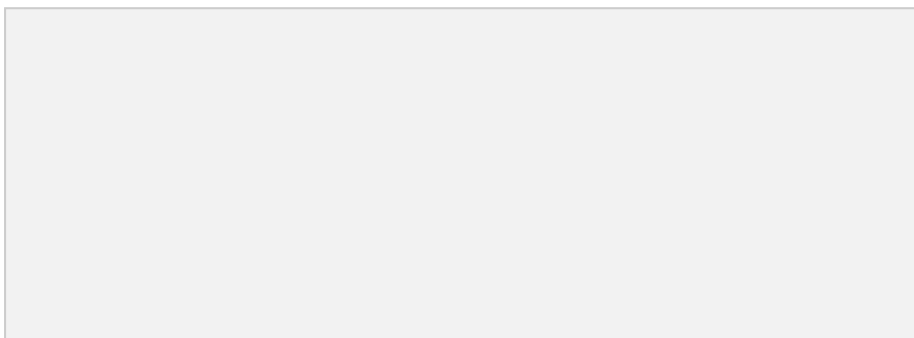
7.3. Nature

There are different criteria to take into account to create a group, depending on the goal of the activity (criteria: homogeneous or heterogeneous, students' skills, student's preferences, friendship…).

homogeneous   heterogeneous
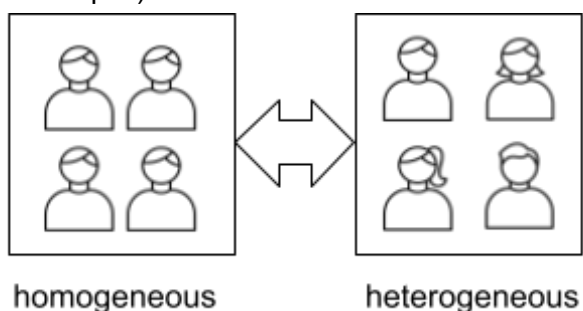
8. CONTENT

The CAS provide a content that includes:

- **Subject**
- **Themes**

Both of them can be adapted or changed to themes or subjects that are more suitable for the local curricula. Remember that the Assessment (Performance Criteria assessed in each Task can not be modified to respect the Assessment of the SET of CAS).

Example:

→ CAS: *"We welcome our guests"*: The subjects involved are History, Geography, English (or first foreign language). To adapt the subjects we can add Art subject and include content from that subject.
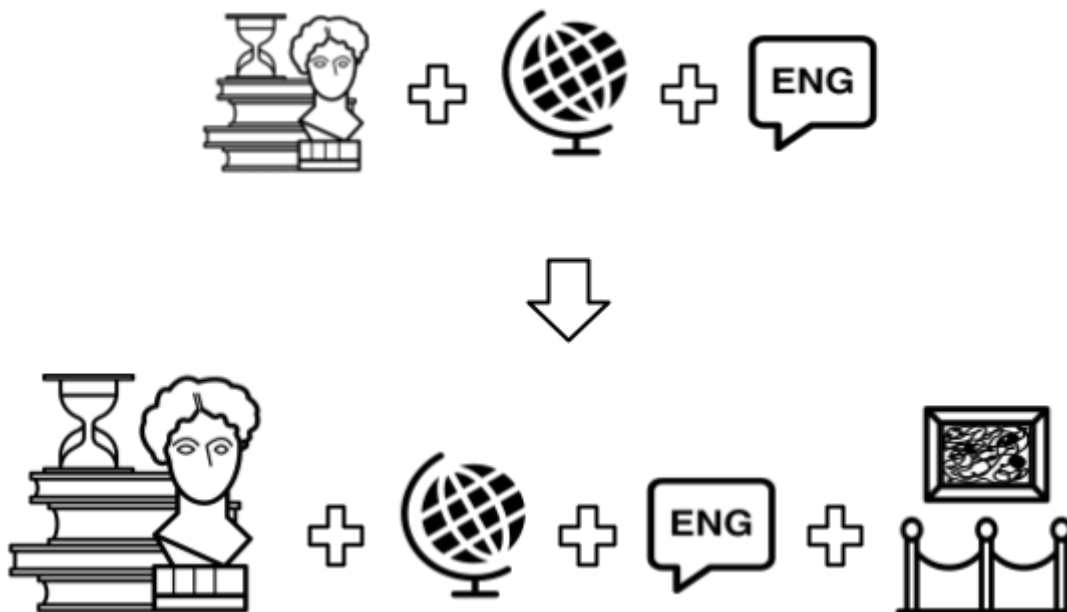
→ CAS: *"Was Oliver Twist a son of the Industrial Revolution?"*: The principal theme of the CAS is the Industrial Revolution and is learned with the Oliver Twist book. The book can be changed and work another historical period, for example, *The diary of a young girl - Anne Frank* and work the II World War.

9. LOCATIONS

Locations needs to be adapted to other local contexts.

Example:

→ The touristic map to be created in the CAS *"We welcome our guests"* needs to include local tourist attractions and events (e.g. museums, natural parks, castles, concerts, exhibitions, markets, etc.). Each local context will use different tourist attractions.

→ CAS *"How could you promote your county or region?"*. Leisure, culture and traditions, popular and cultural festivities need to be replaced.

10. RESOURCES

Resources, useful links, templates, etc. needed for the activities can be replaced.
Personal resources ad hoc can be used e.g. to deal with the topic of ethical and legal behaviour or different templates can be provided to draft a 'technical problems diary'.

websites   videos   articles   texts   audios

11. DEVICES

Some CAS specify the devices needed to perform the task or the activity. Those devices can be adapted taking into account the reality of the institution.


computer   laptop   tablet   mobile phone

12. WORKLOAD

Standard workload is expressed in sessions of 60 minutes.

The workload of a CAS can be easily adapted to sessions of different duration.

- Workload is just estimation: small difference between duration of 45 minutes and 60 minutes.
- Workload of each CAS can be adapted according to the local students.
- A more realistic workload for each CAS can be identified after pilots.
- For the moment the workload doesn't include the time spent by the teacher for assessment.

60 min → 45 min
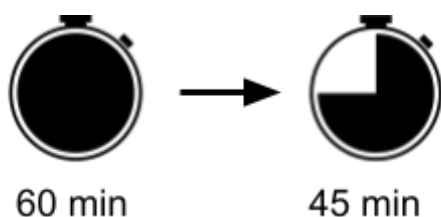
13. TEACHERS

The number of teachers and specialists involved in the activities can be modified according to the preference and availability of each institution.

Example

In CAS '*Was Oliver Twist a Son of Industrial Revolution*':

The whole CAS is performed in the mother tongue by the history teacher except for one activity which is performed in English (by the English teacher). If the History teacher can deal with the English activity the CAS can be adapted requiring just the History teacher.
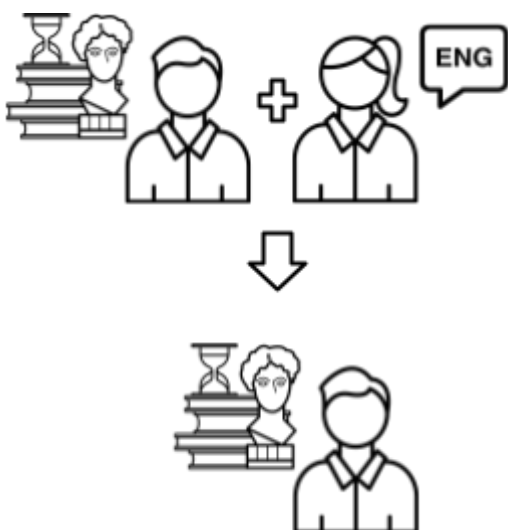
14. LANGUAGE

Some CAS are developed in 2 languages: the mother tongue and the "foreign or second language". The languages will be adapted to the local preferences.

➔ When the second language doesn't correspond to the one indicated in the CAS it can be changed.

➔ In case the CAS will not be translated to the local language it could work more than a foreign language (english+french/german/Spanish) or be performed entirely in English.

Example: CAS "*We Welcome Our Guests*"

The content in the map is written in the language of the exchange students → specify which one: English, french, german, Italian…?

15. TOOLS

- Magellan
- Portabily
- Social Network
- Libraries
- External tools: TimelineJs and MindMup

Example:

The CAS "*Publish an electronic school newspaper*" includes an initial brainstorming on the main goals of the newspaper, its layout and the steps involved in the design process:

- The group's activity stream can support this activity,
- CRISS libraries can be mentioned as a good option to retrieve sound and images.

I. Annex - CRISS Operational Concept

Figure 1. CRISS Areas, Sub-competences and Performance Criteria.

| 1 | 2 | 3 | 4 | 5 |

5 AREAS General dimensions in which DC can be separated. Depending on the framework, the name "area" changes to: dimension (Catalonia); strand (Wales); or it has not any specific name (Austria).

| 1.1 | 1.2 | 1.3 | 2.1 | 2.2 | 3.1 | 3.2 | 4.1 | 4.2 | 5.1 | 5.2 | 5.3 |

12 SUB-COMPETENCES Competences embedded into an Area. Sub-competences in each area vary in number and are associated to a series of Performance Criteria that specify what the student should be able to demonstrate.

| 1.1.1 | 1.1.2 | 1.1.3 | 1.1.4 | ... | 5.3.1 | 5.3.2 |

34 PERFORMANCE CRITERIA Criteria associated to each sub-competence with the aim to easy the way of the identification of relevant evidence. The PC translates sub-competences into more concrete elements of what the student should be able to demonstrate.
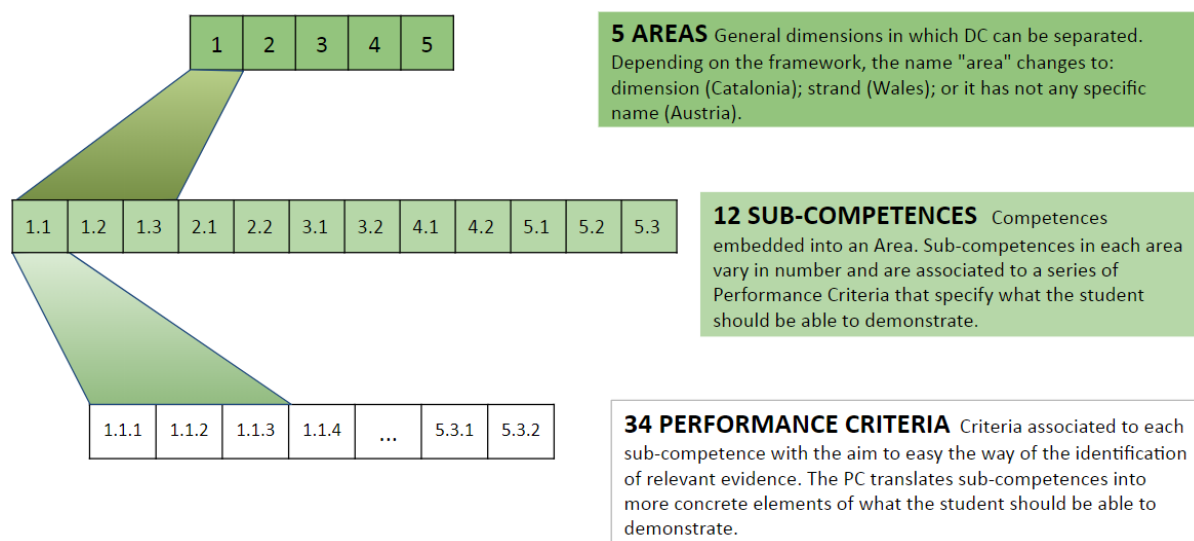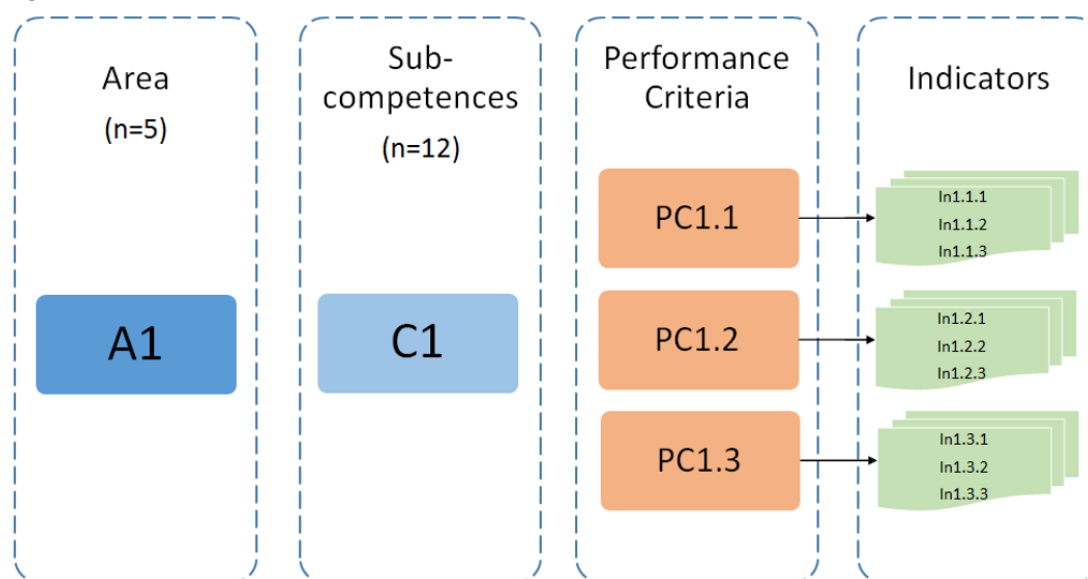
Figure 2. CRISS Operational Concept.

II. Annex - Validation process

Adaptations proposed by the teachers on the basis of local curriculum, unavailability of teachers of a particular subject or other personal motivations, need to be validated by a facilitator.

The facilitator will check that the scenario adapted respects the evaluation structure displayed in the mapping and comply with the rest of the indications provided in this guide.

If the CAS will be validated, it will be included in the DC Certification Scheme and piloted by local schools to achieve the certification.

If the CAS doesn't comply with the mapping and the guidelines for adaptation, additional improvements can be required by the facilitator until the scenario can be considered valid.

Adaptations can be drafted in some personal document and uploaded to the Scenario Creation Tool after validation or can be generated directly in the platform with the same tool. In this last case, the label TBV (To be validated) should be indicated after the title until the CAS will be validated.