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**e-CF Multistakeholder partnership driving ICT
professional up-skilling and pick up of employability**

WP5
DLV5.1–Pilot planning

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WP5 overview

Work package purpose

The purpose of WP5 is to organise a pilot programme based on the work done in WP3 and WP4. Part of the pilot is to present the 'courses' on an online platform.

The pilot phase runs until may 2018. The goal is to test the learning material with the target participants and also develop ways to certify the learners (goal is 100 people)

WP5 has core partners that actually run the pilot

E.8	Information Security Management	CEFRIEL
B.3	Software testing	UAH
D.2	ICT Quality Strategy Development	ESICEE
A.6	Application Design	ADFOR
A.7	Technology Trend Monitoring	BITA (WP Leader)

and supporting partners (all others) of which EXIN will be explicitly involved

Persons involved from core partners (please correct when necessary)

- Luis Fernandez (UAH)
- Sara Grilli (CEFRIEL)
- Pavel Varbanov (ESICEE)
- Herman van Bolhuis & Arjenne Bastinaansen (BITA)
- Marco Pappo (ADFOR)
- Jan Dirx (Exin)
- Belén López & Almudena Muñoz (CCOO)

WP5 consisted of 7 parts

- 5.1 Content for pilot programme. Describe E8-A7
- 5.2 Online presentation of the material
- 5.3 Pilot training path. Describe for who, purpose and plan f2f meetings
- 5.4 Qualification path. 3 webinars (who is involved)
- 5.5 Pilot assessments. F2f meetings based on qualification programme specification
- 5.6 Pilot certifications (assessments or exams?)
- 5.7 Reporting experience in the pilot programme (survey with structured input from all pilot partners)

Planning

Meetings and calls planned for 2017 until May 2018

- Monthly call 1st Tuesday of the month 9.15-10.00AM
 - Workpackage leader will send invites
- March 2017 - wp5 planning path
 - Workpackage leader will send in invite for planning call
- March-August – course building
- March-Jun - Online / web publication
- April-May – certification decisions
- June 2018 - Feb 2019 – running pilot
- Jan-March – feedback sessions, assessments for each competence
- April-May – survey, certification, interoperability issues
- June-September – reporting and publishing

NOTE: For planning purposes please also have a look at the excel planning in the WP5 folder on Dropbox

Tasks

- Task 1 – Task 1. Selecting a pilot group of ICT workers/ professionals to get involved in the testing joint programme.
- Task 2 – Selecting the job profile
- Task 3 - Designing the pilot
- Task 4 – Developing open content
- Task 5 – Scheduling training sessions and certification path
- Task 6 – Supplying training path
- Task 7 – Supporting certification path for each e-competence
- Task 8 – Assessment center for each e-competence
- Task 9 – Certification, transparent in interoperability
- Task 10 – Publishing open content on the web

Notes for Training path

- Control that people are attending
- Demonstrate resources are being used
- Assessment (presentation, interview, plan, ..)

From the LUs design to the overall process set up

This chapter focuses on the methodological approach on how to value and validate the eCF competence against the eCQP framework. The activities within the work package 5 aim at planning pilot paths and resources for experimenting it.

Overall, the pilots within WP5 concern the activities that an individual may carry out for filling the gaps and improving specific knowledge and skills concerning a competence. They are blended pilot training, based on the LU set developed in Work Package 4. They release a *Certificate of Completion* that can be included as an evidence in the personal portfolio, similarly to any other market ICT certification or third parties' training attendance. The *COUNCIL Certificate of Completion* is a proof that the person attended a COUNCIL training, mainly designed to develop and gain Knowledge and Skills related to specific Learning Units of a given e-Competence Qualification Profile. So far, the training course attendance may allow a total or partial achievement of the competence in relation to at what extent the competence LU plan is actually covered and how far the learner has effectively achieved the related learning outcomes.

A process for validating the eCF competence

Figure 1 shows the flow of logical steps and activities that engage the individual, the COUNCIL and the other players from the market.

The process designs coherently the four steps highlighted by the *European Guidelines for validating the informal and non-formal learning (CEDEFOP, 2015)*: Identification, Documentation, Assessment and Certification. That assures any kind of prior learning evaluation such as work-based learning and in-field experiences.

Identification

The process draws two potential entrances. On one side, the person self evaluates on a given proficiency level of a competence thanks to a specific questionnaire (R1), accessible in the COUNCIL platform. In light of the results, s/he may decide whether to fill the highlighted gaps by choosing a training course or even practicing more to improve them. Either, s/he may also start producing evidences whenever s/he realizes that the experiences already done are valuable for proving the acquired competence. On the other side, the person directly comes across with the COUNCIL open educational resources that introduce him/her to specific training. In both cases, the pursued result is that the person raises awareness of one's own learning needs and learning outcomes already attained.

Competence validation

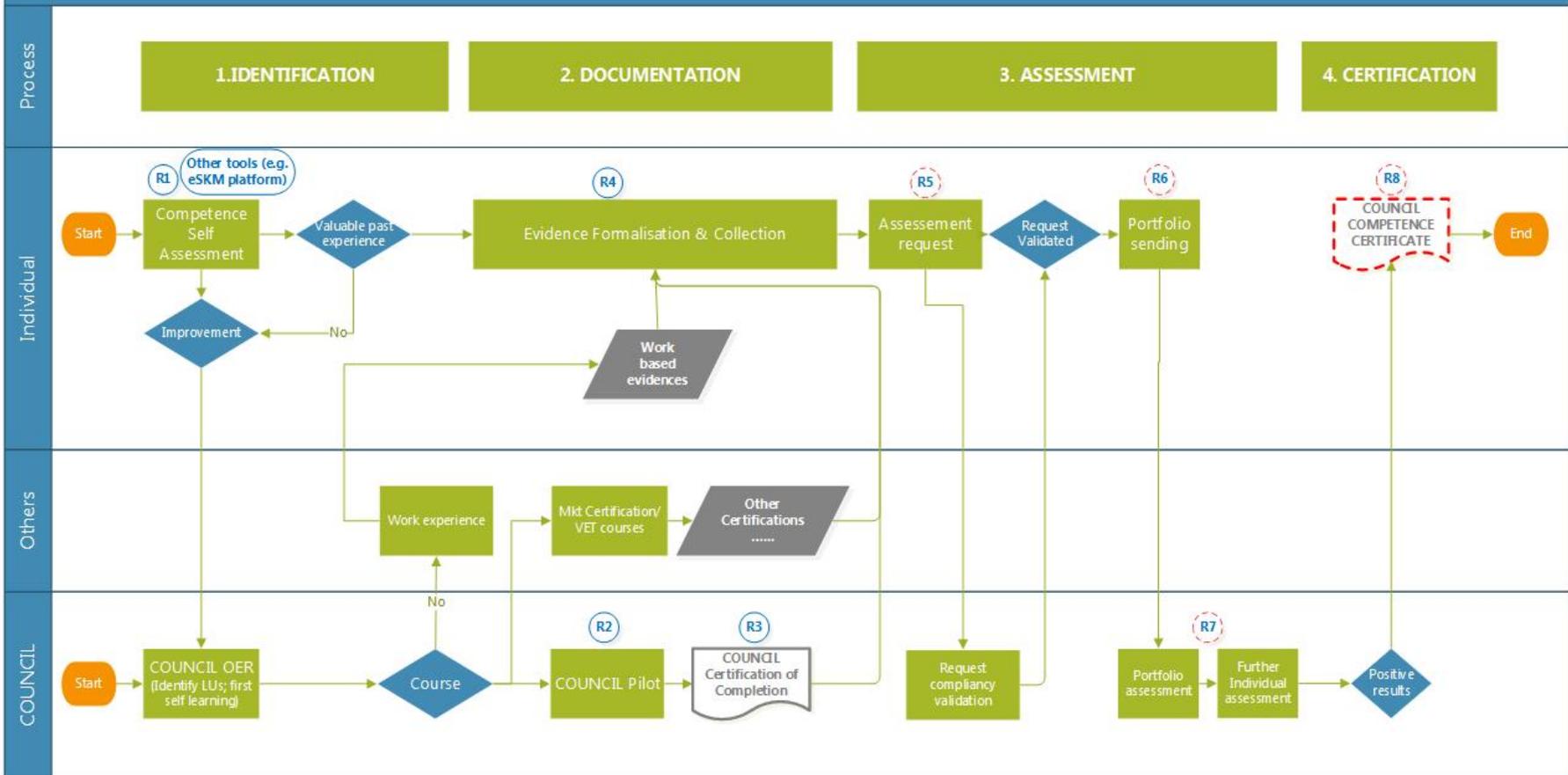


Figure 1 - The Competence Validation Process by COUNCIL

COUNCIL in work package 4 designs 15 e-Competence Qualification Profiles in terms of Learning Units and related Learning Outcomes. Moreover, the project implements 10 competences in terms of content and related OERs. All this stuff allows implementing two kinds of self evaluation questionnaires: one is based on the specific learning outcomes addressed by a training course (R2); the other one (R1) is based on the learning unit plan that identifies a given competence. The former (R2) concerns the pilots and examples are available on the platform, by accessing the specific OER of one of the ten implemented competences. The latter (R1) has defined the format and an example is implemented and available online for A1_IS and Business Strategy Alignment. The frame and the structure is explained below, in the paragraph concerning the resources implemented for the process.

Documentation

Once the person is aware and confident of all that was gained in learning experiences such as training courses and work, s/he may proceed in the aim to give them a visibility and a formalisation. So far, s/he starts identifying the evidences that make up the personal portfolio for a given competence.

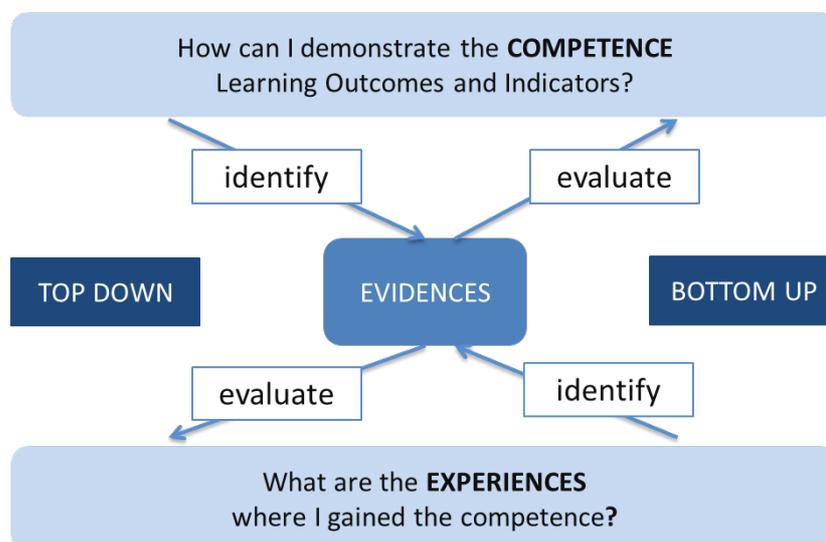


Figure 2 - Evidences: a top down and a bottom up approach

Whatever is the activity carried out in the previous identification step (self-assessment, training, practice), the learner may identify and define the evidences according to two potential approaches. On one hand, the self evaluation allows him/her to reason on the prior learning and on the experiences done. Evidences emerge as proofs of such experiences. Afterwards they are refined by evaluating them against the specific learning

outcome of the competence (*Bottom Up*, from the practice to the model). On the other, the learner may reason on the single learning outcome, identify evidences as proofs of it and, then, relate them to the specific experiences (*Top Down*, from the model to the practice).

The evidences may prove acquired knowledge and skills as well as competencies in action. As such, ICT Certifications and any certificate attesting the successful completion of specific training (COUNCIL courses included) may become a valid evidence in the personal portfolio, provided that it is clear its relation with learning outcomes and competencies.

Assessment and Certification

Only if the person requests it, the formal recognition may have place. The Request should be validated and accepted by a formal commission, which guarantees the prerequisites and the assessment requirement. Afterwards, the candidate provides the portfolio for an assigned assessor to formally evaluate. The portfolio assessment, - as Step 1-, should then be confirmed and completed by a direct interview with the candidate, - as Step 2 - , during either a face-to-face or virtual meeting. This allows integrating any further needful information and contextual proof on demand.

The positive result of the assessment leads to the final COUNCIL certification on a given competence at a certain proficiency level. This kind of certification should be representative of what a person is able to do and to act in a practical context, whenever it arises along the ICT sector life-span. Driving the reasoning to extremes, this certificate should capture the essence of the competence, irrespective of the current technologies. In other words, it should focus on the medium-long term elements that characterise and describe a person. So far, it shouldn't be alternative to the already existing certificates, that mostly concern technologies and methods linked to the current ICT sector. On the contrary, the COUNCIL Competence Certificate should attest that the person is able to apply properly knowledge, skills and behaviours of the given e-Competence in order to achieve objectives in practice and in compliance with the claimed competence proficiency level.

Growing levels of validation

When approaching a system that assumes the fact that a competence may be acquired in different ways such as formal, non-formal and informal learning, then the zoom focuses on the person's wish and on the individual purposes. Similarly, validating a competence is directly driven by the person him/herself and it may mean different things, even if all linked with the purpose of recognition.

A first level deals with the self-recognition. It refers to raising awareness of all that is actually learnt and of all that is still missing. The Self Assessment Questionnaire (R1) provides a resource coherent with the purpose of a *self-validation*.

A second level concerns the agreement and recognition by externals such as colleagues, boss and peers. They may provide a *social validation*. In this case, specific questionnaires can allow collecting scores and rates that, afterwards, may be compared with the self-assigned ones. That enriches the resources and the chances supporting the self-evaluation. That also provides specific proofs to be potentially included in the portfolio for a following formal recognition.

A third level refers to a *formal recognition* by an official and accredited entity within a formal system. This is the level where a credit transfer arrangement is possible and the mutual relation between the qualification frameworks, profiles and occupational standards is also evident and accepted. At this level, COUNCIL designs a method to infer Learning Outcomes on whose base to structure potential training curricula by competence and, in the same time, to build up a specular system to validate the competence in a lifelong learning approach. The pilots wants to test the validity of the method. Notwithstanding, the attainment of an operative competence validation system depends on many other variables linked to the environment such as VET and market policies. So far, the work to achieve it is still in progress.

COUNCIL resources

R1: Competence Self Assessment Questionnaire

This resource wants to introduce the person to a self evaluation activity where the first step is to realise which competencies are available and what they exactly mean.

The design rests on the logic to compare the same statements and judgment in different moments. The idea is to create different situations where the points of view and the perspectives may change. As such, the format consists of 4 steps:

- 1) **Identify and choose** your proficiency level for the competence.
- 2) Have a **preliminary self assessment**, based on the learning units that make up the competence for the specified proficiency level.
- 3) **Reason on your prior learning**: work projects, contexts where the competence was required; actors and players engaged; difficulties encountered and faced; etc.
- 4) Have a **final self assessment**, always based on the learning units that make up the competence for the claimed proficiency level.

The step 3 is crucial to raise awareness of one's own actual attainment. The questions are formulated to lead the person through facts, tasks, operative things and personal thoughts concerning the past experiences.

The survey deals with the following key issues on which exemplificative questions are also reported:

- Experience timeline

How long have you been acting the competence at this specific proficiency level?

- Numbers of experiences

How many experiences did you do till now?

- Experience significance in terms of complexity, autonomy, process visibility, etc.

What did you exactly do in these experiences? Did you focus on a specific part or did you contribute in more activities?

At what extend was your personal contribution?

What results did you achieved?

- Customer Satisfaction

How far did your internal/external customer appreciate your work/ results?

- Awareness of success factor keys

What was your best experiences in terms of results achieved? Why?

What was your worst experience? Why?

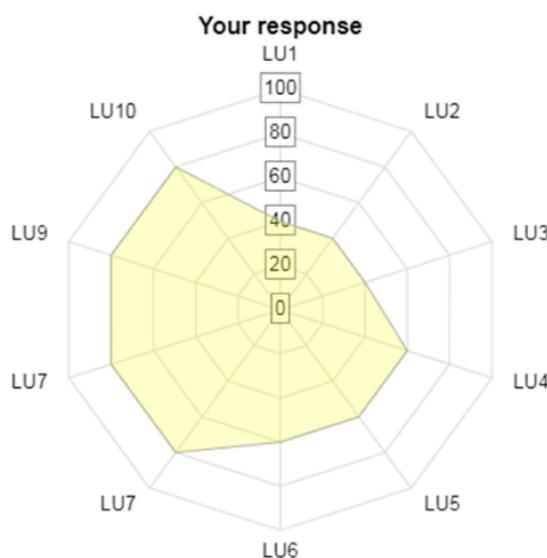
- Prior certification on specific issues of the competence

Did you get any certification potentially related to the competence?

What are the knowledge and skills underpinned by the certification?

These questions should also help the candidate identifying the evidences s/he should produce, following a bottom-up approach, in order to demonstrate his/her statements and answers.

Self Assessment A.1 - Step 2



Numbers on the graph	Evaluation levels
0	Not available
20	Very few
40	Few
60	Sufficiently
80	High
100	Very High

Figure 3 - The graph resulting from the self assessment

The step 2 and the step 4 allow to compare the results of the preliminary and final self assessment. They implement a radial graph which simplifies the task thanks to the visual approach as shown in Figure 3.

R2: Resources for pilots

The project implements specific contents as open educational resources related to ten competencies. Moreover, the pilots develop a formative questionnaire for the learner to self assess against the competence learning outcomes. When repeated at both the start and the end of the course, then the learner may evaluate the one's own progress.

R3: COUNCIL Certification of Completion

This certificate attests that the learner has successfully attended the COUNCIL course. As such, its scope is limited to the learning outcomes, knowledge and skills expressly addressed by the training path.



Figure 4 - COUNCIL Certificate of Completion

R4: Resources to guide the evidence development

The evidence here considered is any material or digital resource whatever formalised, able to show how a person actually applies a given competence in a practical situation. As such, the evidence comes from - either it is based on - the real contexts directly experienced. The evidence may highlight one or more elements of a given competence. So far, more evidences are usually required in order to fully demonstrate a competence in action.

The ability to identify and formalise the evidences is useful for the candidate, but also for the tutor/ guider who can support him/her, the assessor who is asked to evaluate them as well as for the professional and job market players for whom the evidence must have significance.

According to what it wants to show, the evidence can belong to one of the following four types.

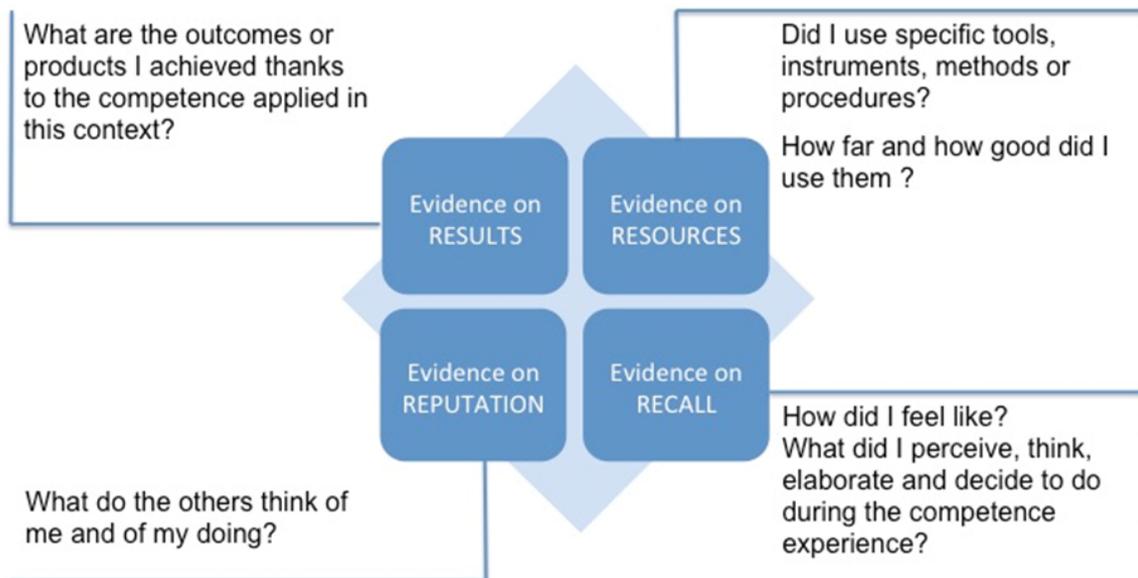


Figure 5 - The four categories of evidence

When the evidence represents the outcome or the product achieved thanks to the competence applied, then it can be called an evidence on Results. It might be a collection of proofs such as pictures or a video explained by personal notes and comments in order to allow a third party to understand the value without running into Intellectual or Industry Property Rights, especially linked to software and hardware.

A second type of evidence might be related to the Reputation that the individual gained in the practical situation. These evidences can be feedback from colleagues, letters of reference by the chief, official survey results referred to the results obtained. These are proofs by third parties concerning the quality of the task accomplished and of the results obtained in the experienced context.

The evidence on Resources shows the ability to use properly and effectively the resources needed when acting the competence. These proofs demonstrate the practice on web applications, any kind of intellectual/mental resource and physical instrument, methods and procedures that are essential for the competence and for achieving the expected result.

The evidence on Recall includes any extra document, expressly created by the candidate that explains and argues how s/he applied the competence and the most relevant aspects. This kind of evidences demonstrates the level of awareness achieved by the candidate and the ability to reason over the competence and the experience done.

A general process to identify and develop evidences for a given competence should plan the following steps:

- a) Plan the set of your evidences, by taking into account all the learning outcomes you must demonstrate.
- b) Code each evidence planned within the identified set: assign a progressive number and report the main information such as related experience/s, type, brief description, format.
- c) Sketch and draft each evidence in a clear way to expressly relate to the proficiency level claimed for the competence.
- d) Implement the set of evidences. The implementation also depends on the level of elaboration required in order to transform a rough material extracted out of the experience's stuff into a comprehensible evidence.
- e) Verify and validate the quality of the evidence set.

The last point is directly linked to the fact that if the evidences are well designed and implemented, then the portfolio does not require hundreds of proofs.

The main issues that the evidence and the overall set of evidences must guarantee are as follows:

- *Comprehension*: it is clear what the evidence intends to show and the objective it pursues against the framework.
- *Completeness*: all the expected content is included and fully described.
- *Coherence*: the pursued objective is clearly satisfied in relation to the competence; that is to say, it is clear which indicators and learning outcomes the evidence addresses.
- *Significance*: the content is meaningful and positively matches the competence learning outcomes addressed.
- *Up-to-datedness*: the evidence shows worth content at present time even if it refers to past situations.
- *Trustfulness*: the evidence shows content that is surely valid and true.

All the things here described are the basis for the COUNCIL Alliance to define a future shared guideline on the evidence development.

R5: Resources for the certification procedure

This set of resources concern all that is needed for the certification: from the request form up to the user guide addressed to the candidate, the tutors potentially involved to support him/her, the assessor. The project will implement it once the time is ripe to identify a proper validation procedure and agree on a governance structure and validation mechanisms.

R6: Personal Portfolio

At present, there are different available formats of portfolios, with different accent and composition coherently with the specific objectives. For the COUNCIL purposes, the portfolio should be the collection of the evidences related to a specific competence. The portfolio should report and describe the evidences as implemented by taking into account the issues reported above.

R7: Resources for assessment

Regarding this issue, the COUNCIL project identifies a way to evaluate the set of evidences potentially provided by a candidate in relation to a claimed competence.

It includes three main steps:

- 1) How far does the set of evidences match and fit each Learning Outcomes that describes the competence for the given proficiency level?

Each evidence is evaluated against the related declared Learning Outcome according to a 3-value scale: *General, Partial, Superficial*. The rate describes at what extent the evidence actually demonstrates the wanted Learning Outcome.

List of evidences	LO1	LO2	...	LOn	LU result
Evidence 1	G/P/S				
Evidence 2	G/P/S				
....					
Evidence m	G/P/S				
FINAL RESULT by LOx	G/P/S	G/P/S	G/P/S	G/P/S	G/P/S

Figure 6 – Evaluation of the evidences set

- 2) How far is each learning outcome demonstrated by all the evidences provided?

A criteria should be identified to assign the positive result. It might be a weighted sum where the “S” value, as negative rate, is penalised.

3) How far is the competence demonstrated?

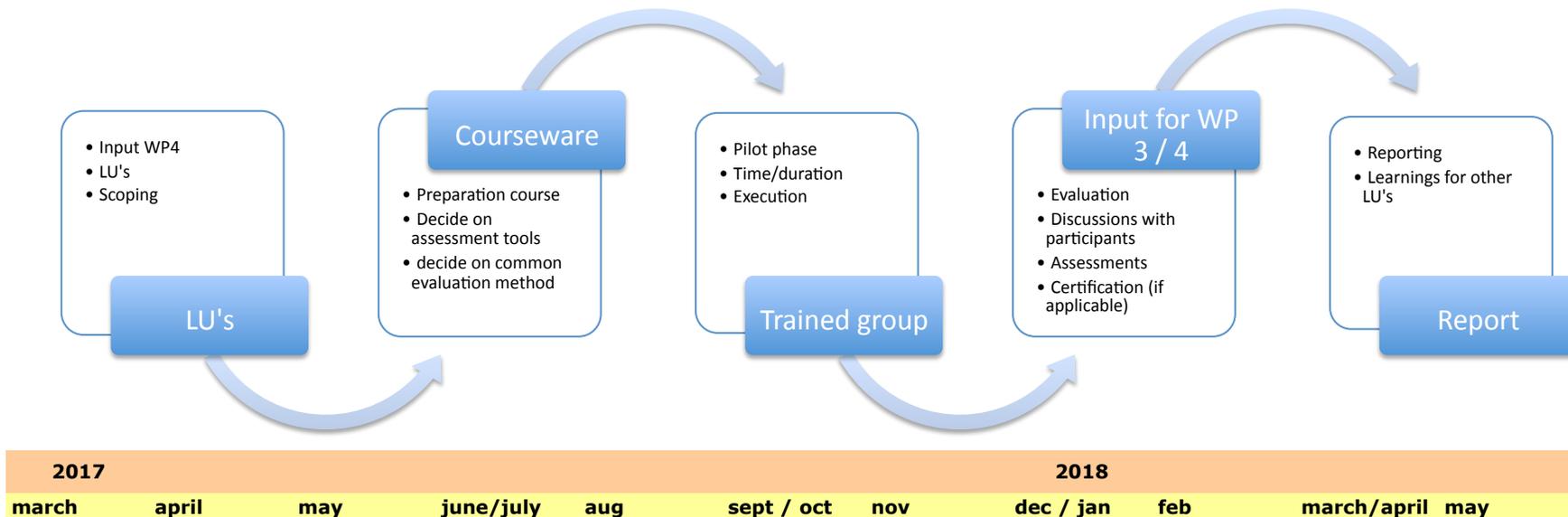
The criteria for the overall competence should set a positive value for each learning outcome included.

R8: COUNCIL Competence Certificate format

This certificate represents the formal recognition of the competence that a candidate requested for validation. It should include all the main information that represent the competence coherently with the description in the e-Competence Qualification Profile. At the present stage, the project doesn't design any format. It might be a paper as well as a digital release such as open badges.

Pilot Planning – timing

WP5 timing & flow - running the pilot



Pilot Planning – by partner

Competence	WP Planning - set 1				
	A.6 Application design	A7 Technology trend monitoring	B3 Testing	D2 ICT Quality Strategy dvp	E8 Information Security mgt
Lead	ADFOR	BiTA	UAH	ESICEE	CEFRIEL
WP4 (first set ready)	done	done	done	done	done
Planning pilot period	March 2018	oct-dec17	31th oct- 21st dec2107 Extended edition: until 18th Jan 2018	Jan-Feb 2018	May-June- July 2017 And March-april- may 2018
Number of participants	10	25	35 (out of 91 initially registered)	38	15 in the first edition
Pre- assessment	tdb	no	Yes (LO self assessment in each LU)	no	no
Post assessment	Format tbd	online	Yes (LO self assessment in each LU) + F2F exam for course completion (21st Dec 2017 and 18Th jan 2018)	Exercises, Case Studies, Simulation	Project work
Certification plan	Certificate on complation	yes	Yes: certification by F2F Exam leading to eCF council certificate of completion and UAH long- life extension course diploma	Certificate of completion	Certificate of completion

Competence	WP Planning - set 1				
	A.6 Application design	A7 Technology trend monitoring	B3 Testing	D2 ICT Quality Strategy dvp	E8 Information Security mgt
Lead	ADFOR	BiTA	UAH	ESICEE	CEFRIEL
Online platform input	Content? February 2018	done	Content totally implemented	done	done
Focus group	nov-17	nov/dec17	In collaboration with partners of UAH	ICT professionals mid/ high level management	nov-17
Final peer-review	?	TBD in discussion with participants. These will be high level profiles and can be disposed			
webinar planned	TBD and depending on add value	A number of webinars were use during the course	3 online webinars hold during regular course plus 2 more during extended weeks	yes, within the pilot	Yes before march 2018
Number of certified participants	12	22	71	91	17

