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SOCCES - Current practices in transversal competences assessment

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Current practices in transversal competences assessment

(at the example of 6 European Higher Education Institutions)

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Introduction

The aim of the European project SOCCES ("SOCial Competences, Entrepreneurship and Sense of Initiative – Development and Assessment Framework) is to develop and pilot a framework for the methodical assessment for two competences that are very important for working life - namely the Sense of Initiative and Entrepreneurship, and Social competences. The developed framework will be translated to a concrete assessment module that can be used in different educational environments. The module will include a collaborative, virtually enabled assignment and will be accompanied with virtually enabled teacher instructions.

The critical importance of transversal competences in future employment is widely recognized. However, in most countries the educational practices are still under development and transversal competences are taught using different methods. Related subjects may have cross-curricular status, they may be integrated into existing curriculum subjects or they may be introduced as separately. In each case different assessment is used, hence no consistent framework exists. The lack of a standardized assessment has been encountered in the participating organizations internally and in collaborative activities between the institutes.

In education, the term assessment refers to the wide variety of methods that educators use to evaluate, measure, and document the academic readiness, learning progress, and skill acquisition of students from preschool through college and adulthood.

The objective of this report is to analyze and draw conclusions based on the current assessment processes in selected curricula at the SOCCES partner institutions - Coventry University, Laurea University of Applied Sciences, University of Bologna, University of Montpellier, VTU, NHTV University in relation to transferable skills and transversal competences' assessment.

The information has been collected, consulted and gathered by the SOCCES project team at the respective university based on discussions with other colleagues, teachers, administration and management of the respective university.

Background theory

SOCCES builds upon the European framework for eight key competences, defined in 2006 (ANC 2006/962/EC). The European framework (ANC 2006/962/EC) describes competences related to basic cognitive skills, these being communication in the mother tongue; communication in foreign languages; mathematical and science and technology competences. Transversal competences, on the other hand, include digital skills; learning skills; social and civic skills; sense of initiative and entrepreneurship, and cultural awareness and expression.

According to Erydice report (2012), whilst the status of the basic skills is well established, the development of the curricula and assessment of the transversal skills and competences is lagging behind. The SOCCES project objectives address directly the recommendations as defined in the Eurydice report and also in the renewed Higher Education Modernisation Agenda (June 2013). The report emphasizes that higher education should help students prepare for life and work and provide relevant knowledge, skills and experience – including transversal skills. The innovation in higher education should pay attention to tailoring learning modes to a diverse student body, develop programmes informed by and adapted to labour market needs and exploiting the potential of ICTs. (HE Modernisation report, June 2013; EC). The report also suggests that curricula should be developed and monitored through dialogue and partnerships among teaching staff, students, graduates and labour market actors, drawing on new methods of teaching and learning, so that students acquire relevant skills that enhance their employability, which is exactly the method used in SOCCES.

Also an EU Communication (Rethinking Education: Investing in skills for better socio-economic outcomes) stated that assessment needs to be better harnessed. “Efforts should continue to develop tools for individual assessment of skills, particularly in the areas of problem solving, critical thinking, collaboration and entrepreneurial initiative” (Strasbourg, 20.11.2012 EU COM (2012) 669 final). The impact of assessment and validation of skills is significant in facilitating mobility in the European labour market, addressing skills shortages in growing sectors and supporting economic recovery (EU COM(2012) 485). Brian Holmes, head of EACEA, stated that current methods of quality assessment need to be adapted for virtual learning in “New ways of learning need new ways of assessing“(Online Educa, Berlin, 2010) and NAHE (2008). As a result of the findings the EU Council invites member states to make arrangements for validating non-formal and informal learning by 2018.

Gordon et al’s (2009) report for the European Commission found that in order to assess key competences, it would first of all be necessary to operationalise them for assessment. This would mean taking the broad definitions of key competences in the EU Reference Framework or national documents and developing them into more specific learning outcome that would be ready for assessment. Several theoretical or policy perspectives, supported by empirical research, identify a need to specify learning outcomes in order to provide a basis for teaching, learning, assessment and evaluation. Firstly, there are three theoretical perspectives:

- The psychometric perspective emphasises the need to define the scope of the assessment domain, its relevant constructs and the proposed interpretations of results (Brennan, 2006). Assessment instruments (e.g. tests) can then be developed to collect only information that

is relevant (thereby avoiding threats to validity called construct-irrelevant variance and construct under-representation).

- The assessment for learning literature emphasises the need for both teachers and learners to develop a shared understanding of intended learning outcomes and how assessment criteria will be used to judge individual progress (Black & Wiliam, 1998b; Sadler, 1987). The emphasis is on promoting learning.
- The specification of learning outcomes so that they can be assessed is central to the competence-based assessment literature relating to vocational education and originating in the USA in the 1970s (Wolf, 2001). The emphasis is generally on identifying competence for economic roles but could caste more broadly to encompass social and civic roles too.

What is really striking and relates to the objectives of the current project (SOCCES) is that in relation to external summative assessment, Eurydice (2009) found that, of the eight key competences:

> '…only three, namely communication in the mother tongue, communication in foreign languages, and mathematical competences and basic competences in science and technology, can be directly linked to individual subjects… these three competences are the ones most commonly assessed in national tests. By contrast, in many European countries the remaining key competences such as 'learning to learn' or social and civic competences, which usually relate to more than one subject, are not at present generally assessed in national tests'.

It will be noted that there are particularly few, if any, Member States whose national testing systems were reported as assessing the last four key competences: learning to learn, social and civic competence, sense of initiative and entrepreneurship or cultural awareness and expression. A note of caution should be struck: these competences may be implicitly assessed through national tests, or explicitly assessed through methods other than these tests. However, national testing systems tend to reflect the priorities of education systems and the evidence suggests that, although highly valued, these four key competences are much less widely assessed. In fact, the focus of national testing is mostly limited to mother tongue and mathematics competences.

For assessment purposes, the self-regulated learning research therefore suggests a higher profile for classroom and workplace observation and dialogue than for questionnaires and tests. Furthermore, if self-regulated learning implies self-control informed by accurate self-monitoring, then an important role for self-assessment is also implied. Moreover, this need not be limited to formative assessment. Comparison of self-assessments and expert assessments yields useful

information about the apparent accuracy of students' self-monitoring of their learning outcomes (Winne, 1996).

In a review for the OECD, Looney (2011) reports that performance-based assessments can include tasks such as presentations, group work and projects. To this list might be added: portfolios, reflective diaries, role plays and interviews. One benefit of performance-based assessments is that they can be very effective at encouraging and capturing both learning processes and outcomes in relation to complex tasks and demanding contexts. Their overall validity for the formative or summative assessment of key competences can therefore be high, and they can serve both purposes (though formative assessment is the focus of the next main section). This overall validity contrasts with test items that provide only discrete tasks, lacking a relevant context for lifelong learning.

Student assessment forms an integral part of the teaching and learning process and is an essential tool for improving the quality of education. Across Europe, student assessment takes a variety of forms and uses different assessment instruments and methods. The models used may be internal or external, formative or summative, and results can be used for different purposes (EACEA/Eurydice, 2009; OECD, 2011).

The transversal competences, as well as other generic skills like creativity or problem solving, relate to more than one subject area and are more difficult to assess with traditional instruments. Therefore it is worth exploring what forms of assessment instruments are available for teachers to assess student progress in these fields. In most countries, a variety of subjects incorporate learning objectives or learning outcomes related to transversal competences. Consequently, student achievement in ICT, social and civic competences and entrepreneurship are assessed through the various subjects in which they are taught, whether they are stand-alone subjects or broader curriculum areas into which aspects of transversal competences have been integrated. In some cases, teachers of subjects in which social and civic competences are integrated are provided with assessment tools that specifically focus on the transversal competence.

What OECD confirms in its review (OECD, 2012) is that it seems likely that experiencing a learner-centred approach for themselves is likely to promote teachers' use of this approach in their own practices. Whether constructivist or transmissionist, a fundamental challenge is scaling up the practices from localities with high researcher involvement to systems as a whole with limited or no researcher involvement. However, if teachers who experience a constructivist approach have a better understanding of the underlying principles and benefits of assessing key competences, it positions them to become advocates for effective change.

Transversal competences call for new ways of learning and teaching which go beyond traditional subject boundaries. Corresponding assessment tools, which reflect student achievement acquired through different subjects, are necessary to evaluate the progress of students in these areas.

Findings

The first element of the current study encompasses the definition and organization of the assessment process at each of the SOCCES partner institutions.

The **University of Coventry** describes the above as follows:

University level Teaching Learning and Assessment Strategy 2011-15 places focus on five strands of activity: employability; research informed learning; digital fluency; internationalization; and student achievement.

Faculties implement locally their approach. For example within Engineering and Computing they take an Activity-Led learning approach.

University Assessment Strategy sets out regulatory framework for assessment, does not specify approach.

University regulatory framework is owned by Registry. Teachers develop the assessment with reference to these. Compliance is monitored by academic boards chaired by the Head of Department, and course approval panels (university Registrar and senior academics from the university). Students generally do not get involved in development other than course re-approval includes feedback from current students and graduates on their experience of the course as a whole.

Laurea University of Applied Sciences on the other hand states the following:

Laurea's degree regulations define the grading of study units. Competence evaluation is based on the objectives set in the curricula.

Laurea has defined common assessment criteria and generic working life competences for all curricula. Current criteria have been developed in 2009 and the whole process and methods will be renewed during the next year. Special emphasis will be on assessment of project-based learning.

Usually a task force is assigned for preparing the renewal; both lecturers and students participate in the work. Input for preparation is asked widely among lecturers.

Vice-President of Education and Regional Development is responsible for the assessment process at Laurea.

NHTV University of Applied Sciences defines it like this:

Assessment is competence-based and development-oriented: competences (behaviour that is based on knowledge, motivation, skills and personal characteristics) and standards of competence (in

authentic occupational situations) are tested with authentic assessments, which are linked to competences and are suitable for judging competences. The interaction and entire range of test forms provide an authentic competence-based assessment framework."

The above definition has been developed because of the existing NHTV assessment framework that gives guidelines that the assessment policy and assessment plan should meet, and which items should be described at least. Furthermore, the educational vision of the different departments is the starting-point of the assessment policy, and the educational concept provides input for the assessment policy and assessment plan (see the waterfall below). The study programmes in (International) Leisure Management and Master in Imagineering consider the assessment policy and the assessment plan to be two separate documents. The assessment policy describes all aspects of assessment that can be established for a longer period and the assessment plan describes all aspects that may change every year (if necessary). The assessment policy below describes, among other things, the vision of assessment, the intended assessment practice, various roles within assessment and quality assurance regarding assessment.

Educational advisers together with Management are in charge of the above. There are as well Competence groups that provide input and advice. Those groups consist of teachers. There is as well a Programme Committee, where students participate and provide input.

The Board of Examiners

The members of the board of examiners are appointed by the authoritative powers (Executive Board) on the recommendation of the programme director. The board of examiners accounts for their activities to the Executive Board. The tasks and authorities of the board of examiners are:

- Establishing guidelines and assessment norms
- Establishing rules that guarantee good common practice
- Establishing guidelines and directives within the framework of the Teaching and Examination Regulations to assess and establish the results of interim examinations and final exams.
- Being involved in formulating the assessment policy
- Being responsible for the quality of examinations
- Organising the certificate/diploma ceremonies
- Arranging and deciding on exemptions and compensatory issues
- Arranging and deciding in appeal cases
- Dealing with possible cases of fraud
- The board of examiners writes a report on its activities annually and submits this report to the Executive Board

The testing committee

The testing committee is a committee consisting of delegates from the board of examiners. The testing committee direct the organisation of the entire process of examinations and assesses the quality of the examinations submitted. They act within the context of the assessment policy and assessment plan, which are both set up by the testing committee in cooperation with the board of examiners, and are submitted to the management team for approval. Furthermore, they develop new assessment methods.

The testing committee consists of lecturers and an educational adviser. It reports to the board of examiners and the management team.

The tasks and authorities of the testing committee are:

- Checking and guaranteeing if the content and the level of assessment is in line with the stipulated policy.
- Checking and guaranteeing the results of interim examinations and final exams.
- Checking if the organisation of assessments runs according to the stipulated policy (time, location, surveillance).
- Assuring the quality of examinations/assessments or checking if they meet the quality standards as laid down in the assessment policy.
- Taking action if one of the above requirements has not been met

Staff member responsible for the assessment policy

The tasks and responsibilities of the person responsible for assessment policy are:

- formulating and executing the assessment policy and assessment plan fitting the AfL educational concept
- monitoring the relation of assessment and objectives with regard to content of the profile and the BOKS

The staff member responsible for assessment policy is chair of the testing committee. The chair of the testing committee attends the first part of every meeting of the board of examiners. The staff member responsible for assessment policy arranges the coordination with regard to processes with the management team, the team leaders, the study programme committee, board of examiners and the Exam Registrations Office.

The Exam Registrations Office

The Exam Registrations Office is responsible for the organisation and execution of assessment activities, and managing the materials and examinations taken. Execution and planning are described in the assessment plan. This plan serves as a guideline for organising the necessary activities. All assessment activities are carried out according to the assessment plan and within the

framework of the Teaching and Examination Regulations. The Exam Registrations Office reports to the chairman of the testing committee, who reports to the board of examiners and the management team.

Its tasks and authorities are:

- preparing test administration (planning, informing, making reservations, duplicating, checking, etc.
- coordinating the test administration (among other things, supervision of examinations being handed in)
- planning and organisation of marking (passing on examinations that have been handed in to the correct assessors, etc.)
- providing test details to the parties involved
- registering and managing materials and examinations taken
- managing an examinations repository

The study programme committee (supervising and advising in the field of Teaching and Examination Regulations)

The study programme committee is a legally required body. Lecturers and students participate in the study programme committee (50/50). The study programme committee reports to the study programme director.

Its tasks and authorities:

- Advising the study programme director about the Teaching and Examination Regulations before these are established.
- Judging the way of executing the Teaching and Examination Regulations on an annual basis; reporting to the study programme director
- Giving advice, on request or otherwise, with regard to the execution of the Teaching and Examination Regulations

The competence groups

The competence groups are responsible for developing the knowledge assessments with the attendant test matrices. The competence groups set the criteria of the professional products to be assessed, with which the student can prove to be competent in the relevant professional competence. The coordinator English and the coordinator Dutch determine the assessments of the various training courses and establish them in consultation with the testing committee.

The tasks and authorities with regard to content and design of the tests are:

- designing adequate tests within the set frameworks
- developing assessment models for the tests

- marking the tests taken
- adjusting the tests on the basis of both the results of the tests and the evaluation by the testing committee.

The University of Bologna discusses the assessment process in the following way:

Assessment occurs mainly on two levels:

- General assessment of quality that is provided by the University of Bologna's Internal Quality Assurance System

This assessment process aims to improve the quality of its Study Programmes.

The Internal Quality Assurance system aims to:

- guarantee that the quality of the teaching programmes is well documented, verifiable and assessable;
- facilitate access to information, making it clearer and more understandable for students, families and stakeholders in the employment world;
- promote a process of continuous improvement in Study Programmes.

The Internal Quality Assurance System regularly gathers and analyses important information – such as the number of students who graduate in line with the regular programme, or the employment situation of graduates - and based on this, plans concrete improvement actions. It is to all extents and purposes a self-assessment system.

From the point of view of courses and lectures the Quality Assurance System asks each student to assess each lecture they attend in order to express their satisfaction or dissatisfaction and provide suggestions and comments

- The second level of assessment concerns student's knowledge. Each study program has a series of examinations and a final exam.

Exams correspond to the lectures given, each lecture has a final exam to be passed in order to certify that the goals have been achieved. Each professor/lecturer is responsible for the assessment procedures and tools. Final examinations can be written, oral, more rarely consist in practical exercises. Lecturers/professor can also decide to plan intermediate as well as final assessment, this is less frequent. Each Faculty asks lecturers/professor to give a certain number of exams per semester and to make assessment procedure explicit to students. By the way each lecture/professor is free to choose assessment strategies and tools, of course the Dean supervise and intervene in case of problems/lacks.

Students cannot really intervene on this because the evaluation they can give to the lecture occurs before the final exam.

The final examination is open to students having passed all the exams/ obtained all the required credits in their specific curriculum path. The final examination generally consist in a final report that can be discussed or not, according to what has been decided by each School/Faculty.

The University of Montpellier argues that:

The settlement exam is proposed by the responsible of the degree to the Dean.
It is validated by the Faculty Board (professional, teachers, students, etc… representatives).
It is then validated by the University Board.

VTU explains the set-up of the assessment process as follows:

VTU is certified in ISO 9001-2008. There is a system for quality management. The assessment process is web-based and the students and teachers are participating in the development work.

The second part of the study looks into examples of curricula that are being analysed in terms of the existing assessment processes:

No	Partner Institution	Curricula addressed
1.	University of Coventry	Integrated Projects 1, 2, 3 & 4 for the following courses • MEng Civil Engineering • BEng Civil Engineering • BSc Civil Engineering • BSc Architetcural technology • BSc Architecture • BEng Building Services Engineering • BSc Building Surveying • BSc Construction Management • BSc Quantity Surveying and Commercial Management These are where we teach and assess our transferable work skills.
2.	Laurea University of Applied Sciences	Business Management /Liiketalous, Bachelor of Business Administration The scope of a Bachelor's degree in Business Administration is 210 credits, and it takes on average 3.5 years to complete.

		The degree studies at Laurea consists of core competence and complementary competence modules. Core competence modules impart competence that is part of the degree's compulsory requirements. Complementary modules make it possible to deepen or extend the knowledge. The scope of core competence modules is 30 credits. The modules contain the following types of studies: basic studies, professional studies, practical studies and a Bachelor's thesis. The remaining part of the degree consists of complementary competence modules. The scope of the complementary competence is 30 credits. The modules can be freely selected.
3.	NHTV University of Applied Sciences	There shall be two curricula addressed: - One Bachelor programme – International Leisure Management (taught in English) - One Master programme – Master in Imagineering (taught in English) We would like to address the above two so that we can see if and what similarities/differences there are and what kind of diversity there exists. **The International Leisure Management** English-taught professional bachelor's programme prepares the students for a career in the international leisure industry. In 3 or 4 years' time, they become professionals in this creative and dynamic industry. During this education they learn how to create memorable and meaningful experiences which contribute to a more beautiful world. The International Leisure Management programme is delivered thematically. This means that subjects such as economics, psychology, management, communication and market research are dealt with in

		content-related projects, rather than in separate topics. Examples of modules are: Project management, Leisure basics, Leisure direction, Event Organization, Imagineering and Marketing and Communication. The International Leisure Management programme is competence-oriented. A competence is a mix of knowledge, attitude and skills. If you take a look at job vacancies, you will see a large number of competences mentioned, we aim to help you to develop these. The course emphasizes building knowledge, then work on applying it in projects. In the skills training sessions you learn how to apply the appropriate attitude and skills. At the beginning of each term, you work on a new assignment requested by real clients. In a project team of four to eight students you work on this real-life problem to develop your competences. **Master in Imagineering** In a creative economy there is a growing need for high level professionals who can create and innovate value from the experience perspective. This English-taught master's programme in Imagineering is designed as a methodology for that new 'outside-in enterprise logic'. Imagineering, value creation and value innovation from the experience perspective is a new approach towards the trinity of branding. It is a way to discover a new kind of convergence between consumers' desires, technological capabilities and organisational innovations. Imagineering, value creation and value innovation are the fundamental processes of the creative economy. They are methods of finding 'a blue ocean of uncontested market space' - a space that inspires stakeholders to co-create.

		The Master's programme in Imagineering focuses on the specific concept of designing for organizational emergence using the imagination to involve other stakeholders as co-designers of the future. The Master's programme offers you a deeper theoretical insight in issues of organizational design in the context of enterprise logic transformation. It enables you to develop analytical, pro-active, problem-solving attitudes and design-skills towards these issues. Next to this, you develop knowledge and skills required to design and implement professional advice in an organizational and cross-cultural setting. Further, expertise to innovate, participate and lead processes of collaboration, creativity, and emergence are built and strengthened through this master's programme in Imagineering. This master's programme has been set up to educate business innovation oriented students to become Imagineering experts who: understand conditions in which organizations may require a design intervention; increase awareness of multiple ways for orchestrating organizational development; develop the personal competences needed to design an imaginative narrative for adaptive management; reflexively understand their own approaches and responses to development; increase their effectiveness as a designer in dealing with multiple aspects of organizational (and societal) development.
4.	University of Bologna	Second cycle degree/Two year Master in Management engineering The 2nd cycle degree programme in Management Engineering specifically aims to produce professional figures who are able to cover management roles with high levels of organisational responsibility which

		demand technological knowledge combines with a solid background in economics and the various aspects of business management. Graduates in Management Engineering have in-depth knowledge of the specific subjects of this class, particularly in the fields of processing technologies and systems, industrial systems, business organisation and management, automation systems and processes. The career opportunities for management engineering graduates in particular include roles which require specific skills in managing complex problems characterised by technological constraints and opportunities through the application of advanced economic and management tools and skills, with particular focus on situations in which physical, financial and human resources need to be optimised in highly complex conditions, assuring quality as well as product and process safety, analysing the problems linked to the environmental impact and constraints, examining the opportunity to adopt new technologies assessing the organisational and competitive aspects.
5.	University of Montpellier	Socces could address the curriculum of the licence (Bachelor) degree of Hospitality and Tourism Management. One of the Team member is responsible of this degree in face-to-face and the other is responsible of this degree in e-learning. This Bachelor Degree prepares students to enter the professional world as managers with a strategic and operational approach. It combines management theory, professional internships and a business specialization.
6.	VTU	Computer Science Bachelor degree

		8 semesters On graduating the specialty "Computer Science" the students should be qualified specialists that are able to develop and support computer-based systems for the science, technologies and business in the new century. They will be able to design, develop, apply and support the computer systems and the information and communication technologies. The students will have theoretical knowledge in the area of: the computer science's concepts and the theory; the computer-based systems and network design; the usage of appropriate design theories; the application of the computer science. They will be able to work with office applications; to design applied and system software; to assess the developed systems; to program with object-oriented, logical and Internet-oriented languages; to operate effectively with the computer hardware; to use the network technologies; to manage projects and to work in team. The students will be well prepared in English or other foreign languages. The curriculum is balanced according to the lectures and seminars, as accent is put on the practice. The system for receiving and transferring credits is also included. The students have the opportunity to continue their education in master or PhD degrees.

The third element of the study relates to the assessment process within the above presented curricula – what it consists of and what type of documents there are for its implementation. The SOCCES partner institutions have stated the following:

No	SOCCES Partner institution	Assessment process
1.	University of Coventry	The Programme Specification defines the generalized learning outcomes. The module descriptor defines the subject-specific learning outcomes which are derived from the

		programme specification learning outcomes. The assessment tasks within the module descriptor are developed to assess the module learning outcomes, which meet the programme learning outcomes. These are moderated internally by another academic and by the external examiner for the course. The assignment brief defines the task and how the assessment will be done.
2.	Laurea University of Applied Sciences	According to the curriculum: “In the curriculum, the learning outcomes are described as the learner's actions, so that the development of competence can be assessed with reference to the set goals. Competence is identified as knowledge, skills and values related competence as well as experiential competence that includes the competence of an individual and a community. The competence descriptions in the curriculum draw on Bloom's taxonomy, where the development of competence is described at six different levels: knowledge, comprehension, application, analysis, synthesis and evaluation/creativity. Following Laurea's LbD model, it is expected that the learner's competence will develop from the level of application to the level of creativity in the course of the education. Laurea's description of shared general criteria for workplace competence is based on the National Quality Framework. General workplace competence (table attached) develops as the students complete modules and study units and participate in projects. Study units are graded on a scale of 0 to 5, as follows: 5 (Excellent), 4 (Good), 3 (Good),

		2 (Satisfactory), 1 (Satisfactory) and 0 (Fail). Some study units, study unit elements or parts can also be graded simply as Pass/Fail (H/0). The students will be informed of the criteria for assessing competence at the beginning of each study unit/project. In the planning of the assessment, shared assessment criteria applicable to initial stage and graduation stage students are utilized, with shared descriptions (table attached) for levels 1, 3 and 5. The assessments draw on the students' self and peer assessments and the assessments of employer representatives. The students can also avail themselves of recognition of prior learning (RPL). Assessment helps the students to monitor the development of their competence and the achievement of their personal goals in relation to the competence requirements set for the degree.”
3.	NHTV University of Applied Sciences	In competence-based education, assessment focuses on knowledge, skills and attitude, which form the foundation of a competence and on the development of competences as an entirety. In assessments, a distinction can be made in: - subject-specific knowledge and skills students should have after a certain period - generic skills which are developed in the course of the study programme during various study components; these skills are not linked to a certain period or a certain study component - acting professionally in occupational situations (simulated or not) - development of competences: in the way in which the student acts competently in situations and

		contexts that are characteristic of and critical for the profession As far as the first two points are concerned, the various building blocks of a competence or several competences are paid attention to. In points 3 and 4, acting professionally and development of competences as an entirety, the level of taking action is considered. Mainly the competences as an entirety are focused on and a 'final level' to be achieved. The real level of the student will be measured against this final level. Acting professionally will be assessed within a specific context and a specific problem (for example, within projects). When assessing the development of competences as an entirety the assessor takes a much 'wider' view: he will have himself persuaded by the student that he acts competently in all relevant situations. It is important to choose the correct type of assessment for the material to be developed, and what should be assessed. Some types of assessment are suitable for several applications. A project assignment, for example, can assess, apart from acting professionally, certain skills as well. An overall test assesses only knowledge and applying this knowledge. Yes, there is a Testing policy and an Assessment plan.
4.	University of Bologna	Concerning Quality Assurance all the procedure refer to the document "Standards and Guidelines for Quality Assurance in the European Higher Education Area. Concerning students' assessment learning goals are formally and institutionally fixed and defined. Each course publishes in the related website all the information concerning exams goals. Exams programs and assessment strategies are defined by each lecturer/professor and published in the lecture's

		website. The criteria for final examination is fixed by each School/Faculty and published in the course's website.
5.	University of Montpellier	It describes : • general principles of ECTS • degree, semester, academic unit rules of validation • assessment process for each academic unity
6.	VTU	1. Development of project requirements; 2. Presentation of good and bad practices; 3. Evaluation of the developed and presented projects.

The fourth and fifth aspects discuss the types of and the reasons behind assessment methods used in courses, where transferable competences are part of, selected out of the curricula presented above.

No	**SOCCES Partner institution**	**Assessment methods/tools in courses selected**
1.	University of Coventry	Methods Integrated projects level 1-4. Level 1 - 105CAB Integrated Projects 1 Formative assessment is used on initial exercises to give direction to students and remove pressure of a mark. Summative exercises combine aspects of formative tasks and are designed to enable the students to learn from their feedback on the formative tasks. E.g. Initial skills audit (formative) and Personal Development Action Plan – which includes a personal reflection on how their skills have changed during the year (summative). Level 2 - 200CAB Integrated Projects 2 Formative assessment used to reflect on prior performance at level 1. On-line quizzes to test technical knowledge delivered via a 'flipped approach'

		Action Plan for continuous personal development and personal reflection Summative group submission Level 3 - 300CAB Integrated Project 3 Completely summative covering teamwork skills and individual technical output. Assessment includes presentations, simulation work, posters and technical reports/drawings. Level 4 - M35CAB Integrated Project 4 A mixture of formative and summative. <u>Tools</u> 105CAB Integrated Projects 1 Rubrics – to get better consistency in assessment by the 10+ personal/group tutors who assess the student's work. Online VLE (Moodle) – submission of technical research report via Turnitin and raise awareness of anti-plagiarism system. Peer-review of draft reports and short writing tasks – develop learning from others and giving constructive feedback. Peer-moderated assessment (weighting of group marks by students to determine individual marks – we use WebPA system). This is to develop reward of individual effort, constructive feedback, personal ethics. 200CAB Integrated Projects 2 Rubrics - as above, Online VLE (Moodle) – submission of individual refection and on-line quizzes. peer feedback for personal reflection. 300CAB Integrated Project 3 All work submitted via on-line (Moodle). However, all work presented prior to submission in 2 presentations and a simulation group meeting which is assessed.

		Peer assessment used for all group aspects. M35CAB Group Project: Online forum – formative Mentoring by practicing engineers for preliminary design – summative WebPA peer assessment – summative
2.	Laurea University of Applied Sciences	Example 1 Assessment of study unit A9275 Development towards Professional Expertise and Interaction (10 cr) Grading 0 – 5, all sections need to be passed. The final grade is based on the following sections and tasks: - Communication 30 % Self-assessment (individual): pass/fail Business writing (team): 0-5 (15%) Essay (individual, peer-evaluation): 0-5 (50%) Writing test (individual): 0-5 (15%) Presentation (individual): 0-5 (20%) - Developmental approach + methods 30 % Method report (individual): 0-5 (25%) Method exercise 2 (team): pass/fail Method exercise 3 (team): pass/fail Research Report (team): 0-5 (75%) Presentation of results (team): pass/fail - Project 20 % Team building discussion (team): pass/fail Project plan exercise (individual): pass/fail Project Plan (team): 0-5 (50 %) Project and teamwork evaluation (individual, self & peer-evaluation): 0-5 (50 %) - Office workshop 20% 4 exercises (individual): pass/fail Test (individual): 0-5 (100%) - Business information systems and IT security:

		pass/fail Essay (individual): pass/fail - Information search: pass/fail Lecture: pass/fail Example 2 Assessment of study unit Creating Innovations through Service Design, 10 cr Process steps to be passed before continuing (stage gate process, pass/fail) 1 Theoretical background and prior experience (individual report) - report (individual): pass/fail 2 Project plan (team) 3 Introduction of topic and user analysis (team) 4 Idea generation and selection (team) 5 Visualization (team) 6 Service concept (team) 7 Presentation, sales pitch (team) 8 Final report (team) 9 Evaluation and feedback of the process (individual) - 360 evaluation (self and peer-evaluation, intermediate and final) (see attached sheme) - feedback to tutors - learning diary (reflection during the process) Final grade of the course is based on the whole process and is given individually, assessment is focused on the following issues: - Innovativeness and usefulness - Development of competence and networks - R&D process and methods
3.	NHTV University of Applied Sciences	Creative Leadership Assessment methods: 4.1 General information assessment Creative

		Leadership In week 5 of the term you will participate in a special team exercise and meeting. Based on the recordings of this meeting you are going to write a reflection report which you need to submit in week . Instructions for the exercise and the final assignment will be handed out immediately prior to the session. 4.2 Assessment criteria Your assessor will take the following criteria into account, while assessing your reflection report. Bear in mind that you are not asked to describe what happened during the meeting. The overall goal is to get insight in teamwork and based on this analysis you will be able to improve your communication and collaboration skills. Creative Leadership Assessment tools Based on the recording session To which extent is the student able to analyse what his/her individual contribution is to the team process, performance and development? To which extent is the student able to: • reflect on his/her communication and collaboration skills in relation to the cooperation process • formulate alternatives regarding communication and collaboration skills in order to achieve a more effective cooperation within the team. To which extent can the student analyse whether or not the final drawing and the divided tasks reflect how the team performed during term A? To which extent is the student able to make a reflective judgment on the team performance and formulate personal learning goals for the future?

		To which extent is the student able to link the observations and conclusions to the actual team work of his/her project group (project IMA term A)? Video (the design and recording session) In what way have you tried to make this video as fitting as possible for your target audience? Try to relate this to the sector where you would like to apply for a placement so relate the video set up to your sector analysis. Describe all six persuasion tools and explain which you have used and why and which you haven't used and why not. How effective do you consider your video related to Placement Preparation. Do you think your video is persuasive? If yes, why? If not, why not? How have you linked the video to your strengths and you objectives? Does de video give a clear picture of who you are as a young professional? What have you learned from designing and recording your video? To tackle the assignment "make a video about YOU" , where and how did you start in the KOLB cycle, how did you continue. Fill in all 4 stages of the cycle in your case. (KOLB cycle page 5 of this manual) APPP Is your action plan realistic and concrete. (measurable results, time-bounded and concrete actions) Do you have a clear and concrete network strategy Do you have a clear view on what you can bring and what you could learn during a placement within the sector of your preference (sector analysis and interview) Presentation

		Is the presentation professional and attractive. The opinion of your classmates is taken into account Overall critical reflection Evaluate on the total design process of your video (planning, concept and final product) what went right and where is room for improvement Evaluate the design of Creative Leadership Term B. We see feed-back as a start to improve CL.
4.	University of Bologna	Second cycle degree/Two year Master in Engineering Management. Again Each professor/lecturer is responsible for the assessment procedures and tools. Final examinations can be written, oral, more rarely consist in practical exercises. Lecturers/professor can also decide to plan intermediate as well as final assessment, this is less frequent. Each lecture/professor is free to choose assessment strategies and tools, of course the Dean supervise and intervene in case of problems/lacks. In this course the final examination (of course open to students having passed all the exams/ obtained all the required credits) comprises an important design or research project; the activity must be completed by a dissertation with original contents which demonstrate autonomy, command of the cultural tools inherent in management engineering and the communication skills of the candidate. The dissertation must relate to a topic which is coherent with the learning outcomes of the 2nd cycle degree programme. The 2nd cycle dissertation is presented in public before the degree programme examination board. In the Second cycle degree/Two year Master in Engineering Management, compared to other courses, in addition to classical written and oral examinations focused on contents assessment procedures often

		include: - business plan (planning and presentation) - case studies - problem solving - testimonials
5.	University of Montpellier	Course : Portfolio of skills and experiments Assessment methods : Formative This course doesn't give ECTS. Assessments Tools : teacher or professionals feedback, peer-reviews
6.	VTU	The course titles are "Project management" and "Working in team. Methods: - Oral exam; - Test; - Defending of the developed projects. Tools: - Online platforms; - Feedback.

The sixth element of the study explores whether and how lecturers/supervisors are trained to apply the assessment in practice, regarding the course above and/or in general.

The University of Coventry has adopted the following procedure:

Level 1-3 Tutor briefings, tutor versions of activity sheets and emailed instructions. Q&A support available from course leader as and when required. Level 4 The practicing engineers are not trained. They have a 15 minute briefing session regarding the assessment criteria. They have supervision experience for both graduates and undergraduates. They also provide written feedback to students so that students understand concerns from the view of an employer.

Laurea University of Applied Sciences describes the organization as follows:

New lecturers are trained to the LbD assessment process and practices during the job orientation phase. Best practices are spread during the development days and team meetings. New assessment

tools are introduced as part of pedagogical training program. New methods and tools also spread effectively via personal contacts.

NHTV University of Applied Sciences explains that there are annual workshops as well as didactic courses, which are compulsory. Every lecturer/supervisor has to be aware of the existing documents and apply the respective procedures.

University of Bologna states that the lecturers/supervisors are not specifically trained on this topic as well as in teaching and learning methodologies.

The lecturers/supervisors are not specifically being trained into organizing and applying the assessment procedures at the **University of Montpellier**.

VTU states that the training and application procedure for lecturers and supervisors is fixed in the syllabus of the course.

The seventh aspect of the study entails how the students at the SOCCES partner institutions are being informed about the assessment process/ methods in relation to a respective course and/or an entire curriculum.

No	SOCCES Partner institution	Way(s) of informing the students about the assessment process/methods
1.	University of Coventry	The assessment process / methods and criteria are stated in the coursework brief. It's a standard part of the assessment brief – the grading criteria (what's expected in a good" answer) and marking scheme (the weighting of the components of the task that combine to give the overall mark).
2.	Laurea University of Applied Sciences	General assessment principles in LbD are described in the curriculum and introduced during the first weeks of studies. They are also included in the description of the curricula and degree regulation. In the beginning of each study unit the specific assessment procedure, assessment criteria and the parts to be assessed are introduced and discussed.
3.	NHTV University of Applied Sciences	There is a document for each and every (Bachelor or Master) programme, called Teaching and Examination Regulations and this one is provided to the student at the very start of the education.

		Moreover there are sessions together with the Exam Committee and the Educational advisers on that. There are also directions on n@tschool - the learning environment used at the NHTV.
4.	University of Bologna	By each professor that inform them face to face and via the website.
5.	University of Montpellier	By the settlement exam and by the lecturers
6.	VTU	This is fixed in the syllabus and each teacher informs the students in the beginning of the semester.

The last (eight) aspect of the study refers to the time span of and the reasons behind improving and evaluating assessment processes/methods at the SOCCES partner institutions. The information provided shows as follows:

No	**SOCCES Partner institution**	**Assessment process/methods improvement and evaluation – when and why?**
1.	University of Coventry	Modules and assessment tasks annually through the moderation process. Degree on a six year cycle, sometimes earlier if perceived need.
2.	Laurea University of Applied Sciences	The main principles are renewed infrequently. The reason may be external harmonization need or regulation or internal change in organization or processes or simply the revision of the curriculum. Detailed practices change more often. We apply continuous improvement principle. This means that we collect feedback from students and (lectures) self-evaluation after each course. This feedback mainly contributes to the planning of next courses.
3.	NHTV University of Applied Sciences	The assessment processes/methods are being improved annually as well as evaluated. The mission of the Executive Board of NHTV is that we are continuously developing, including the voice of lecturers and students in the process, so any valuable comment regarding development or any new procedure/legislation emerging, are being introduced

		into the revisions.
4.	University of Bologna	Every year by Quality Assurance report or every time lecturers/professors decide they need to improve their own assessment practices.
5.	University of Montpellier	Every year
6.	VTU	The assessment processes are being improved every time according to the requirements and remarks of the audit institutions. The audits are planned for each year.

Conclusions and Remarks

Based on the study conducted there have been identified two major issues. Firstly, when learning outcomes are over-specified, holistic competences are reduced to atomised tasks. Teaching, learning and assessment is then characterised by the following of scripts provided by long check lists of actions and behaviours. However, competence-based education should be 'more than an effort to describe or list educational and behavioural objectives'. Rather, when competences are specified, it should be the case that 'the whole is greater than the sum of the parts' (Council on Education for Public Health, 2011, Competences and Learning Objectives. Washington, p.1). Secondly, the need for assessment to be relevant to complex contexts, including occupational contexts and social contexts more generally, means that assessors need to be able to exercise their judgement in any given set of circumstances (Cedefop, 2010). In other words, they operate with a complex, internalised, and holistic model-not a simple set of descriptors lifted from a printed set of performance indicators.

Thus the study shows that rather than a single acceptable outcome, performance can be demonstrated in different ways in different contexts according to individual attributes (all partner institutions). Training and development for a shared understanding and consensus amongst assessors therefore seems essential. In this way, outcome specification and assessor judgement can be balanced to ensure the validity (and reliability) of assessments.

The precise balance between specification of learning outcomes and the judgement of assessors will also partly depend on the assessment purpose. Thus the learning outcomes for summative assessment for a qualification will be more tightly specified than the learning outcomes for formative assessment within the university curriculum. Regardless of the degree of specification, it should be possible to trace the outcomes back to the broad domains defined in the European Reference Framework, or in national documents, and their holistic view of learning.

It has been clearly identified that students gear their learning behaviour to the assessment method used. The way in which tests are carried out in education directs what a student learns and how a student learns to a great extent. As the SOCCES partner institutions argue – objectives will only be achieved in competence-based education if the assessment forms and teaching are adjusted to it. The student's development of competences will be hindered if competence-based education is assessed by means of traditional types of assessment.

Another remark to be made is that the focus is on a development-oriented approach of learning and testing. Assessment supports learning, and learning supports assessment.

Competence-based assessment means that professional behaviour is tested in a realistic context as well as the underlying knowledge and skills pertaining to that behaviour.

All institutions confirm that assessment has two functions in competence-based education, that is, formative assessment and summative assessment. Formative assessment steers the learning process to an important extent. Formative assessment provides students with important information about their competence development. Students may make mistakes without being penalised. Formative assessment can take different forms such as feedback or diagnostic testing. Summative assessment is the second function of assessment. Summative assessment is the assessment with which it is indicated that the student is competent at a certain level and, as a result, earns credits. Both functions are being used by the partners and identified as such when discussing assessment of transversal competences.

What can also be noted based on the study among the educational institutions is that the learning process is not only directed by summative assessment. The study even shows that summative assessment provides limited steering of the learning process. Especially formative assessment influences students' learning behaviour to a large extent. Formative assessment is assessment oriented on developing competences without attaching a mark and credits although it is important to have a "score" realised. Formative assessment can be set up in various ways, for example, peer feedback, diagnostic testing, interim feedback given by experts, use of learning tasks, etc.

Apart from the functions of assessment, some three general characteristics of competence-based assessment can be distinguished based on the study conducted:

- development-oriented assessment of competences
- multiform assessment. A competence consists of many facets, and this requires several methods and angles, a method mix
- repeated assessment. A single measurement cannot determine whether a level of competence has been achieved.

Each competence consists of invisible layers such as personal characteristics, knowledge and skills, motivation and views. Students' competences will not be visible until they display their behaviour in an authentic professional context. Assessment will have to focus on both behaviour, acting adequately in an occupational situation with the body of knowledge needed for it and reflecting on own actions, own views and accounting for them.

Competence-based assessment as it is seen as a result of the study is executed in many ways. It appears from the above that the core of assessments is that the relevant department checks in which way a student acts in practice, to what extent a student is capable of reflecting on his/her own actions and steering his/her own development, and to what extent a student masters theoretical models.

“Using a method mix in assessment is essential to compensate for strengths and weaknesses of tests in reliability and validity. As such, there is no ‘best method’. All types of test have a weak link that affects the validity of conclusions on the student’s qualities. Since the various methods do not all have the weakest link in the same place, a method mix should be preferred (OECD, 2001).”

In competence-based, project-based, as well as learning by growth education, assessment focuses on knowledge, skills and attitude, which form the foundation of a competence and on the development of competences as an entirety. In the assessment frameworks analyzed, a distinction can be made in:

- ❖subject-specific knowledge and skills students should have after a certain period
- ❖generic skills which are developed in the course of the study programme during various study components; these skills are not linked to a certain period or a certain study component
- ❖acting professionally in occupational situations (simulated or not)
- ❖development of competences: in the way in which the student acts competently in situations and contexts that are characteristic of and critical for the profession

As far as the first two points are concerned, the various building blocks of a competence or several competences are paid attention to. The real level of the student will be measured against this final level. Acting professionally will be assessed within a specific context and a specific problem (for example, within projects). When assessing the development of competences as an entirety the assessor takes a much ‘wider’ view: he or she will have him/herself persuaded by the student that he or she acts competently in all relevant situations.

The SOCCES partners also state that is important to choose the correct type of assessment for the material to be developed, and what should be assessed. Some types of assessment are suitable for several applications. A project assignment, for example, can assess, apart from acting professionally, certain skills as well. An overall test assesses only knowledge and applying this knowledge. The diagram below shows examples of several types of assessment that can be applied to various aspects to be developed:

knowledge	skill	attitude	acting professionally	competences
oral test	demonstrations	Reflection	project assignment	portfolio
essay	presentations	report	work placement	portfolio
short answer test	project	Work	assignment	assessment
add and fill-in	assignments	theory	practical assignment	criterion-oriented
questions			self-assessment	interview

multiple-choice questions right-wrong questions correct/incorrect questions			peer assessment 360° feedback behaviour assessment company simulation graduation thesis	performance assessment

The study also confirms that using a method mix in assessment is essential to compensate for strengths and weaknesses of tests in reliability and validity. As such, there is no ‘best method. “All types of test have a weak link that affects the validity of conclusions on the student’s qualities. Since the various methods do not all have the weakest link in the same place, a method mix should be preferred (Straetmans, 2001).”

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Annex 1Questionnaire

Current assessment processes at SOCCES Partner institutions

What is Assessment in education?

In education, the term assessment refers to the wide variety of methods that educators use to evaluate, measure, and document the academic readiness, learning progress, and skill acquisition of students from preschool through college and adulthood.

Target

This questionnaire has the objective to analyze the current assessment processes in selected curricula at the SOCCES partner institutions - Coventry University, Laurea University of Applied Sciences, University of Bologna, University of Montpellier, VTU, NHTV University.

The information needs to be collected, consulted and gathered by the SOCCES project team at the respective university and can be consulted with other colleagues, teachers, administration and management of the respective university.

No	Issue	Information
	Name of the Partner Institution	
1.	How is the assessment process defined and organized as such at your Institution and why? Who is in charge of the above? Do teachers and students participate in the development work and if yes, how?	
2.	Which curricula in your university shall be reviewed for defining the current assessment processes and why?	
3.	What does the assessment process within the given curricula consist of, are there any specific documents related to the above? Please provide a description and define the steps if any.	
4.	Please if possible select a course out of the curriculum where	

	transferable competences are being part of - which assessment methods (summative/formative) are being used in this course and why?	
5.	Please if possible select a course out of the curriculum where transferable competences are being part of - which assessment tools (for example rubrics, online platforms, feedback, peer-reviews) are being used in this course and why?	
6.	How are lecturers/supervisors trained to apply the assessment in practice, regarding the course above and/or in general?	
7.	How are students informed about the assessment process/ methods in relation to a respective course and/or an entire curriculum?	
8.	How often are the assessment processes/methods being improved and evaluated and why?	

Annex 2 Key terms

1. *Transferable skills* (European Framework ANC 2006/962/EC) - Transferable Skills are skills that can be transferred from one job to another. They are sometimes also called generic, soft or employment skills. You can learn these skills at school, on a sports team or at home and then transfer them to a career. These skills are used and developed in all areas of your life.
2. *Competence* (OECD, 2005) - A competence is more than just knowledge and skills. It involves the ability to meet complex demands, by drawing on and mobilizing psychosocial resources (including skills and attitudes) in a particular context. For example, the ability to communicate effectively is a competence that may draw on an individual's knowledge of language, practical IT skills and attitudes towards those with whom he or she is communicating.

   (TRACE project, 2005): Based on the examination of published literature from France, the United Kingdom, Germany and the United States of America, the following composite definition of competence is offered. Competence includes: i) cognitive competence involving the use of theory and concepts, as well as informal tacit knowledge gained experientially; ii) functional competence (skills or know-how), those things that a person should be able to do when they are functioning in a given area of work, learning or social activity; iii) personal competence involving knowing how to conduct oneself in a specific situation; and iv) ethical competence involving the possession of certain personal and professional values.

   The concept is thus used in an integrative manner; as an expression of the ability of individuals to combine – in a self-directed way, tacitly or explicitly and in a particular context – the different elements of knowledge and skills they possess. The aspect of self-direction is critical to the concept as this provides a basis for distinguishing between different levels of competence. Acquiring a certain level of competence can be seen as the ability of an individual to use and combine his or her knowledge, skills and wider competences according to the varying requirements posed by a particular context, a situation or a problem. Put another way, the ability of an individual to deal with complexity, unpredictability and change defines/determines his or her level of competence.
3. *Key competences* - The DeSeCo Project's (2003) conceptual framework for key competences classifies such competences in three broad categories. First, individuals need to be able to use a wide range of tools for interacting effectively with the environment: both physical ones such as information technology and socio-cultural ones such as the use

of language. They need to understand such tools well enough to adapt them for their own purposes – to use tools interactively. Second, in an increasingly interdependent world, individuals need to be able to engage with others, and since they will encounter people from a range of backgrounds, it is important that they are able to interact in heterogeneous groups. Third, individuals need to be able to take responsibility for managing their own lives, situate their lives in the broader social context and act autonomously.

Each key competence must:

- ❖ Contribute to valued outcomes for societies and individuals;
- ❖ Help individuals meet important demands in a wide variety of contexts; and
- ❖ Be important not just for specialists but for all individuals

4. *Transversal skills and competences* (OECD, 2006): The skills and competences individuals have which are relevant to jobs and occupations other than the ones they currently have or have recently had. These skills and competences may also have been acquired through non-work or leisure activities or through participation in education or training. More generally, these are skills and competences which have been learned in one context or to master a special situation/problem and can be transferred to another context.
5. *Assessment process* (National Academy for Academic Leadership, 2012): Assessment is a process of determining "what is." Assessment provides faculty members, administrators, trustees, and others with evidence, numerical or otherwise, from which they can develop useful information about their students, institutions, programs, and courses and also about themselves. This information can help them make effectual decisions about student learning and development, professional effectiveness, and program quality.

Annex 3 Glossary of Terms *(Education and Training 2020 Work programme Thematic Working Group 'Assessment of Key Competences' Literature review, Glossary and examples, November, 2012)*

1. Assessment

Inferences about an individuals' knowledge, skills, attitudes or other capabilities with reference to pre-defined criteria and using one or more assessment methods such as tests, observations, interviews, projects or portfolios. Gipps (1994); Mislevy (1994); Cedefop (2008)

2. Competence

A combination of knowledge, skills and attitudes applied appropriately to a context in order to achieve a desired outcome. OJEU (2006)

3. Curriculum

The entire learning experience planned on the basis of aims, values, intentions,
resources, relationships and activities in formal or informal settings. Cedefop (2010) QCDA (2008); Kelly (2009)

4. E-assessment

Assessment using information and communication technology to present information and record responses. Busuttil-Reynaud and Winkley (2006)

5. Evaluation

(The process of making) a systematic judgement about the value of objects, processes or outcomes with reference to explicit criteria and one or more sources of information. Education evaluation often refers to education systems, institutions or programmes. One source of information may be assessment, typically with results aggregated across a population. Harlen (2007); Newton (2007)

6. Formative assessment

Or 'assessment for learning' refers to the use of assessments to inform teaching and learning during a period of instruction. Black and Wiliam (2003)

7. Key competences

The competences identified as necessary for personal fulfilment, active citizenship, social cohesion and employability through lifelong learning in a knowledge society. OJEU (2006)

8. Learning outcomes

Statements of what a learner should know or be able to do or be as result of a process of learning (as a opposed to statements of learning inputs such as duration, location and method). Leney, Gordon et al. (2008); Cedefop (2011b)

9. Peer assessment

Assessment of a learner's work by a fellow learner with reference to the intended learning outcomes. Boud (1995); Busuttil-Reynaud and Winkley (2006)

10. Performance-based assessment

'Authentic' assessment using 'real-world' tasks such as collaborative problem-solving exhibitions, experiments, group work, interviews, plays, presentations, projects and role plays. The assessment may involve the use of listening and observation or portfolios and diaries. However, the term is sometimes used with reference to open-ended tasks in tests and contrasted with multiple-choice tests.

Firestone, Mayrowetz et al. (1998); Darling-Hammond and Snyder (2000); Looney (2011)

11. Portfolio

A series of entries compiled over a period of time, intended to be representative of a learner's progress in relation to a set of learning outcomes or to showcase work identified as their best. Simon and Forgette-Giroux (2000); Busuttil-Reynaud and Winkley (2006)

12. Reliability

The extent to which an assessment, if repeated under similar conditions, would achieve the same result. Harlen (2007)

13. Self-assessment

With varying support from others, an individual (or group) identifying learning outcomes and making judgements about the extent to which their learning achieves these outcomes. Boud (1995)

14. Standardised tests

Tests that are developed, administered, scored and graded according to uniform procedures designed to ensure consistent outcomes that can be meaningfully compared across a population. Morris (2011)

15. Summative assessment

Or 'assessment of learning' refers to the use of assessments to summarise an individual's learning at the end of a period of instruction. Black and Wiliam (2003)

16. Validity

Comprehensively, the degree to which empirical evidence and theoretical rationales support the adequacy and appropriateness of inferences and actions based on information resulting from assessments. Messick (1989)

More narrowly, the extent to which the intended construct is assessed (or underrepresented, or the extent to which an unintended construct is assessed instead). Gipps (1994); Wiliam and Black (1996)

Annex 4 Ideation workshop outcomes: staff, student and business experience

Report on EU café workshop

Helsinki July 2015-07-02

This session at the EU café was focused on staff experiences assessing transversal competences. The table was given the following prompt questions:

> *What are/is your best/greatest experience(s)/challenge(s) as a lecturer/assessor of transversal competences and why?*
>
> *What are the most fascinating outcomes you have observed while using technology, virtual platforms, etc. when lecturing and/or assessing transversal competences and why?*

In considering these prompt questions the discussion, across the three groups, followed an evolution from the issues involved in assessing transversal competences to developing an outline idea as to how this might be supported. The notes below reflect the evolution of the discussion.

Process vs Product

The discussion highlighted how current assessment practices tend to focus on outputs from activities rather than the learning processes that are developed whilst working on the creation/production of the output: process vs. product. Assessing the product cannot be seen as a good measure of transversal skills. So it was recognised that many activities are set-up to develop transversal skills it is a challenge to make these explicit and visible and assess them.

The discussion also highlighted the importance of formative assessment in the development of transversal competences. Formative feedback could come from a number of sources, self, peers, teacher and employer. All were important though self-assessment is important for future employability.

The challenge of assessing transversal competences was also linked to their being no clear definition and linked to that no clear criteria that could be used to support the assessment process.

The discussion shared examples of how greater emphasis could be placed upon the process; these included using portfolio type assessments that assessed reflection on the process rather than the product and use of technology tools that allow for peer-review in team-based activities. For the latter concern was expressed as to whether students were able to effectively and objectively evaluate the work of their peers.

Thresholds

Having identified challenges associated with the assessment of transversal competences the discussion developed onto identifying potential solutions that could assist. The discussion identified the need for thresholds that could be used, providing a framework for assessment. Such a framework would need to recognise different contexts and cultural differences.

This discussion started to suggest having a defined framework that would provide a basis for assessing competences, but a framework that could be individually owned and used to help demonstrate and reflect development. The latter was considered important in helping make explicit competences to demonstrate employability.

Two suggestions were proposed for how the framework could be represented and used. The first (Table 1) is a simple table in which each transversal competence has identified level criteria statements providing a baseline for use and interpretation.

Competency	Level 1	Level 2	Level 3
Critical thinking / Problem solving			
Creativity & Innovation			
Team-work and collaboration			
Communication			
Initiative			
Risk assessment			
Project management			
Constructive management of feelings			

It was also proposed this could be represented as a 'web/radar diagram' (see Fig 1) , which could be used as a self-assessment tool to show development.

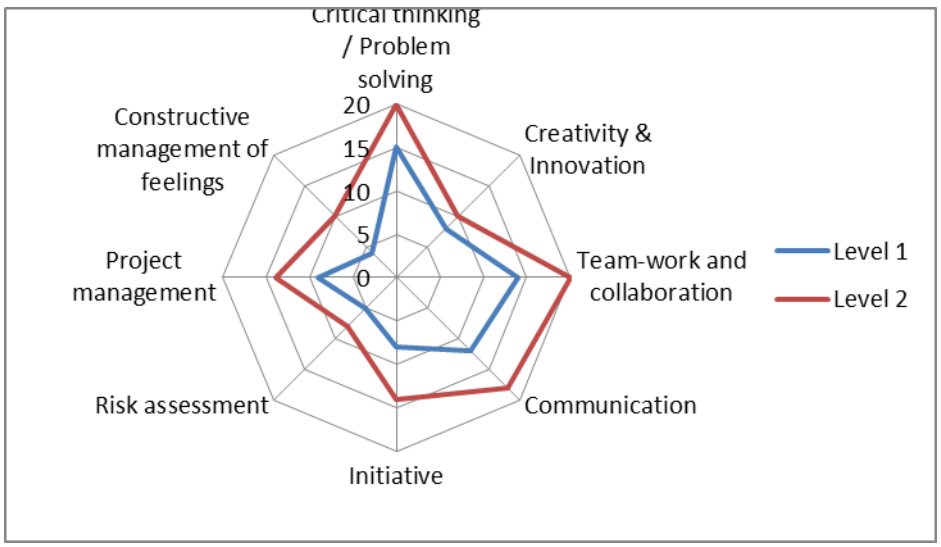


Fig 1

The discussion also highlighted the importance of having case studies available that would help illustrate the application of such a framework.

Report on EU café workshop

Helsinki July 2015-07-02

The EU café was dedicated to answering the following question:

> *Imagine that a student was to describe the advantages and the possibilities of teaching and assessing Entrepreneurship and Sense of Initiative as well as Social competences to the European Commission. How do you think he/she will do it and why?*

The groups tackled this topic examining a few aspects of this:

1. a general overview on the question
2. the key competences for an entrepreneur
3. the social competences' composition
4. the assessment of transversal/transferrable skills for entrepreneurs.

1. In general the groups agreed on a few key issues:
   - there is a strong need to build up bridges between theory and practice, between business and universities, students need to acquire competences in the practice (places, joint projects, internship);
   - the key transferrable competences are related to employability and self employability
   - internationalisation is a great opportunity for students, this is why entrepreneurship courses should promote: students' mobility, international environments and interchangeability of curricula.

2. Concerning entrepreneurship competences-skills-attitudes all agreed on the following set of capabilities:
   - the ability of risk taking and facing challenges (courage);
   - critical thinking and critical attitude;
   - problem solving and goals' achievement attitude;
   - self management and career building;
   - creativity and vision: capability to see new opportunities;
   - a balanced locus of control;
   - orientation to action;
   - stress resistance;
   - growth mindset;
   - flexibility/adaptability
   - commitment

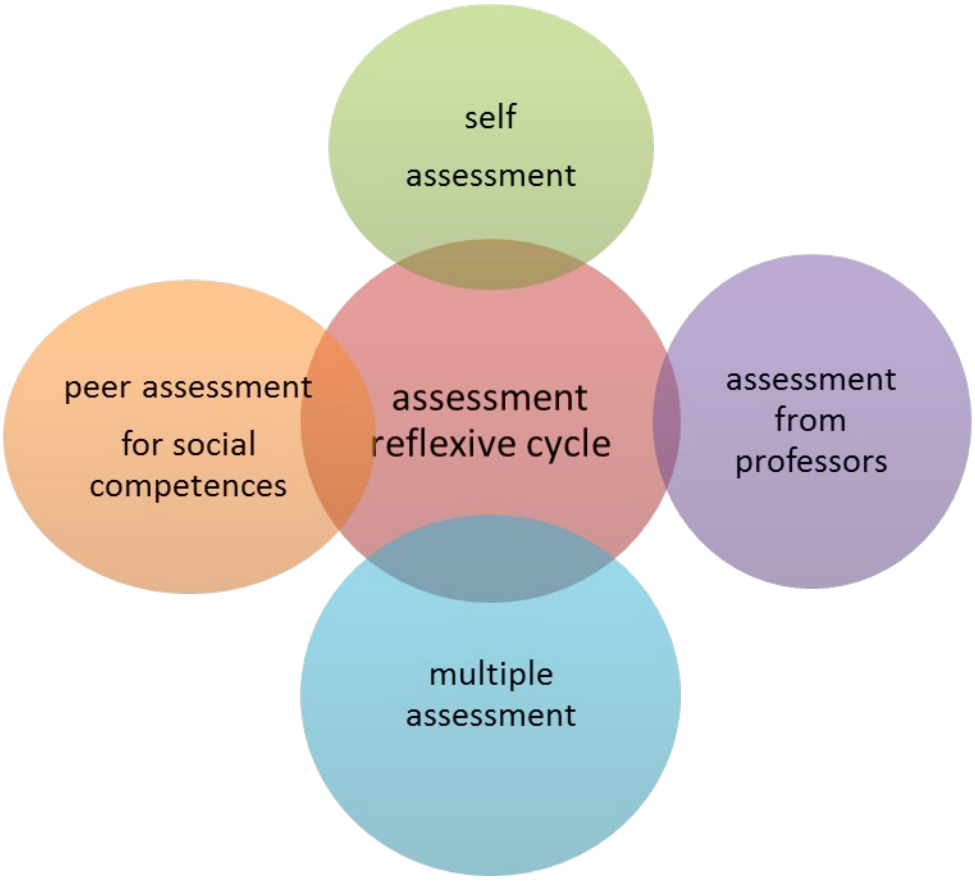
3. The social competences that have been recognised to be fundamental in entrepreneurship are:
   - effective communication that can be acquired through:
     - role models
     - interviews
     - speech
     - role playing
   - team management
     - team building
     - team working
     - team facilitating
     - giving the right feed back to a team
   - divergent thinking
   - conflict resolution
   - adaptability to different roles
   - intercultural competences
   - work-life balance
   - socio-structural competence

- code of conduct
- hierarchy of an organisation

4. Concerning assessment the groups agreed on the following principles and proposals:

- Assessment must be strictly connected to learning goals and learning activities
- Assessment must be formative, in order to provide feed back for constant and progressive improvement
- Assessment must be free of judgement: we assess behaviour or outputs we don't assess, evaluate or judge a person.

Assessment should be based on the following reflexive circle:



Report on Speakers Corner café workshop

Helsinki July 2015-07-02

The Speakers Corner café was dedicated to answering the following question:

> *Imagine that you are invited to deliver a speech at a Business forum about the role of Entrepreneurship and Social competences for efficiency and employability based on the SOCCES Baseline – what would you say and why??*

The groups tackled this by first highlighting some of the commonality between the baseline for Employers and Students:

What does the business need? (SOCCES survey)	What do the students find important? (SOCCES survey)
1. Team-work and collaboration 2. Critical and analytical thinking or problem solving 3. Communication 4. Creativity and Innovation 5. Positive attitude and work ethic 6. Social responsibility	1. Team-work and collaboration 2. Communication 3. Creativity and Innovation 4. Project Management 5. Positive attitude and work ethic

Initial discussions

1. Employers consider critical and analytical thinking as the 2nd most important skill while students consider project management as the 4th most important. This led to the initial discussion in 'are there similarities between critical thinking and project management.' The reason for this possible linkage was that the 4 other criteria were the same for both employers and students. Why/ is there a difference between critical thinking and project management as perceived by employers and students?

   It was perceived that employers expect the employee to identify the problem/project and propose actions, where the students experience is that they are generally given problems/projects to solve and see the process of solving this as project management, irrespective of whether they are undertaking critical thinking and problem solving to solve the project. In addition, do future employers expect more autonomy and a sense of initiative than what is currently provided in education or is it that students don't recognise those skills even if they are doing them, as they are fixated on the final goal, usually assessment. In addition, education requires that assessment of these skills takes place, but clarity is needed on what we are exactly assessing them on.

2. Students recognise the importance of teamwork and collaboration, which is the same as employers. However, students are in real-life very concerned about how their peers will perform. This seems to in conflict in the study as both students and employers consider positive attitude as only 5th important.

Second discussions were based on the initial thoughts and stem from the initial comment that the '5 most important issues are very similar between employers and students'. A series of questions and thoughts were developed from this similarity in relation to business and students. The points raised would be what would be said and why to the business forum.


'The 5 most important issues are very similar between employers and students'
Make students aware of the critical and analytical thinking already embedded in their course.
Make critical and analytical skills explicit through the case study
Is critical thinking and problem solving more defind within students who undertake a placement/internship?
Interaction with business is important to validate the case study.
Does critical thinking and problem solving depend on the company/business and the context.
What is the understanding of the 5 skills? How will they be demonstrated? Are levels appropriate?
Should students be 'complete' in these 5 skills or someone who can develop these skills whilst employed as they would have prior knowledge/experience.