

TEACHING AND LEARNING TRANSVERSAL COMPETENCES IN THE HIGHER EDUCATION.

LEARNINGS FROM ERASMUS + SOCCES-PROJECT

Guilland Auli¹, Terzieva Liliya², Nieminen Susanna¹

¹*Laurea University of Applied Sciences (Finland)*

²*NHTV University of Applied Sciences, Breda (Netherlands)*

Abstract

Transversal or transferrable competences are recognized fundamental in our knowledge-based society. They are crucial for meeting the needs of the labour market and enabling social cohesion and active citizenship, ensuring flexibility, adaptability and motivation.

Transversal competences are also called generic, soft or employment competences. They are used and developed in all areas of life. Education at all levels should encourage learning and expression of the transversal competences and thus support entrance into working life where the competences are further developed and transferred from one task or job to another.

Even though working life as well as educational authorities widely recognize the critical importance of transversal competences in future employment, educational practices even at higher educational level lag often behind. Much importance even in higher education institutes (HEI) is still given to subject based, theoretical learning even several innovative pedagogical approaches have been developed which offer solutions for teaching and learning future working life competences.

This article presents learnings from Erasmus + SOCCES-project (SOCial Competences, Entrepreneurship and Sense of Initiative - Development and Assessment Framework, 2014-2017) concerning transversal competences and educational practices using examples from six European higher educational institutes (HEI). The article claims, that learning through business cases in intercultural collaboration, can tackle barriers which culturally related pedagogical approaches create. This kind of approach motivates students to develop and express the necessary 21st century competences and gain full satisfaction.

A business case model is presented which includes various aspects assuring learning of different elements related to transversal competences.

Keywords: Transversal or transferrable or generic or soft or employment competences, educational practices, higher education, business case, working life collaboration

1 INTRODUCTION

According to Eurydice report [1], whilst the status of the basic skills is well established, the development of the curricula and assessment of the transversal skills is lagging behind. The SOCCES project objectives addressed directly the recommendations as defined in the Eurydice report and also in the renewed Higher Education Modernisation Agenda [2]. The report emphasized 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. The report also suggested 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 [2].

The teaching of IT, entrepreneurial and social (citizenship) skills is fundamental for preparing young people for today's job market, but, in general, universities still need to pay more attention to these transversal skills compared to basic skills in literacy, mathematics and science, according to a new European Commission report. Part of the problem is rooted in difficulties with assessment. For example, only 11 European countries (Belgium Flemish community, Bulgaria, Estonia, Ireland, France,

Latvia, Lithuania, Malta, Poland, Slovenia and Finland) have standardised procedures to assess social (citizenship) skills, which aim to develop critical thinking and active participation at university and society. Such testing does not exist at all for entrepreneurship and IT skills in any of the 31 countries which took part in the survey (27 EU Member States, Croatia, Iceland, Norway and Turkey). The reports mentioned above also outline progress in teaching six of the eight key competences defined at EU level for lifelong learning in knowledge, skills and attitudes.

1.1 Re-thinking teaching and learning methods

Future challenges require the rethinking of teaching and learning approaches. Students need to learn to evaluate their own skills and needs of learning, to learn, analyse, ask good questions, and do good problem solving. Critical thinking, problem solving, communication and the ability to work collaboration in teams and in networks with others of diverse backgrounds are among the most sought competences [3]. Learning of transversal competences is hardly ever possible isolated from practise.

1.1.1 Learner-centred teaching and learning

According to various studies, teaching is today often still teacher centred, unilateral transmission of the teacher's knowledge (lecturing) rather than facilitation of learning. Instead of aiming at building a strong knowledge foundation, "content should be used to build a knowledge base and to develop learning skills and learner self-awareness" [4].

On the one hand, teachers find it difficult to limit their part in knowledge transmission as they consider that there is so much to cover and they possess the required knowledge. On the other hand, moving towards a learner centred approach sets the teachers in a new role, that of facilitators; open-minded and innovative applicators of modern educational environments and methods. For this, teachers have to accept that all teaching and learning situations cannot be planned in detail in advance; new things may appear that require adaptation to the situation. "Teachers control less, but students are involved more" [4]. Teachers may face uncomfortable situations but at the same time, they can also learn new things and develop as members of learning circles which now include not only teachers and learners but various working-life stakeholders.

Through the transition from teacher to learner centred approach, not only teachers but also students find themselves in a new situation. In traditional educational environments, students' passivity is a "well-known and serious problem and because traditional methods of teaching have now been proven to exacerbate the problem [4]. Through the transition students become responsible for learning, participate in determination of learning goals and hold an active role in the learning as well as in evaluating the learning outcomes. "Students need practice in extrapolation and transfer of knowledge. Learning with others is more effective than learning alone and moreover, meaningful learning is facilitated by articulating explanations to one's self, peers, or teachers" [4].

1.1.2 Learning together with other students

People learn today in different ways than before. For example, understanding a certain content is socially constructed through conversations and communication about this content. Learning together with others helps students to identify their resources while also encouraging them to reach out to one another to solve problems: students can create understanding through social interaction through discussion, asking and answering mutually and thus clarifying unclear issues, uncertainty or confusion. While building collaboration skills this also enables deeper learning and understanding. Students who study in groups, even only once a week, are proved to be more engaged in their studies, better prepared for class, and learn significantly more than students who work on their own [5].

1.1.3 Learning in collaboration with working life

Business needs education but also education needs business for assuring learning of the most updated knowledge and skills. Worldwide organisations such as OECD but also European Council as well as local authorities in various countries have repeatedly stressed the need for stronger partnership between education and working world for enhancing learners' employability, entrepreneurial potential and familiarity with the working world. In this way, employers' knowledge and experience can be used, in the course of the learning process, to help each individual acquire the knowledge, skills, competences and positive attitude towards work that will support the student's chances of finding a suitable job or starting own business.

Authenticity means that the learning process is based on a genuine development project carried out for working-life, which corresponds to the areas in which the students wish to become experts [6].

A business case can offer a learning environment where teaching and learning takes place in close collaboration with a business partner and around a real life challenge. In this case a business case is a research, innovation and/or development process based on a real life challenge. The challenge is defined together with the business partner(s) and is rooted in real working life problems and challenges. Solving the challenge requires well organised working as a team, learning about the challenge, searching information and applying it, ideating and evaluating solutions and making conclusions. Learning happens when students and student teams work systematically for bringing solutions to the challenge.

The value of business cases compared to other type of authentic learning tasks, is that business cases are based on authentic challenges of working life. Students learn about, in and for authentic challenges [6]. Aside of the matters to be studied, students develop transversal competences, learn to communicate and collaborate between various working life partners, learn about business, networks, stakeholders and customers. At the same time working life and education develop collaboration and learn from each other

1.1.4 Integration of ICT in teaching and learning

Individuals have different intellectual profiles: linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and naturalist. Teaching methods should enable different learning paths to ensure equal chances for all learners.

Young learners today have grown up with computers and mobile phones and are regularly connected. According to recent studies, fully 87% of American teens (13 – 17yrs) have or have access to a desktop or laptop computer, and 58% of teens have or have access to a tablet computer. Moreover, 24% of teens go online “almost constantly,” facilitated by the widespread availability of smartphones [7]. Therefore integration of ICT-based learning can offer multiple possibilities to learners and motivate them in a different manner than other working tools or sources of information. Young people have learnt to be connected and therefore use of ICT for working in teams or networks is not technically create a similar challenge as other generations that possibly do not all share the same experience of using various digital applications in daily life.

The various digital possibilities in the form of internet, social media, and different digital applications enable creation of learning environments that motivate and encourage students and support engagement in learning goals. The new digital solutions and learning platforms offer favourable opportunities and conditions for creating a dynamic energetic atmosphere, where learners interact and communicate with each other, participate in the process of creating and using content and in the changed culture of learning among peers.

Innovative teaching and learning practices should be applied in all education in schools, universities, vocational education and training. The use of digital technologies and opening up participation and collaboration should spread through all types of institutions and all educational programmes [8].

2 STUDY

2.1 Context

This study was part of a European project called SOCCES - SOCial Competences, Entrepreneurship and Sense of Initiative - Development and Assessment Framework.

The goal of SOCCES was to provide teachers and evaluators with a unique and consistent list of entrepreneurial competences, their definitions and operationalisations, and a set of practical assessment tools which allow to measure students' mastery in entrepreneurial transversal competences.

2.2 Goals and aims

The goal of the study presented in this paper was to develop and pilot a framework for teaching and learning entrepreneurial transversal competences. The framework was to be adaptable in various teaching and learning cultures. This teaching and learning environment was piloted together with assessment framework for transversal key competences also developed during the SOCCES project.

2.3 Materials and methods

The study was limited in time and in number of participating students. It was run in February-March 2016 simultaneously in higher education institutes (HEI) in Finland, the Netherlands, France and Bulgaria. Approximately the same number (10-20) students from each partner organization participated in the pilot. The study concentrated on a business case (Helsinki Central Library).

The main goal of the business case was to offer a teaching and learning environment where students could develop and practice their skills and competences. The second goal was to encourage expression of transversal competences, especially those that to be assessed.

All participants worked on the same business case which was planned in collaboration by the Finnish HEI and a local business partner. All partners received clear guidelines for the pilot. These consisted of a general description of the business case, examples of eventual challenges to be given to various student teams, practical examples of collaborative and individual learning assignments, teacher guidelines concerning preparation and organization of the business case as well as assessment instructions.

The respective teachers in the participating HEI refined and focused the challenge in relation to the goals of the learning objectives of their students. After this they defined the learning task they offered to their students. The final task of each student group depended on their field of studies and level of knowledge as well as on the respective educational environment.

The first step of the student work was the creation of a team and definition of tasks and roles. This was done with the help of a teambuilding exercise (Marshmallow challenge) and the Belbin test of team roles. The so called Double Diamond [9][10] process model was used as a framework for the research, innovation and development process of the students. This process model focuses the various steps of development, innovation in four steps (4 D's), namely Discover, Define, Develop and Deliver.

The project was completed in four weeks. Every week the teams were given assignments covering the main themes: 1) Team building and introduction, 2) Choose the challenge and present the plan, 3) Prepare a preliminary idea and 4) Deliver the final proposal.

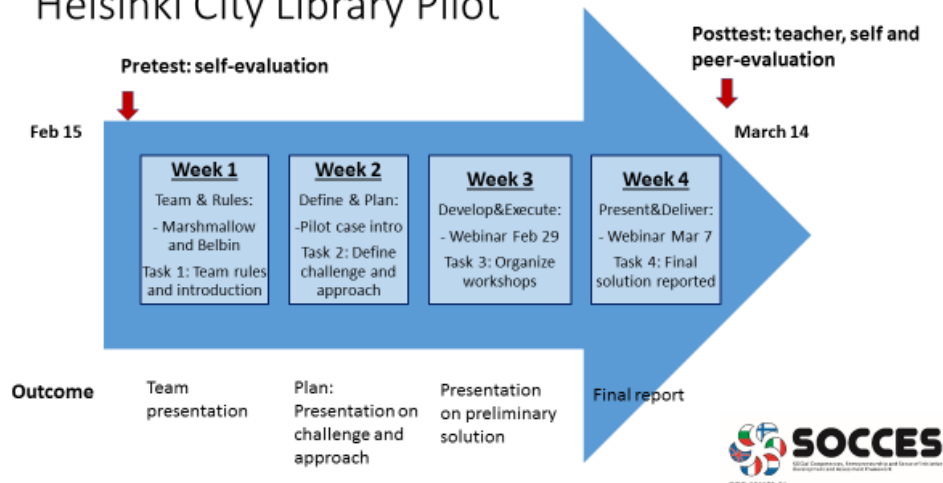
During the pilot the students from the four organizations communicated together on a virtual platform. The business case defined the goal of the communication and presented some examples on the possible communication patterns. However, each respective teacher and respective teams decided the content and ways of communication. The communication was all run in English.

Based on the assessment framework [11] developed within the SOCCES projects, the students received instructions on self- and peer-assessment tests to be filled in which was realised as a part of the pilot. Teachers used similar assessment pre- and post-tests, designed within the framework of the project [11], together with their traditional assessment methods and tools.

2.4 Outcomes

The pilot enabled to test a business case as a teaching and learning environment for expression and learning of transversal key competences. At the same time the business case offered a possibility for piloting and refining the methods previously chosen for assessing the selected competences.

Helsinki City Library Pilot



The results showed that the business case was constructed, guided in such a way that all teachers and students, in the various teaching and learning environments were able to realise the pilot. All student teams produced interesting solutions to the business case challenge.

Student teams worked each in their own local language but cross-border communication was realised with the help of a virtual platform in English. All student teams managed to communicate in appropriate way with their foreign peers.

Assessment of the transversal key competences confirmed that all students expressed the various studied competences.

3 SUMMARY AND CONCLUSION

The European Association of Universities of Applied Sciences states the following: “The main goal of our education is to train students to be competent entrepreneurs managers. Being competent at a higher education means that students make use of the knowledge learned and skills accurately, independently, creatively and innovatively when tackling problems and tasks in professional practice in an international context” [2]. Therefore today’s education in order to be meaningful needs to go beyond provision of pure knowledge. This has also been one of the key findings of the SOCCES project surveys conducted amongst the project consortium network, consisting of lecturers, students, higher-educational institutions’ personnel, human resource managers and industry representatives.

Within the framework of the SOCCES project there has been defined a specific vision of assessment in its educational perspective: “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.” Therefore the format of the business case/challenge has been introduced.

The business case (challenge) takes as a starting point that the learning process is not only directed by summative assessment. Research 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 and are being used when designing for a business case (challenge):

- 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.

The business challenge also presupposes the application of a mixed method for assessment. "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 [12].

When applied to the situation of the SOCCES business challenge design, the method mix for competence assessment takes into consideration the following features:

1. Acting professionally

Acting professionally is mainly dealt with during the development of the professional competences at the various levels. This is possible by working at project assignments (provided for by means of the business challenge), but also specific placements. During projects students work at one or more professional products. These professional products are both self- as well as assessed by an expert (lecturer/industry representative). When working at professional competences, students can make use of peer feedback, self-assessment, etc. It is particularly important that the student is also assessed individually if there is a group assignment.

2. Gaining knowledge

When the business challenge is operationalized, the student is given a theoretical framework to arrive at developing various competences. This theory is assessed partly within the business challenge implementation by means of the assessment tools developed.

3. Developing specific attitudes and skills

While working/implementing the business challenge the student is made aware of his/her own feelings, thoughts, wishes and qualities and furthermore, of the outside world. The student learns to act in a way that yields the most for both the student and his environment.

The business challenge/case also allows defining clear roles in both the educational as well as the assessment process such as:

A. The student

The student gets an active role and has to take his/her learning process in his/her own hands, and show in how far he/she masters the competences. To this purpose, a precondition is that prior to the learning process, it is clear to both lecturer and student which competences the student has to acquire.

The student will be involved in the instruction and assessment process, which is being done by:

- Self-assessments; the student assesses his own learning process;
- Peer assessments; students assess one another;
- Co-assessments; shared responsibility between students and lecturers.

The student can start working goal-oriented and make choices in the context of the competences he/she needs to develop. However, this self-steering can never be achieved if the student is not guided in this process sufficiently and adequately. The professional development of the student can only take place if there is an optimal mix of challenges and support as well as an optimal mix of types of assessment.

B. The lecturer

Supporting the development of competences and feedback is essential in new types of testing. It does not only involve assessing in order to award credits. During the implementation of the business case the student needs to be able to continuously improve himself/herself, and that is only possible with the right support and feedback. Shared responsibility and more responsibility of students is also a must. It is important that the lecturer can give feedback in a way that benefits the student's competence development.

C. The external assessor

Since the business challenge/case is being designed based on an existing/real-life example, the industry/business partners can play an important role in supporting the development of competences.

ACKNOWLEDGEMENTS

SOCCEs was a two-year project funded by European Commission Erasmus+ Programme.

REFERENCES

- [1] EACEA/Eurydice, "Developing key competences at school in Europe", *Challenges and opportunities for policy*, Brussels, 2012.
- [2] Higher Level Group on the Modernisation of Higher Education, "Report to the European Commission on Improving the quality of teaching and learning in Europe's higher education institutions", 2013.
- [3] M. Molnar, "Competency-Based Education Gets Employers' Attention", *EdWeek Market brief, Marketplace K-12*, 2015.
- [4] M. Weimar, "Learner-Centered Teaching: Five Key Changes to Practice". 2nd ed. San Francisco: Jossey-Bass ISBN: 9781118119280, 2013.
- [5] J. Brown, R. Adler, "Minds on Fire: Open Education, the Long Tail, and Learning 2.0", *EDUCAUSE Review* vol. 43, no.1 January/February, pp.16 - pp.32, 2008.
- [6] K. Raji, "Learning by Developing", *Laurea Publications A-58*, Helsinki: Edita Prima Oy, ISSN pp.1458 –pp. 7211, ISBN 951-799-111-8, 2007.
- [7] A. Lenhart, "Teens, Social Media & Technology Overview 2015. Smartphones facilitate shifts in communication landscape for teens", *PEW Research Center. Internet, Science & Tech. Publications* no. April 9, 2015.
- [8] A. Inamorato dos Santos, Y. Punie, J. Castaño-Muñoz, "Opening up Education: A Support Framework for Higher Education Institutions", *JRC Science for Policy Report*, EUR 27938 EN; doi:10.2791/293408, 2016.
- [9] British Design Council, "Eleven lessons: managing design in eleven global brands. A study of the design process", 2005.
- [10] J. Clegg, UX WrapUp. Thoughts on designing for mobile devices, 2014.
- [11] L. Terzieva, E. Luppi, I. Traina, "Teaching and assessing transferable/transversal competences. The case of Socces", *Journal of Science and Research* vol. 8, pp.1 – pp.22, 2015.
- [12] G.J.J.M. Straetmans, P.F. Sanders, "Beoordelen van competenties van docenten", Utrecht: Programmamanagement Educatief Partnerschap, 2001.