# CREATIVITY AND INNOVATIVENESS AS FUTURE SKILLS

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## Abstract

Creativity and innovativeness play a key role in the future work life. It has been predicted that majority of the professions we know now will not exist in 20 years and many of the future professions we can't even imagine today. Innovative approach to work and resilience in continuously changing situations is required from all future professionals. 21st century skills, such as complex problem solving, critical thinking, curiosity and imagination are needed in order to adapt to the new demands of working life.

In Higher Education Institutions for Societal Engagement (HEISE) project it is seen, that challenges that used to be local are now global. During HEISE a new pedagogical model was developed, where students and stakeholders from the surrounding society identified and solved different societal challenges in joint challenge solving projects. Creativity and arts-based methods were used to tackle these challenges in joint teams in order to find new perspectives and fresh ideas. HEISE project was funded by Erasmus+ Strategic Partnerships for Higher Education.

This paper describes and analyses the social services bachelor students' reflections on how they experienced creativity during the challenge solving project. Our data consists of students' (N=37) learning diaries and insights on creativity and arts collected during the spring term 2019. Our results agree with earlier research, that creativity can be an enormous resource and asset in the demands of constantly changing working life. Creativity hand in hand with innovativeness could just be the most important working life skills in the 21st century, when we are facing global risks like climate change, aging population and increasing polarization of societies.

Keywords: creativity, innovativeness, 21st century skills.

## 1 HEISE-PROJECT AND PEDAGOGICAL MODEL

World is facing multiple interconnected risks, that are about to change and even threaten our very existence. Climate change and global warming, poverty, unequal division of assets and resources, migration, refugees, demographic changes such as ageing and overpopulation, polarization of societies, urbanization and increasing mental health problems demand our attention. [1], [2], [3], [4], [5], [6], [7], [8], [9], [10], [11]

In diversifying world there is a need to build a more cohesive and inclusive society, where all voices are heard and valued. Higher Education Institutions play a key role in educating the future professionals and change makers. Higher Education Institutions educate young people to understand the underlying value systems of societies and cultures, and thus create abilities to foster social interactions. Besides educating, HEIs need to reach out to the societies and join forces with stakeholders in order to find new and novel ideas to tackle global risks and to promote wellbeing for everyone. [12]

Higher Education Institutions for Societal Engagement (HEISE) project's goal is to increase higher education's societal engagement by creating an innovative and attractive educational model built on experimental and challenge-based learning. HEISE project aims to increase higher education's societal engagement through projects, where work life partners and students are working in joint teams and solving challenges together with art-based methods in what we call "challenge solving projects". Challenge in this setting is understood in a very broad way: as a problem or a challenge that an organisation, a group of people or an individual is tackling. [12]

In the HEISE Pedagogical Model challenge-based learning is considered as a framework for collaborative learning experience. Challenge solving projects aim to solve challenges that reach beyond individuals, organisations or institutions - and provide a learning experience for the students while doing so. Challenges are solved together by students and challenge owners by utilising arts-based methods. We believe that art and arts-based methods open room for new perspectives and fresh ideas, but also provide share positive experiences and strengthen the sense of togetherness. [12]

We believe that shared learning experience and new innovations, such as new working methods or services can be achieved when teachers, students and challenge owners work side by side. Challenge-based learning begins with a "big idea", a challenge, that needs to be solved. [12] Challenge-based or problem-based learning appears to be beneficial in fostering long-term retention and application of knowledge, and in developing thinking and creativity skills, as well as social and behavioral skills (e.g. problem solving, critical thinking, motivation, self-confidence and teamwork). [13]

Higher education has recognised the need for innovativeness and creativity. Turku University of Applied Sciences have been developing innovation pedagogy that divides the learning process into three dimensions: Individual learning, group-based learning and networked learning. These dimensions describe different parts of the learning process that together create a platform for innovativeness and innovations. Individual learning during the lectures and individual assignments give background knowledge and theory to the topic. Group-based learning tasks, such as projects, give students ability to argument, reflect and negotiate, as well as cooperation skills. Networked learning takes theory into practice when students do their practice placements or take part in working life projects. [14] Innovation pedagogy and HEISE challenge-based learning have similarities: solving challenges and creating innovations both require cooperation and collaboration that in best cases result in new ideas and innovations.

## 2 SKILLS NEEDED IN THE 21ST CENTURY

There are many views about what are the most important skills for the 21st century. However, it is commonly agreed that just by maintaining the current competence, we will not be able to meet the challenges posed by the fundamental and rapid changes and challenges our world is faced with today. Where just a few decades ago it was enough to be able to read and understand causal relationships, now we need a completely new mindset to survive. [15] In the world where data expires at an accelerating speed, adapting new knowledge and skills have become basic requirements in the working life. [16]

World Economic Forum define 16 skills for the 21st century in their paper New Vision for Education. These skills are divided into three main categories: Foundational literacies, competencies and character qualities. Foundational Literacies include for example literacy and numeracy and they form the base on which further skills can be built on. These skills used to be enough for professions and working life. However, in today's innovation driven world, workers need different set of skills than in the past. [17]

Competencies are described as approaches to complex challenges. Competences, such as critical thinking, problem solving, creativity, communication and collaboration are essential skills in the rapidly evolving world we live in. Digitalization and fusion of technologies are just a few examples of the changes that we face in our everyday lives. [17]

Third category, character qualities, describe how students approach their changing environment. Character qualities, such as persistence and adaptability ensure greater resilience and success when faced with obstacles. Curiosity and initiative make a starting point to discover new concepts and solutions, when needed. [17] Social and cultural awareness form a basis for constructive interactions with others. Even though technology and new technological solutions have a central role, social and collaboration skills are still seen essential in the working life.

Higher education can be seen as an investment in competence, that promotes well being and individual growth. Competence has been recognised to bring security when one is navigating in an uncertain future. The transformation of work requires that people constantly update their skills. Lifelong learning and studying becomes part of work to an increasing extent, and at the same time the boundaries between work, studying and leisure time are becoming blurred. [15]

## 3 CREATIVITY AND INNOVATIVENESS

We believe that creativity plays a key role in today's world, where we are faced with global challenges and risks that need to be addressed immediately. HEI's need to encourage student's creativity and by doing so, nourish innovativeness and innovations in them. Creativity is the ability to imagine and device innovative and new ways of addressing new problems, answering questions or repurposing of knowledge. [17]

Rhodes (1961) classical definition of creativity is built on separate strands which have influence on the occurrence of creativity and which represent the essential " the four Ps" cornerstones for any kind of creativity research: Person, Process, Press and Product. Person stands for the individual, Process means that creativity needs time and processing, Press stands for pressure and emotional cartwheel, and Product stands for the final outcome, that can be an innovation, piece of art, or just a thought. [18]

Taylor (1971) divides creativity into five levels. First one is expressive creativity, meaning generally primitive ideas that emerge without guidelines or other restrictions, such as children's drawings. Second one, technical creativity is based on rules and laws that constrain our thinking, with not much room for expressing spontaneity. Third one, inventive creativity, includes existing technical concepts that are creatively combined in order to create new designs. Fourth level, innovative creativity, involves reforming existing models to create something completely new. Highest level of creativity, emergent creativity leads into new ground-breaking ideas. [19]

Hakala, Uusikylä and Järvinen (2015) define that "a creative person can maximize the opportunities and possibilities offered in life, flexibility, fairness, ability to take risks, search for freedom and the breaking of boundaries". [20] Siltala (2010) claims that innovation is creativity put into action. Creativity requires versatile learning, which has a positive influence on the creative process, that will lead to something completely new. When defining innovation the starting points are usually concepts of change, newness and usefulness. It is often also stated that ability to bear uncertainty promotes materialising of innovations. In the business world, innovation is related to economic efficiency, which is not so important in the education sector. [21]

## 4 DATA AND FINDINGS

The data for this article was collected during the study unit "Creativity and Activity-Based Methods in Client Work" for the first year Social Services Bachelor students (N=37) in the spring 2019. The course focused on creativity and activity-based methods in the social services field. Aim for this course is that the student is able to draw on his/her personal creativity and resources, and to use creative and functional working methods while working with clients. [22] Students had a chance to try different art-based methods in pedagogical workshops and they were encouraged to use them also in their challenge solving project, that followed the HEISE pedagogical model.

Student's joint challenge solving project was to plan and carry out a wellbeing day for mental health rehabilitees. The student group planned a functional day, that consisted of different creative and art-based activities. The project was designed in cooperation with the Mental Health Rehabilitation Unit. Lectures and workshops gave theoretical knowledge and practical examples of the great variety of creative and art-based methods they could utilise in their own project. Students were divided into eight small teams, that were each responsible for one activity.

Challenge solving project proceeds in three phases: planning, action and reflection. All stages include individual, group-based and networked learning. One student describes, that "the project planning phase was, in my opinion, already an eye-opening experience. We worked together in small teams to come up with ideas about what we could do with the mental health rehabilitees. During the planning phase, I realized my own creativity and that I could use it for and with the clients."

The starting point for planning was that the activities would be easy to participate. Aim was to also enable feelings of success and empowerment amongst the rehabilitees, so that they could feel that they have proceeded in their personal rehabilitation and recovery process. Accessibility and feasibility of the plans were jointly discussed in the class. As a result, students planned and carried out eight different creative activities for the rehabilitees, such as dancing, spray painting, photo shoots and crafts.

During the challenge solving project students were able to use their creativity and innovate new approaches both in small teams and as a whole student group. Project work developed students' problem solving and collaboration skills as well as creativity. During the course, one of the tasks was to write an individual learning diary, where students reflected their personal learning journey. Students were asked to ponder and analyse what kind of skills and competences they gained during the course.

Students saw creativity as a framework that allows interaction between individuals, even if they would have completely different views and experiences of the world. One student used movie as a metaphor for life. "It's good to think about what the client's movie script has been until now and whether we (as

employees) can play a minor or major role in helping the client move on to the next scene of the movie."

Students saw flexibility as an element of creativity, especially in situations where plans required changes. Creativity was also seen as the ability to see new perspectives and approaches in one's everyday work. "I believe that creative thinking is based on being able to apply learned methods with the help of one's imagination."

Students also argued, that as a professional one should know the theoretical basis and the benefits of creativity in order to justify "why do I do what I do". The potential for creativity in working life was seen as almost limitless, as creativity and creative activities can increase participation and engagement through meaningful experiences.

Students highlighted the mental strain of social work in their learning diaries. Art-based methods were seen as providing new perspectives on one's own work in challenging situations, as they provide opportunities for self-expression.

Before the course started, some students had negative feelings towards topics at hand. These students were convinced, that they do not have any creativity in them. However, their attitude changed as the course proceeded. During the course the students gained new perspectives and experiences on creativity and this also made them see creativity in themselves. Being involved in art-based activities during the course and during the challenge solving project also helped the students to step in another person's shoes. "The experience helped us to understand how good the positive experiences felt and how the feelings of fear, prejudice and discomfort felt."

The students felt that the course and challenge solving project gave them the skills to use creativity and arts-based and functional methods in their future working life.

## 5   CONCLUSIONS

Students' experiences of creativity changed during the course. The course helped students see their own strengths and resources and understand the importance of creativity at different stages of their lives. Creativity was seen as an asset, something they could use to promote wellbeing of their clients and themselves.

Taylor's (1971) fourth level, innovative creativity, is something that can be supported in higher education. Challenge-based pedagogy provides students with opportunities to reform prior theoretical and practical knowledge into something completely new and competences needed in the 21st century working life. [19] Competences together with character qualities [17] ensure innovative approach to work and resilience in continuously changing world.

Government Report on the Future (2018) argues that critical skills and competences of the future are closely linked with the overall wellbeing of the worker and the work community. [15] Our study clearly shows the importance of creativity in the social welfare field. We agree with Siltala (2010), that innovation is creativity put into action. Being in touch with one's own creativity makes room for new ideas and innovations. [21] Even though our data consists of the experiences of social services students, they are universal and can be applied into all fields.

In November 2018 maybe the most well-known teenager of our time, Greta Thurnberg, had a talk at TEDx Stockholm. Greta's talk was about climate change, but her plead for action can be applied to everything. "So, we can't save the world by playing by the rules, because the rules have to be changed. Everything needs to change and it has to start today." [23] Creativity enables us to break boundaries and breaking boundaries is something that we need to do in order to save this world.

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