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Tuija Hirvikoski, Laura Erkkilä, Minna Fred, Aino Helariutta, Ilkka Kurkela,
Päivi Pöyry-Lassila, Kaisla Saastamoinen, Anna Salmi & Anne Äyväri (ed.)

**Co-Creating and Orchestrating
Multistakeholder Innovation**

16. Public health nursing students as co-creators in the promotion of health and well-being

Mikko Häkkinen & Irene Latva-Korpela

INTRODUCTION

Co-creation is a method of development that engages learners, encourages creativity and yields concrete results. The goal of the research process described in this article was to examine public health nursing students' experiences of co-creation in well-being and health promotion during a course. Laurea's Strategy 2030 emphasises a student-centric approach. The student is seen as an active developer, building their own competence based on the needs of the labour market.

A particular focus of public health nurse education is the promotion of well-being and health. According to Laurea's Learning by Developing model, partners from the world of work are always involved in the learning. The course described in this article involved several institutions of well-being and health promotion from the Vantaa region. The course was carried out as part of Laurea's Co-creation Orchestration project, which aimed to enable the development of well-being and health services using the methods of co-creation.

CO-CREATION AS A PEDAGOGICAL METHOD

Co-creation means interactive, creative, goal-driven work based on equality among participants. Different education and experience backgrounds are seen as an asset among co-creation participants. Professional roles and positions in the organisation are secondary and everyone's contribution is seen as equally valuable. Diversity among participants brings different perspectives to the development, which can be used in the creation of new understanding and knowledge in a goal-driven way. (Bovill 2011, Pöyry-Lassila 2017.)

Temple Clothier and Matheson (2019) describe co-creation as a pedagogical method. According to them, co-creation builds creative meaning that improves motivation. The concrete goals of co-creation and the close cooperation with other learners maintain motivation throughout the learning process. Even though students

may at first view co-creation as a new and exciting way to learn, they will soon find that working together generates a safe atmosphere that supports learning. The supportive atmosphere is necessary because co-creation as a pedagogical method requires flexibility and tolerance of uncertainty.

For example, there is no single correct way of developing a service. Instead, learners must create solutions from several options using critical self-reflection. The central aspect of co-creative learning is the communication between the learners. In this context, the experts involved in co-creation, such as teachers, are also considered learners. Respectful and safe communication with constructive criticism promotes learning and enables the creation of new ideas. Learners are encouraged to be creative and to voice their ideas, even if they seem silly. (Temple Clothier & Matheson, 2019.)

In the course described in this article, students were divided into development teams which selected target groups as described in the previous chapter, built customer insight and developed ideas for promoting well-being and health. The goal of this real-world assignment was to motivate the learners by making the work meaningful. The development teams remained the same throughout the course to foster a safe environment and generate a deeper, co-created understanding of the learning content. Teachers were available to help and support the students when necessary. However, the teachers avoided taking a traditional position of authority, instead joining the participants in thinking about the issues and encouraging them to active problem-solving.

Billet and Martin (2018) describe co-creation as a pedagogical method with a focus on the relationship between students and teachers. Students are at the centre of the learning event, while the teacher accompanies them as a partner in conversation. In an ideal situation, the teacher develops close personal connections to the group of students, and can thus take the different learners into account as individuals. The teacher and students can also co-create their learning experience. It is possible to influence both the ongoing learning process and the learning processes of future students by collecting detailed feedback from the students.

In the course described in this article, student feedback was used to develop both the ongoing learning process and future learning processes. During the course, the teachers received useful feedback in the conversations with the development teams. At the end of the course, students gave individual feedback both through a digital feedback survey and a self-evaluation assignment.

PUBLIC HEALTH NURSE EDUCATION IN LAUREA

The public health nurse degree is 240 credits in scope, including the 210 credits of the nursing degree. Professional studies for public health nurse students must comprise no less than 60 credits, as they expand and deepen the student's nursing competence to include public health work. A graduating public health nurse will receive certificates for both a nursing degree and a public health nurse degree and is granted the right to practice as both a nurse and a public health nurse by the National Supervisory Authority for Welfare and Health. (*Ammatikorkeakouluista terveydenhuoltoon*, Government publication, 2006).

The level of the public health nurse degree from a university of applied sciences corresponds to level six (A12/2017) in the European Qualifications Framework (EQF) and the National Qualifications Framework (NQF) that is based on it. On level six, graduating students should have advanced and extensive knowledge of a field of work or study, involving a critical understanding and evaluation of theories as well as key concepts, methods and principles. In addition, they should have advanced cognitive and practical skills, demonstrating mastery and innovation as well as the ability to apply knowledge as is required to creatively solve complex and unpredictable problems in a specialised field of work or study. (European Union 2019, Finnish National Agency for Education 2020.)

On level six of the EQF, graduating students can serve independently in expert positions in the field as well as work in international cooperation with consideration for community and ethical perspectives. They can manage complex professional projects, taking responsibility for decision-making in unpredictable work or study contexts. They have good communication skills in both their native language and at least one additional language. (European Union 2019, Finnish National Agency for Education 2020.)

THE COURSE ON MULTI-DISCIPLINARY HEALTH PROMOTION

In autumn 2019, students on their fifth term of public health nurse education designed health promotion development projects in the course Innovative Multidisciplinary Promotion of Health and Well-being. The scope of the course was 10 credits, of which 8 credits were completed through development work in cooperation with the CCO project. The course was part of the Innovative and Effective Nursing module which focuses on the evaluation and development of the working environment and services in social and health care. (Laurea curriculum 2020.)

The orientation for the autumn 2019 Innovative Multidisciplinary Promotion of Health and Well-being course began at the end of the previous spring term 2019 with a Career Planning course where an expert from the CCO project led students to consider interesting health and welfare themes while exploring their co-creation potential. The autumn 2019 course started with orientation and an independent preliminary assignment on service design as well as online studies on health promotion.

The development work during the course proceeded in stages throughout the autumn, starting with a lecture introducing the themes of service design and co-creation. The twelve development teams each chose an interesting target group and then examined the health and well-being of that group through statistics and research data. The goal was to use evidence-based information to find and delineate the theme of health and well-being promotion, and then have the development team start drafting a plan. Laurea's information specialist carried out the information retrieval training relating to the development themes.

In the following stage, students were introduced to customer insight and its significance in producing and developing services. The students added customer insight to their development work by determining the opinions of their target group through surveys and interviews. At this stage, the co-creation took place in the contact-teaching classes, where the development teams presented their projects and gave each other new ideas and peer feedback.

The course concluded in a co-creation workshop with the theme of pupil and student health and well-being, as most of the team projects related to this theme. Employer representatives from social, health and education services and NGOs were invited to join this co-creation workshop. Four employer partners participated in the workshop. At the start of the workshop, the public health nursing students briefly introduced the development project plans of the teams, after which the plans were further developed using the Learning Café method. In the co-creation process, the students served as the experts for their projects and led the co-creation for their project. (Figure 1)

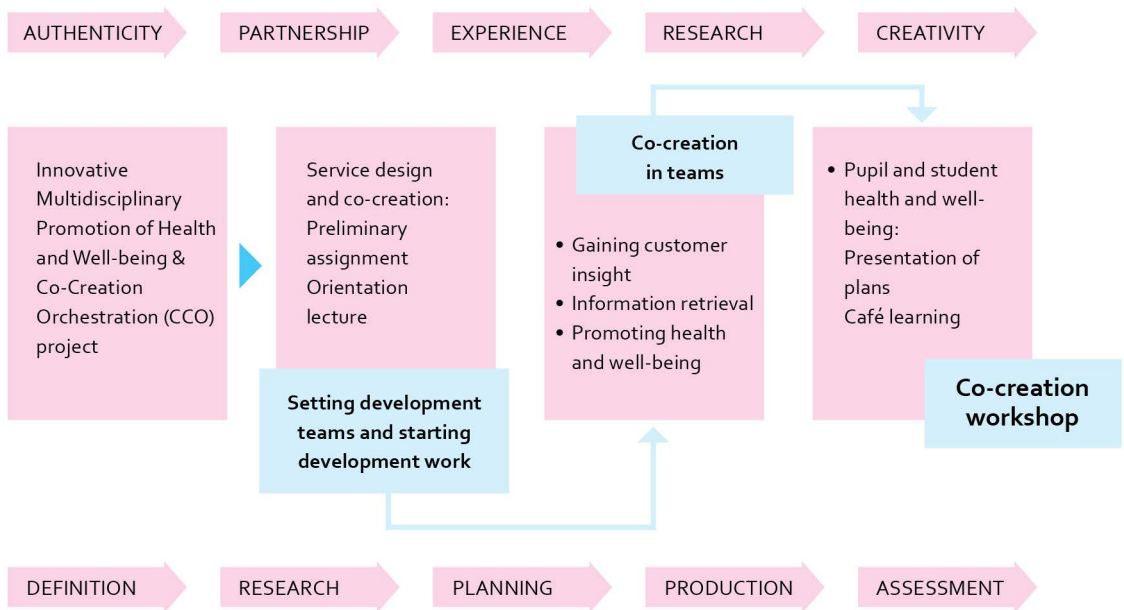


Figure 1. Course process in the context of LbD and service design (Figure: Häkkinen & Latva-Korpela)

PARTICIPANTS, MATERIAL AND ANALYSIS

A total of 39 public health nursing students participated in the course in 12 development teams. Most of the students in the course had begun their public health nursing studies in 2017 and had reached the advanced stage of their studies. All but one of the students gave their written consent for the material produced during the course to be used as research material. One student was not present when the consent was requested. The self-evaluation of this student and the report from their development team have been excluded from research use.

The research material consists of the project reports written by the students in the development teams (N=11, 66 pages) as well as the individually written self-evaluations (N=29, 29 pages). The lack of self-evaluation documents from students who gave their consent is due to documents not being submitted within the deadline.

The research material was printed for both researchers and any identifying factors removed, such as names and student numbers. The material was analysed by theme. Each researcher first studied the material independently, looking for expressions that addressed the research question. The researchers then compared these expressions and discussed them to form themes that ran through the whole material. (Pope, Ziebland & Mays 2020, 119–120.)

RESULTS

The researchers identified five themes of student experience in the material: co-creation as a new concept and method for the students, the construction of the information basis for co-creation, the co-creation workshop as a learning environment, co-creation enabling professional development and using co-creation methods in the future. These themes are described in Figure 2.

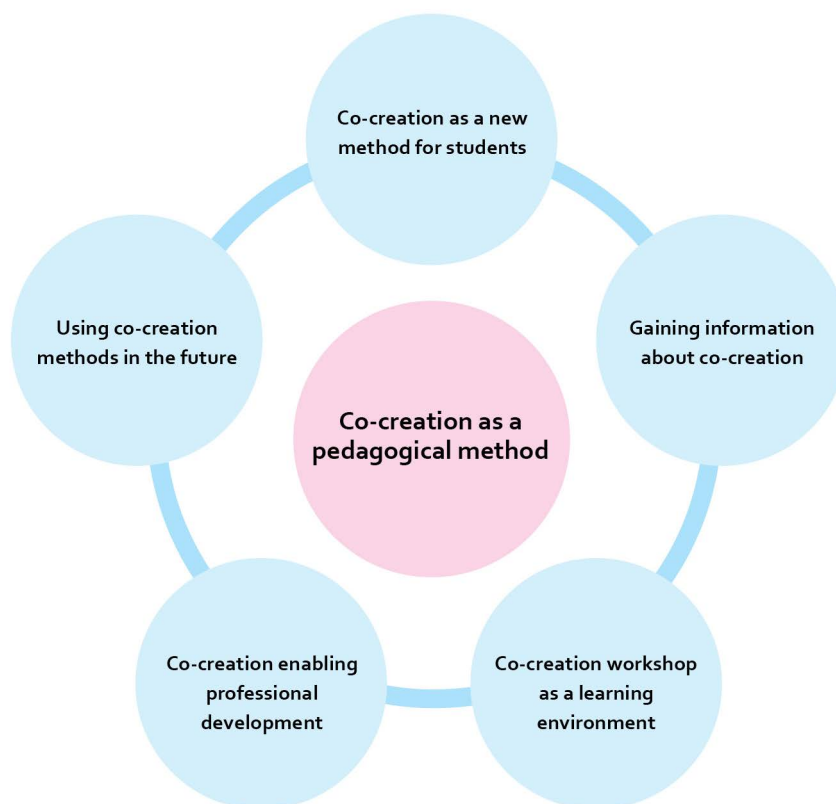


Figure 2. *Co-creation as a pedagogical method.* (Figure: Häkkinen & Latva-Korpela)

Co-creation as a new concept and method

The students described co-creation as a new method of development for them. They were not previously familiar with the concept of co-creation. At first, the new concept resulted in confusion among some of the students. Some students found the theoretical information on co-creation brought up in the preliminary assignment and at the beginning of the course too difficult.

The co-creation-based work method used in the course was also seen as new and challenging. The novelty of the topic even resulted in some irritation, but this soon led to learning as the course progressed.

"I've never read anything about service design or co-creation before."

"Our whole group was quite confused about the assignment at first. It was clear that none of us had any experience of a proper development project. At first, we were also baffled by the theory of co-creation and service design... But it got easier as time went on."

"Previously, the concepts of service design and co-creation in particular were foreign and distant to me. I had no real experience of them."

Constructing the information basis of co-creation

The students found that they could learn the concept of co-creation during the course. The theoretical understanding was built through studying the independent study materials and the conversational lectures of the contact teaching.

"After the preliminary assignment and the conversations in class, I started to understand the concept of service design, which had been completely foreign to me. I feel that at the moment I understand the concepts and could explain them in broad terms to someone who doesn't know anything about this topic."

During the course, the potential for co-creation was examined particularly in the context of health promotion. In co-creation, the students especially identified the potential for enhancing customer engagement and user-based approaches. Some of the students thought about co-creation as a method of social change.

"I also understand that development work and co-creation in general can be used to promote health and create new ideas for health promotion."

"From the perspective of health promotion, co-creation can serve all of society in projects both small and large."

The co-creation workshop as a learning environment

The co-creation workshop organized during the course was considered a platform for many different types of learning. The workshop introduced a practical perspective to co-creation, focusing on concrete content relating to health promotion. It gave participants the chance to apply their previous learning to practice.

"My co-creation competence was particularly boosted by the co-creation day which helped provide a concrete context to the contents and objectives of the whole course. It also made the concept of co-creation clearer."

The co-creation workshop enabled participants to make a synthesis of the contents they had learned during the course. For the students, the workshop was a constructive environment where the things they had learned were linked together through group work. The learned knowledge was made concrete and gained new meanings at the workshop.

"The co-creation day really helped link and highlight the things we had learned during the course while providing them with context and a practical perspective."

"The co-creation day pulled together everything we had learned and gave our development project more meaning."

The workshop helped students move the development ideas of their teams forward. Before the workshop, the teams had worked on some preliminary ideas on promoting the health of their target groups. During

the workshop, they were able to hone their ideas and gain more skills to plan their development work. Their understanding of the significance of cooperation between different partners in development work was particularly emphasized.

"Even though I had no idea what would happen during the co-creation day, it was great to see that the plan for the day really helped further the ideas and continue the co-creation."

"From a health promotion perspective, the co-creation day highlighted the understanding of how important the cooperation is between different institutions and stakeholder groups in the social and health care field."

Co-creation enabling professional development

The students stated that the co-creation process supported their own professional development. The students were responsible for the work of their team at the different stages of the co-creation process. They particularly gained more confidence in development work. The students presented the results of their development team to each other during the lessons, and to the whole student group and the visiting experts during the co-creation day. These sessions improved the students' confidence in public speaking.

"I also feel like the assignment helped me develop as a health care professional."

"I think my competence and professional skills developed during the course and the CCO project."

"Speaking in front of the class and presenting the progress of our work were a part of the course. I've previously found public speaking to be difficult and even frightening, but now I think I have improved and gained in confidence."

Using co-creation methods in the future

Participants found the course useful for their coming thesis process and future profession. Their experiences during the course increased their interest towards project work. Some students planned to use the newly learned co-creation methods in their theses. The students considered co-creation methods to be useful for their future professions as developers of social and health care services. The course also sparked the desire to learn more about co-creation methods.

"I hope that I'll be able to use this (co-creation) in my thesis in some way. These are useful tools for developing health care."

"During the course I noticed that I found project and development work very interesting. It would be interesting to participate in development projects in the future."

"I have gained motivation to use service design methods in the development of social and health care services. Development and teamwork require constant learning, so I hope that I will be able to participate in projects or development work in the future."

"I find development work interesting, but challenging. I think I could study this topic some more to deepen my understanding."

DISCUSSION

Discussion of the results

The article describes the course Innovative Multidisciplinary Promotion of Health and Well-being, which was organised for the first time. The course used co-creation as a pedagogical method. Co-creation has previously been used as a pedagogical method, for example in the curriculum development for nurse education (Watson, Horseman, Fawcett, Hockley & Rhynas 2020), development of higher education teaching (Bovill 2011) and development of learning contents for sociology (Billett & Martin 2018). At the Laurea University of Applied Sciences, co-creation has been used as a pedagogical method at least in the language studies for nurse education (Myrén 2019). In this study, five themes emerged in student experiences: co-creation as a new concept and method for the students, accrual of information on co-creation, the co-creation workshop as a learning environment, co-creation enabling professional development and using co-creation methods in the future.

The results indicate that for the students, co-creation was an unfamiliar pedagogical and development method. They learned the method partially through theoretical examination with the preliminary assignment, and partially by using it during the development work. For the students, the most significant element in terms of learning was the co-creation workshop where co-creation was applied to practical development with experts from outside Laurea.

The foundation for using co-creation as a pedagogical method in the course consisted of Laurea's Learning by Developing (LbD) model. This model is characterised by authentic learning, partnership and an experiential approach, all of which were carried out in cooperation with employer partners in the course. This was particularly emphasised in the co-creation workshop where the students and a diverse group of representatives from various professional social and health care institutions worked together to solve challenges of health promotion among school pupils and higher education students. The research-focused approach of the LbD model was present at all stages of the learning process. The learning began by acquiring research results relating to the themes of the course. The course concluded with a report produced by the students where they reflected on the experiences they had gained during the course and compared them to the research results they had compiled in the beginning. The whole learning process was characterised by creativity, from the unusual problem-solving to the creative application of development methods. (Cf. Raji 2007, Raji 2014.)

From the perspective of pedagogy specific to a university of applied sciences, the main result was the professional development of the public health nurse students during the learning process. The students described gaining development skills and confidence in public speaking. Their interest in developing the methods of health promotion increased. Watson et al. (2020) have also described professional development in the context of co-creation. In their study, the professional understanding of nursing students regarding the care work of the elderly developed in a positive direction during the co-creation process.

The results indicated the students' strong focus on the future. The students estimated that the co-creation method they learned in the course could be used in their thesis work. Co-creation was also seen as a useful tool in their future work as public health nurses and in the development of health care work.

Reliability

The reliability of a qualitative study is evaluated by its credibility, confirmability, reflexivity and transferability (Kylmä & Juvakka 2012). In this study, the credibility is supported by the fact that the information was acquired from public health nursing students who described their personal experiences in the course. The research material consisted of project reports from the development teams and the individual self-evaluations of the students. The self-evaluations in particular increased the students' in-depth reflexive thinking of their co-creation learning process.

To ensure confirmability, every stage of the research process has been described in the article in detail. The study was conducted by two researchers, which further increases confirmability. Both researchers studied the material and made a preliminary analysis independently. The final results were written together as pair work. Reflexivity was considered by recognising existing notions and previous experiences of public health nurse education and co-creation.

Ethical considerations

The different stages of the study comply with the recommendations of the Finnish National Board on Research Integrity regarding the responsible conduct of research (2012). The research process began by acquiring permission to carry out the study from the Laurea University of Applied Sciences. Students were informed of the study at the beginning of the course. The students gave informed and voluntary consent to participate in the study. The students had the right to discontinue their participation in the study at any point during the research process. The research material consisting of the self-evaluations and the development team reports was only available to the two researchers. Students' identifying factors were removed from the material. The research material was printed on paper. It will be securely stored and appropriately destroyed after the publication of the research article.

The profession of the public health nurse has traditionally been very independent in nature, and the responsibility for developing the professional competence has rested on the individual. With recent changes, customer-focused and multi-professional development has become an increasingly important development skill for public health nurses. Co-creation enables many different institutions to be involved in changing and improving services. The course described in the article offered students a safe environment in which to act as developers and implementers of innovative services for well-being and health promotion. Below we offer some recommendations on using co-creation in public health nurse education.

Conclusions and recommendations

- Co-creation is a suitable pedagogical method for public health nurse education.
- As a rule, the students possess the abilities needed for co-creation, and their methodological skills can be strengthened during the education.
- Learning a new method may be confusing at first. Teachers must provide support and enable the students' progress into experiences of competence and ability.
- The students must be seen as equal development partners.
- The knowledge basis of co-creation should be considered in the curriculum of public health nurse education as a consistent theme already before advanced studies.

- Applying co-creation methods successfully requires careful course planning.
- Teachers must be careful to generate a safe learning atmosphere, as it enables creativity and innovative thinking.
- The members of the students' development teams must agree on how they intend to work. A written team agreement supports the work of the development team.
- The different backgrounds and experiences of the learners should be used intentionally in co-creation.
- Peer feedback should be used as part of the learning assessment.
- The assessment must consider the full learning process, not just the results.

Mikko Häkkinen, PhD, D.H.Sc. works as Principal Lecturer at Laurea University of Applied Sciences

Irene Latva-Korpela, MSc, M.H.Sc. works as Senior Lecturer at Laurea University of Applied Sciences

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- Co-creation
- Dialogic co-creation
- Promotion of health and wellbeing
- Public health nurse education
- Holistic concept of human being

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WE ARE LIVING in a world that is changing at a rapid pace. Globalization and technological development are bringing about many benefits. However, the challenges we meet are often complex, inter-connected and systemic, so-called *wicked problems*. The challenges are no longer local or one-dimensional.

Addressing wicked problems requires new rules and new ways of thinking that are determined by collaboration, inclusiveness and openness. These global challenges call for updated models that both help to enhance involvement of multiple stakeholders in *co-innovation* and *value co-creation*, and help stakeholders to benefit from them.

The set of articles within this book demonstrate how such concepts as *multi-stakeholder partnership*, *co-production of research* and *participatory Research, Development and Innovation* take place in practice. The articles epitomise how new collaborations, dialogues and partnerships are being formed among academic, public and private partners, and civic society. As the described collaboration is characterised by impactful interdisciplinary and creative methodological experimentation, this publication seeks to engage a wide audience of researchers, educators, policy-makers, practitioners and others with an interest in combining collaborative academic, business and public expertise.

These articles introduce research results, methodological considerations and practitioners' experiences on multi-stakeholder collaboration allowing for and benefiting from open research, innovation and educational processes. They make apparent the wide range of practices, tools and benefits of co-creation in the context of *Open innovation*, *Open science* and *higher education*. The articles shed light on the prerequisites of purposeful multi-stakeholder partnership and collaboration in different thematic and regional contexts.