Chapter 20

# Becoming an Innovation Coach

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Pedagogical change will start from and by teachers and the teachers are the real change makers. The fourth industrial revolution requires co-learning, co-creating, and reflecting skills from teachers before they can coach students to do the same. Deep learning exists only when it's adapted into experience (Kolb 1984; Kouzes & Posner 2008, 2018; Lombardo et. al 1996, Ruhalahti 2019). Team based learning (Katzenbach & Smith 2001, 2015, Kouzes & Posner 2018, Wenger 2000) and experimental learning theories (Kolb 1994, Wenger et. al. 2002) are stating the need for shared vision and understanding before pedagogical change is possible. That is the reason why our training for teachers is utilizing the tools from peer-to-peer learning, collaborative working and pedagogical decision making in teams. 70% of learning exits when it's adapted into experience (Lombardo et. al 1996, Sjöblom et.al 2019, Heikkinen et. al. 2012).

As the fourth industrial revolution gathers pace, workforces around the world are facing an ever-increasing number of new challenges. Globally, it is understood that employers need workers with different skills because of emerging and developing technologies. This requirement will increase exponentially in the future with further advances in AI and robotics, for example. Entrepreneurial skills are seen as being the core of this requirement, but they need the right environment in which to develop. These new skills are often referred to as so-called 21st century skills; the ability to apply critical thinking to texts and the ability to apply a creative approach to problem-solving through collaboration.

## INTRODUCTION

The Teacher to Innovation Coach Programme concentrates on the idea of shared responsibility within the framework outcome-driven tasks and is designed to develop one's professional skills. The learning process can be greater, in terms of effort, than the outcome as it involves continuous discussion and guided feedback cycles. Developing one's teaching and learning skills in this way involves using innovative methods such as flipped learning, dialogical interaction, and peer learning to enable a deeper understanding of the required knowledge. In

turn, this allows teachers to apply new knowledge and skills more effectively. The ideas contained within the *Teacher to Innovation Coach Programme* can be used in Teacher Education programmes at bachelor, master, and/or doctoral level when collaborative learning methods and student-centred approaches will clearly provide beneficial results. In this program a teacher is learning as an active participant by solving learning process challenges with other colleagues. Multidisplinary teacher teams are recommented as a learning platform for teachers.

This method is based on years of developmental work and combination of different theoretical frameworks. One of the key theoretical backgrounds is a design thinking theory as it consists of a series of developmental discussions facilitated by a teacher and a real challenge from a stakeholder. This gently forces the students to think from another perspective and collaborate which creates the skills of co-creation, creative and critical thinking and involving active participation self and peer evaluation by students. Innovative learning process is presented in figure 1. This learning structure is the same to students and for teachers, who are practising the coaching skills and developing new competences as a teacher. It is a vehicle for enhancing critical and creative thinking and learning to work in interdisciplinary teams. At Jyväskylä University of Applied Sciences in Finland, this method has been found to be particularly effective when used with groups of students from different fields of study. Interdisciplinarity of team members increases the value of the outcomes as students often see the same problem from different points of view and thus contribute accordingly.

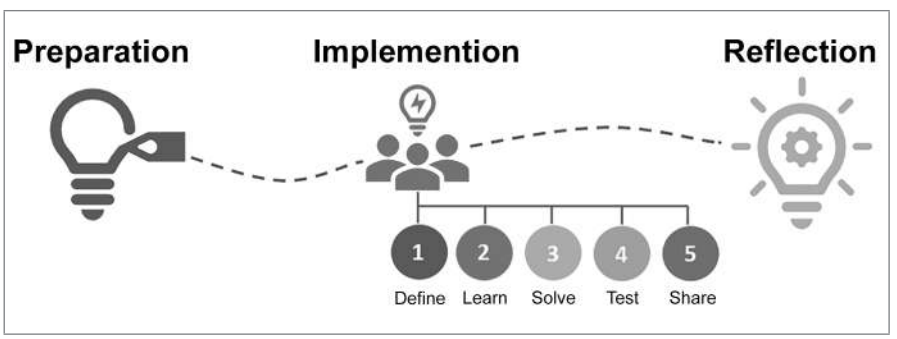


*Figure 1 - Phases in Innovative learning process*

## BACKGROUND OF THE TOOL

In order to coach the teachers needs to understand the nature of student centred learning, theory background from Design thinking and use of those tools. The best way to learn these is to simply- try those as a learner. Creating learning goals and achieving them creates a deep understanding of the changes in a teacher's role, which is the transformation from content provider to facili-

tating learning processes. Also, professional growth requires practical experience and reflection towards the learning theories and given educational competence requirements for degree programs. Through collaborative learning the teachers will find suitable tools for their context and peer-to-peer support and network. This learning path to become an Innovation Coach is presented in figure 2.

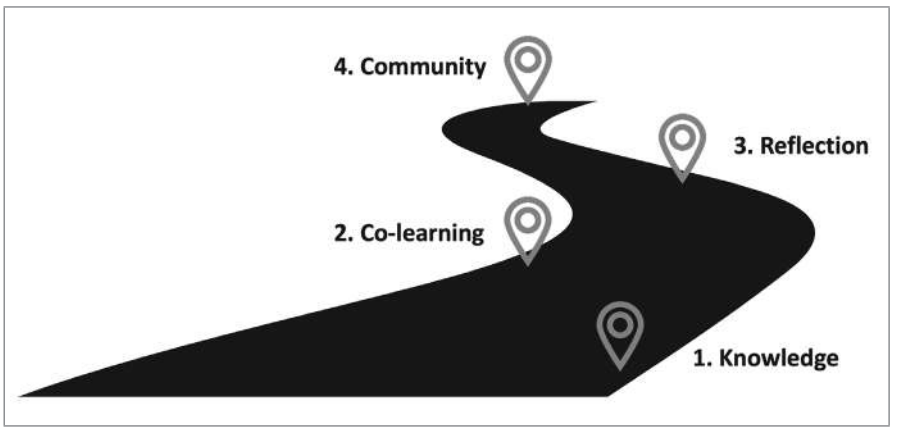


*Figure 2 - From teacher to Innovation Coach holistic learning path*

Understanding the learning process as a series of actions that a teacher has created with pedagogical principles instead of method-based tricks in one class, is a massive change but evitable in teachers' thinking. In this path teachers are constructing their own learning all the time and finding solutions for their own environment in a co-creational way. This guarantees that their professional development is sustainable and fitting their subject.

The process starts from creating the sufficient pedagogical knowledge and learning theory background but also understanding about the teams and development of teams and design thinking tools and process. This part is individual based work that can be done online. To check this theoretical understanding, the online test is a good method. In the co-learning part teachers are actively working as a team but also working with other stakeholders outside the school environment but also inside the school network – for example parents boards, company representatives or other NGO agents. Co-creating the challenge with stakeholders and the teacher team for students' learning process is time consuming but rewarding. Decision making is the first slow process and developing pedagogical thinking happens is interaction. The series of learning activities e.g. steps how the students can solve challenges in teams with collaborative methods is created together to meet requirements of curriculum. Reflection is an essential part of the process because that also creates professional growth but also wisdom for the use of the whole school community. Guided reflection needs to be

done to ensure professional growth but also as a teacher team to ensure learning quality and the process is supporting the learning goals. Last part is the community where teachers are collaboratively working with school staff and building learning environments that are beneficial for a larger audience than just their own students.

## THEORETICAL BACKGROUND OF THE TOOL

This method's deep roots are in Kolb's Cycle of Experiential Learning as, in essence, it is all about learning by doing and value creation pedagogy and specific elements of it can be seen throughout the process Kolb (1984), Lackeus (2016, 2019) and Lombardo et. al (1996). Figure 3 is showing the pedagogical framework in detail.

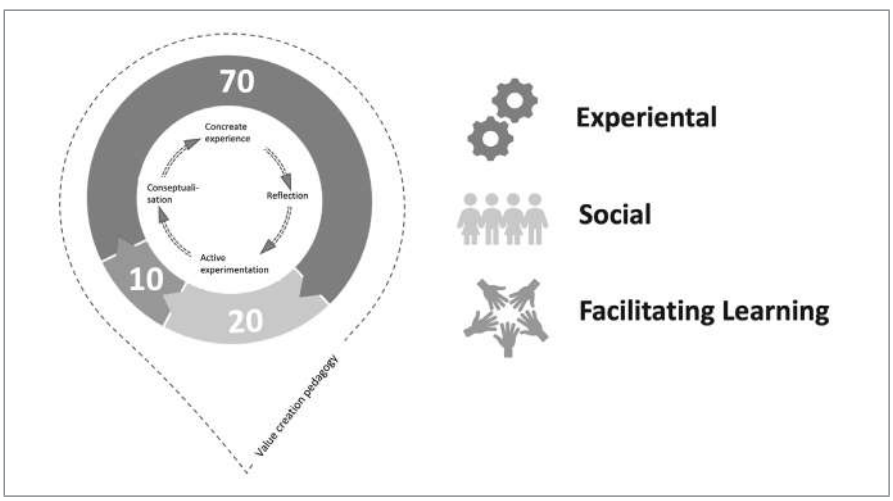


*Figure 3. Pedagogical framework modified from Kolb (1984), Lackeus (2016, 2019) and Lombardo & al. (1996)*

This forms the framework of the design thinking approach. Design thinking is a human-centred approach to innovation – anchored in understanding customer's needs, rapid prototyping, and generating creative ideas – that will transform the way you develop products, services, processes, and organizations. By using design thinking, you make decisions based on what customers really want instead of relying only on historical data or making risky bets based on instinct instead of evidence (Martin 2009, Dunne & Martin 2006). When learning creates value outside the student's own interest, it is shown that it creates natural motivation for students. Value creation pedagogy is when teachers let their students learn by applying their competencies (future or existing) to create something of value to at least one external stakeholder outside their own group, class,

or school. The value that the student creates for someone else can be economic, social, enjoyment, harmonical and influential (Lackeus 2016).

The 70-20-10 model is giving the insight for teachers to design the learning process. 70% of students time is action-based team learning whereas 20% of students time is social, meaning peer to peer learning and evaluation is happening and 10% of students time is teacher lead training or formal content based teaching (Lombardo et al 1996). In this model teachers are playing a key role by planning the learning process, principals, and activities that students are experiencing 90% of their time. This shifts the teachers work where teachers are more planning the activities and creating the framework and guidelines for students to work together and practising their creative and critical thinking in teams with the context of the challenge. Giving the needed theoretical understanding or insight the teachers need to plan the formal teaching content to meet the needs of the learning process. Most often the teachers underestimate the student's skills for seeking information and creating solutions.

Value creation pedagogy and 70-20-10 model both are supporting the students to take a role in their own learning process. Motivation towards learning is supported as the learning process continues. Teachers' role is to show the meaning of this tool from a wider perspective of life or as a citizen or work life skill. Also, the teachers role is to support the team and individual to know their skills and the good actions as a team member or in self leading skills. In a conflict situation a teacher's role is to help to solve the conflicts and maintain the safety of the learning environment and a good working spirit (Lackeus 2016).

Co-learning is happening in a group of 4 to 6 teachers. The theory behind this comes from peer-group mentoring, which is a modern model of supporting professional growth of teachers. When traditional mentoring is that a senior and more experienced worker will transfer the knowledge to younger colleagues, whereas Peer-group mentoring is based on the idea the relationship between the mentor and mentee is reciprocal and both parties have something to give to each other. This is based on a constructivist view of learning, where knowledge us such cannot be transferred between individuals because we always interpret new knowledge on the basis of prior knowledge, conceptions, experiences and beliefs (Heikkinen & al. 2012, 16). Discussions are the key element to create a common and shared understanding. In our model those reflection stops are preparing, implementation and reflection phase are creating and ensuring the development of shared understanding and professional growth as innovation coaches are gained.

Co-learning and reflection as an activity are required from teachers sharing and reflecting on their experiences, discussing problems and challenges they are facing during the implementation phase. Also, teachers need to have a safe and trust based learning environment where listening, encouraging one another and learning from each other can happen. Principles that need to be keep in mind where organising this kind of actions are:

1) All the members of the group are equal participants. (Teacher, coaches, stakeholder, teacher trainers). Everyone's voice will be heard, and nobody will dominate the discussion.
2) Shared experiences in a team will not be shared outside.
3) Participants are learners as well and making mistakes is part of the learning process (Mälkki 2019, Heikkinen et. al. 2012).

In the community part innovation coaches are understanding their active role in schools' stakeholders context and they are managing and developing their professional network. Also understanding the impact of the value, they are creating to a wider audience than just running a course. Students solving real-life challenges are creating an impact on other parties as well.

## EXPLANATION OF THE TOOL

Components:

- Teacher trainees
- Experienced innovation coach
- Students

Steps of the implementation:

1. Pre-work
    - Teacher trainees will create their individual learning tasks and the learning process is planned to support those.
    - Tasks and activities to support knowledge creation about Design Thinking philosophy, Design thinking tools, pedagogical understanding of experimental learning and value creation pedagogy and understanding the role of teamwork and stakeholder's role in a process.
    - Understanding the 70-20-10 model and pedagogical principles to design learning processes.
    - Teacher and challenge owner defines the challenge/problem according to agreed schedule.
    - Teacher creates the learning process and main activities (pre-work, action, reflect) together with experienced innovation coach and other teacher trainees.

- Students, that are taking part, are divided into interdisciplinary teams.
- Students work through previously planned pre-tasks (getting know team and process).

2. Implementation phase

   Planned learning process is carried out with the students and teachers' team. Co-learning moments are facilited to meet the teacher trainees' individual learning targets but sharing the experiences and sharing understanding about coaching, pedagogical model and design thinking tools is done in the whole learning group (experiment coaches and teacher trainees together). In our model there are 2 reflection stops during the week program. First reflection stop is about creating meaning, meaningful learning and how to start this learning process. The second reflection stop is sharing experiences, findings, and good tools. Also, to define the teachers own professional skills in cocreative and experiential learning process owner – creating own professional identity as a coach.

3. Reflection

   In this part the team of teachers are evaluating how the learning process is worked with a simple formula. Questions for that:

   1. Did our students solve the challenge?
   2. What were the learning targets and did this learning process meet those targets?
   3. What went very well?
   4. What do we need to reconsider or improve?
   5. What did we learn as teachers?
   6. What will we do differently for the next time?

   Sharing experiences, tools and learning processes components to a wider audience to increase learning is a larger level. Reflection to individual level to ensure professional growth and expanding the stakeholders' network.

4. Setting, place layout

   For teachers to become innovation coaches: an online platform to create new knowledge and a space for connecting to other teacher participants and teams where to co-learn and plan the learning process can happen. In the implementation phase the teachers are active actors in their teach-

er teams and with students. Then a space where to meet, discuss, share experiences, and reflect is needed for teacher teams.

Real learning environment set up for implementation phase for students:

- Stage – for presentations & pitching and giving instructions for a day and to teams.
- Team working space where to do collaborative teamwork (table, 5 chairs and flap paper and wall).
- Online platform (Moodle):
  - Pre-tasks and material for self-learning before the action part.
  - Design thinking tools are also available here (timely opened mornings/afternoon).
  - Outputs, reports, reflections, and other material to be shared to teacher/other teams.
  - Assessment.

**ROLE OF STUDENTS AND TEACHERS**

Teacher role:

- Teachers are designing and running the whole process
- Making sure that the result and outcomes are achieved ( NOT judging ideas/outcomes)
- Creating the suitable challenge with the client (value creation for the client and students)
- Helping students to understand the meaning of these tools as work life competences

Student role:

- Active participation is required

5. Assessment

- Not really needed but we have this kind of criteria's for teachers' trainees:
  - After completing this course, you will have learned:
    - Innovation and working life skills:
      - You are able to describe the basics of user-oriented method, based on references.
      - You know how to build a solution based on customer need, with your team.
      - You are able to create a learning process in your own teaching.

- Communication skills:
  - You are able to create good and powerful questions to create learning and handing the learning process.
  - Grounding your insight, giving instant feedback and practising collaborative communication skills in multiple ways to your collegues, challenge owner, student teams and other stakeholders.
- Learning skills, information management skills, reflection skills:
  - You are able to critically examine your and your teacher team's work in designing learning process, implementation phase when students are producing a solution for a customer-oriented problem.
  - You are able to reflect the development of your skills and knowledge and support the development of the skills and knowledge of your team members.

**EXPECTED OUTCOME**

Challenge owner:

- 1000 ideas, 10 tested concepts and 10 reports and other material.
- Real connection and talking with the students (usually summer jobs offerings and contacts but also continuing the work with teachers).

Teacher:

- Coaching skills upgrade.
- Multidisciplinary teams (wider perspective to see learning and current generation).
- Collaborative work with other teacher/coaches and with work life partners.

**CONCLUSION**

This is an effective way that requires teachers time to design and set up the process at the beginning. It develops skills to collaborate with stakeholders and skills to tolerate uncertainty which is always present in experimental learning processes. Also, teachers' skills on how to lead the change are developed. The key is to understand the teacher's agency. To create the change the teacher's need to change first themselves. In JAMK university of applied sciences we practised this over 10 years now and one of the learnings during these years is that the starting is the most important in this iterative process and this is constant developmental work. It is advisable to start from small groups of students and over

short time periods. A team size of 5 members is good and good resourcing is 2 coaches per 12 teams.

It is really required that the teachers are also learners in this experiential learning process. Purpose is to create an understanding of the learning process and the challenges the student might face during the learning process or in teamwork. Change cannot happen when teaching is done the same way.

Buddy teaching is a collaborative work where trust plays a role. Trust can be earned by actions. This means that teachers need to agree on the steps of the learning process and in implementation face communicating with each other truthfully and finding corrective actions together. Sharing the same understanding about the learning helps teachers to collaborate. Also, the teachers need to discuss and agree about pedagogical principles. Mostly this will have an effect in the implementation phase when the teams are needing constructive feedback and guidance on how to solve the problem together and also in peer-to-peer learning tools. Teachers' attitude is really showing to students but the wording, actions and how the teachers are treating students.

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