Building capacity – conceptualizing Training of Trainers

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ABSTRACT

Many organizations train and educate their staff to prepare for crisis. One approach is train-the-trainer (ToT; Training of trainers) concept. It is based on the idea that someone can be trained as a trainer, who in turn train their colleagues. The philosophy resembles a pyramid scheme that allows for a fast and efficient spread of knowledge and skills. This study focused on perceptions of the ToT concept through interviews with ToT trainers. Two learning theories, organizational learning (4I) and experiential learning theory (ELT) were used to conceptualize the ToT-concept. It was found that the ToT-concept can be used as the method to conduct ELT to achieve organizational learning and knowledge (4I). Furthermore, the study also presents how participants perceives ToT using thematic analysis. This resulted in four themes: Common understanding of ToT, Learn-by-doing, No grounding in ToT, and Difficult to ensure quality.

Keywords

Training of Trainers, Exercises, Learning, Capacity building

INTRODUCTION

It is common for organizations and companies to use the concept called "train-the-trainer" (ToT; Training of trainers). The aim with ToT is to train individuals in ToT-courses who then can become verified as trainers which allows them to train others. The intended result is an effective way of spreading knowledge (Baron, 2006). This way of spreading knowledge can be used in different fields. For example, the Centre for Teaching and Research in Disaster Medicine and Traumatology (KMC) uses the ToT-concept to train individuals to become Emergo Train System (ETS) Senior Instructors. ETS is an simulation platform that is used to train nurses and medical staff in surge capacity management. By such training, the trainers and their organizations together with KMC get a common language and understanding of ETS as well as how it can be used (Emergotrain, n.d.; Yarber et al., 2015).

ToT has proven to improve the performance of the trainers work, but also improved the trainers learning ability and this in different fields (Mackenzie et al., 2015). For example, the ToT-concept has been used in medicine (Orfaly et al., 2005) and occupational safety (Trabeau et al., 2008). Usually, a ToT-course uses for example simulations, reflections, and feedback in order for the trainers to learn as efficiently as possible (Baron, 2006; Royakkers et al., 2021). A ToT-course may be structured and designed in different ways depending on the purpose, as well in which field the course is taken in and what experiences the potential trainers have. This can affect the quality of a ToT-course. For example, Prytz and Jonsson (2019) writes that one concern with all kinds of ToT-

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concepts is if the quality of the education or training decreases in every education step. One explanation for this may be that it is difficult to control the amount of knowledge and information that is spread from step to step in the education program (Baron, 2006).

The purpose of this study is to investigate how the ToT-concept is perceived among ToT trainers.

TRAIN-THE-TRAINER

There are several definitions on what ToT is and how different companies or organizations use ToT in their work. A common definition of ToT is a "cascade of training". This refers to the fact that instructors teach in different domains, specific knowledge or other activities to trainers who then can become instructors and teach others in their fields or organizations (Baron, 2006). Previous research has evaluated how efficient the ToT-concept is as an education method for their specific field. For example, in medicine with health preparedness (Orfaly et al., 2005), occupational safety (Trabeau et al., 2008) and social service workers (Lai et al., 2016). A common conclusion is that ToT is an effective education method because of its exponential sharing of knowledge. Also, the ToT-concept can improve the trainers contact to the community that they are trained in since they get a better contextualized understanding. This can therefore also improve the collaboration between the community (Yarber et al., 2015; Baron, 2006).

There are also weaknesses with the ToT-approach. Baron (2006) writes that the exponential learning that ToT brings and the great volume of information that is spread can be problematic to control, especially if the information is inaccurate and dangerous. This can also have effects on the quality of the trainers and their sessions that they will have. For example, the trainers may sometimes not replicate the sessions that they have been trained into their organizations (Hahn et al., 2002). Other problems can also be with the instructors. An instructor can be an expert in a specific field , but may not be an expert in teaching and training others, for example not being enough pedagogical or not following up that the training group has understood everything (Baron, 2006).

Royakkers et al. (2021) describes that ToT combines theoretical knowledge with technical and non-technical skills with practical execution. The theoretical knowledge can be different activities in the course, for example, interactive group discussions or decision-making training. Technical skills can for example be a set-up, simulator, or training modules. Non-technical skills can be learner-centred coaching, formative feedback, or uniform communication. The practical execution can for example be "learning-by doing", such as role-plays or hand-on training. Royakkers et al. highlights two subjects that a ToT-course should consider to be successful in relation to learning. The first is *learner-centred coaching*, that an instructor should be able to adjust the tempo and level of the course in relation to the trainee's experiences and learning objectives. The second is that the instructor should provide constructive feedback, reflection, and evaluation after each exercise in a ToT-course. This includes both self-reflection and feedback from other participants as well as feedback from the expert. Moreover, the importance of understanding the theoretical framework as well as the two highlighted subjects that Royakkers et al. addressed is also something that Baron (2006) recommends when designing a ToT-course.

UN (n.d.) writes that instructors should use different types of teaching materials depending on the trainer's experience and expertise in the specific subject. Furthermore, the UN writes that when deciding on tasks some key elements should be considered. For example, tasks that are easy to understand should be addressed in the beginning of the ToT-course. This also includes concepts, terms, skills that will frequently be used throughout the course. Lastly, difficult tasks or terms should be introduced step by step during the course for those who are being trained to understand them.

Organizational learning

Organizational learning (4I) describes learning as a process where three different levels are connected to each other, individual, group and organizational. 4I describes how learning can transfer between the three different levels and how the learning changes during through social and psychological sub-processes. The sub-processes are the intuitive, interpreting, integrating, and institutionalizing which will be described below (Crossan et al., 1999).

The first sub-process, intuitive, and reflects the ability of individuals to unconsciously intuit learning through identifying patterns from its environment which can affect the actions. This depends on experiences and knowledge from the past, and differ between people, for example between a novice person and an expert (Crossan et al., 1999).

The next process, interpretation, occurs on both individual and group level. The individual must decide if the intuition should be shared to other individuals in the organization. Crossan et al. (1999) explains that interpretation is the explaining and defining of the intuition through words or actions to oneself and to others. What this means

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is that the process goes from preverbal to verbal which develops the language. When explaining the intuition to others a common understanding is created. Cognitive maps can be created with the help of discussions, reflections, or dialogues where the intuition can be verbalized and explained (Crossan et al., 1999).

Once the group reaches a common understanding, it enters the third process, integrating. The members of the group adapt to each other, and eventually affect the organizational level. For the process to reach the organizational level the language must be further developed for the conversations to be more nuanced and detailed (Crossan et al., 1999).

The last step is the institutionalizing process which occurs on the organizational level. Knowledge that the individual and the group have learned will not be dependent on specific individuals since the knowledge is "stored" in the organization. For example, if the individual who first conveyed the intuition would leave the organization it would not affect the overall knowledge or the organization in general. For the knowledge to stay within the organization it is important to do follow-ups and have routines (Crossan et al., 1999).

Experiential learning theory

Experiential learning theory (ELT) explains how learning and knowledge is created through the combination of grasping and transforming experiences (Kolb, 1984; Kolb & Kolb, 2011). The four-stage cycle process presented in figure 1 show how individual can learn through transforming experiences. Kolb and Kolb (2011) explain how effective learning can be achieved by experiencing, reflecting, thinking, and acting in a recursive process. Figure 1 show two learning modes of grasping and transforming experiences into knowledge. The first learning mode is how a learner can grasp experiences with concrete experience and abstract conceptualisation. The second learning mode describes how a learner can transform the experience to knowledge with reflective observation and active experimentation. These learning modes are described in the four-stage cycle and how they are related to each other (see Figure 1).
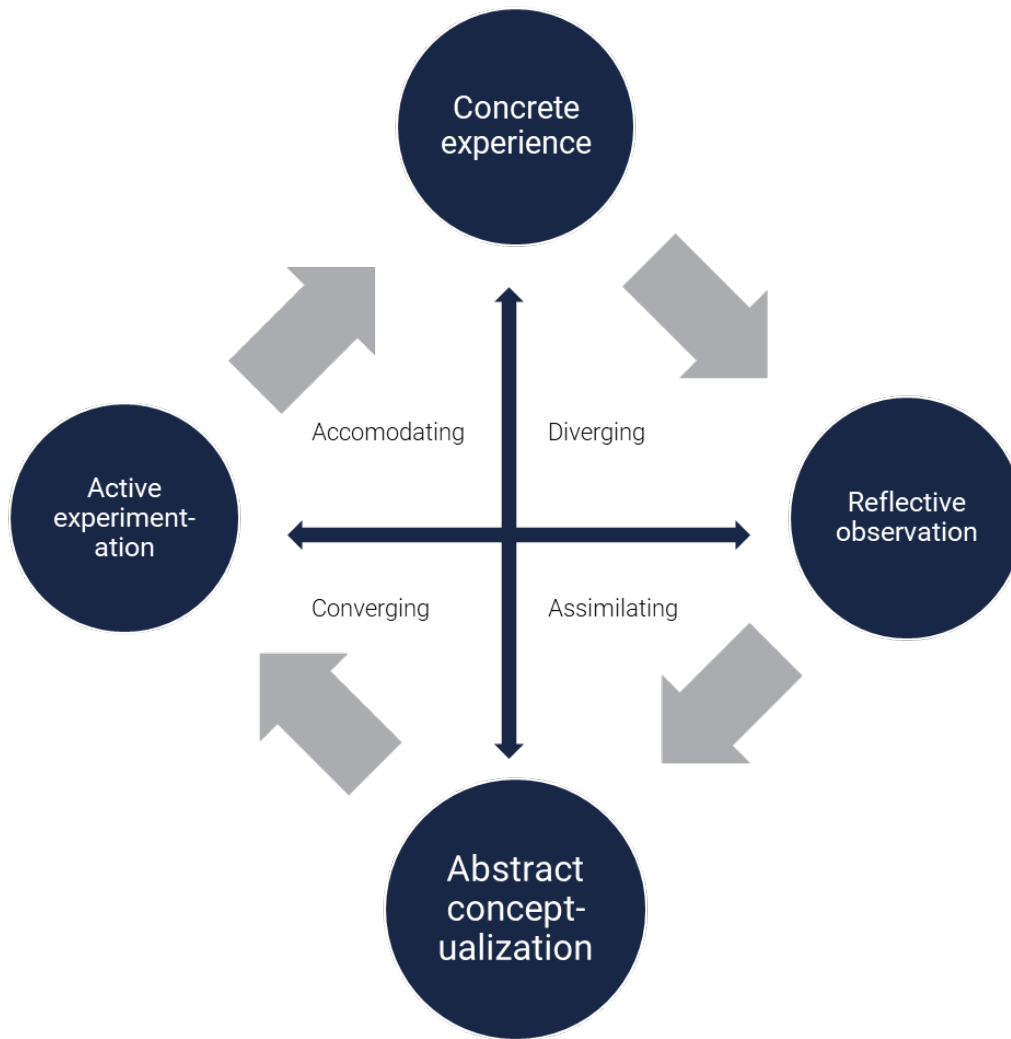
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Figure 1. The four-stage learning cycle, adapted from Kolb and Kolb (2011).

The first step in the process is experiencing or concrete experience. At this stage the learner grasps new experiences or reimagines old ones and interprets them differently than before. ELT describes that effective learning will not be achieved if the learner just reads or listens to a teacher. Instead, a learner must encounter new tasks or conduct an old task in a new way (Kolb & Kolb, 2011; Kolb, 1984). The second stage is reflecting or reflective observation. Here, a learner should reflect on the new tasks that they have conducted to understand the experience's meaning. The third stage is conceptualization or abstract conceptualisation where the learner creates new ideas and thoughts based on the reflections made in reflective observation, which can result in a new and modified understanding. The last and fourth stage is acting, active experimentation. The learner uses the conceptualized ideas and actively tests them (practical) which can help the learner to connect the experience to new ideas and events. By doing this experimentation it will initiate the next learning cycle process which causes it to start over (Kolb & Kolb, 2011; Kolb, 1984).

Synthesis

To conclude, the ToT-concept is used by several organizations and companies to educate and train their staff. However, there is no research on what conceptualizes ToT as a concept from a learning perspective. In the discussions above connections have been made to 4I and ELT to conceptualize the ToT-concept. The main points that have been made is that ToT can be a useful method to reach organizational learning. ELT describes how the most effective learning is achieved can be used as a theory or framework when designing a ToT-course. What this means is that ELT can be used as a framework to achieve effective learning. ToT can then be seen as the method to conduct ELT to achieve organizational learning, see Figure 2.
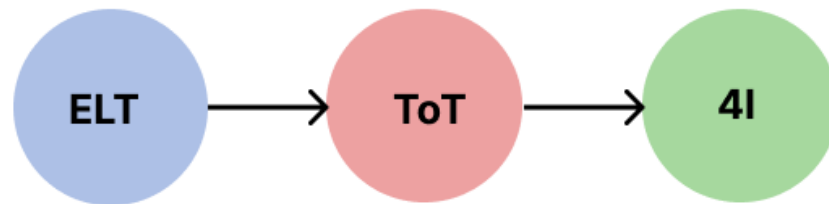
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Figure 2. Model of the synthesis.

METHOD

Nine trainers from ToT-courses were interviewed. Two cases are addressed, instructors using Emergo Train System (ETS) and ambulance nurses training instructors who will train colleagues in using treatment guidelines (Hodza-Beganovic et al., 2020; Carlsson et al., 2019; Hodza-Beganoivic et al., 2019).

Emergo Train System is a low-fidelity simulation platform for conducting exercises, mainly in pre-hospital management and surge capacity at hospitals. Focus is on resource management, communication, decision-making, logistics, and teamwork (Waring et al., 2021; Crombie et al., 2020; Lennquist, 2003). ETS has been used for preparedness exercises, burn disaster planning, management of major incidents (Nilsson et al., 2013; Gryth et al., 2010; Nilsson, 2012).

The participants all had backgrounds in the medical field and had been involved in different courses training instructors. Some worked as ambulance nurses, while others worked as emergency coordinators.

In order to understand what people think about the ToT-concept, semi-structured interviews were conducted (Howitt, 2010). The interviews were recorded and transcribed. The interviews lasted between 30-45 minutes each.

Before each interview, the interviewer described the purpose of the study to the participants. All participants signed an informed consent form. No sensitive implications were identified. After the interviews the answers were transcribed and analyzed using thematic analysis (Braun & Clarke, 2006). This that the analyst generates different themes that represent important and interesting aspects in relation to the aim of the study and to answer the research questions. Since the interviews were in Swedish the different quotes from the analysis were translated to English.

FINDINGS

The results from the thematic analysis are presented below. In total four themes were identified: Common understanding of ToT, Learn-by-doing, No grounding in ToT, and Difficult to ensure quality.

Common understanding of ToT

From the interviews all the participants had the same understanding of what the purpose of the ToT-concept is. Where all of them expressed that the aim is to spread knowledge in an effective way. The participants often compared ToT with "traditional" courses where the same spreading of knowledge is not as effective.

> *R8 "The purpose [of ToT] is to spread [knowledge], it takes quite an effort from us who offer the instructor course to by ourselves be able to spread it, so a fairly large spread in a simple way where it requires quite few resources to get such a large spread which it actually provides. So spread to many but with few resources."*

In relation to this all the participants also shared the same benefits of using ToT as a method for learning, where the effective way of spreading information is one part, but also that the different regions in Sweden "speaks" the same language and have the same knowledge when ToT have been used. Therefore, the knowledge stays within the organization.

> *R7 "Since then, times have changed, so you have a very high staff turnover in the ambulance organizations in a way that you did not have before but considering that you use the ToT-*

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> *concept conceptually as well, you still manage to maintain the knowledge in the organization despite that that people actually come and go and to a much greater extent with how it looked before."*

Overall, the participants thought the ToT-concept was a good method to train others where their work with the senior instructor course or ETS may not have been as successful without ToT. All the participants also had good experiences of being trainers, but also of being trained by others. Some of them expressed that training others is rewarding and that they have developed personally.

> *R8 "Yes, but it is rewarding, you are usually an instructor with people who are interested and committed, and it becomes very easy as they are usually passionate about what they are going to become instructors in, so there is a good dialogue around it. I think it is a positive challenge, it gives me a lot too."*

Learn-by-doing

To achieve the aim of ToT, to spread knowledge, the participants explained that the ToT-courses are designed with different stages where it gets more challenging for the individuals who are being trained for every stage. In relation to this the participants also explained that they use the "learning by doing method". This means that the training is experiential through practical training where they learn from what they did well or less well. By doing this the individuals who are being trained can develop and find their own role as an instructor.

> *R4 "No, but I think it is a lot about getting experience-based and you do things, you do good things, you do bad things and then you grow in it and then it becomes "learning by doing". That yes you need to go on rivets too and think yes but that was not good the way I did it and then you get to know yourself a bit where your limits are, and yes you may not be able to take on an instructor role just straight away like someone else here, but you kind of have to adapt to your own way and your own role, which you only can do by doing."*

Furthermore, the participants also explained that the ToT-courses are designed as a group process with reflections, discussions, and feedback from the trainers in order to achieve the purpose of ToT and to stimulate their learning process. Here the instructor also has an important role in adjusting a course according to participant experience as well in giving feedback and ensure that there is enough time for reflection. The participants also explained the importance of the course being realistic, because those who are being trained may be exposed to the event in real life and must therefore have the knowledge of how to act when required. The importance of feedback, group process and the realistic design of a course and how it stimulates the participants' learning in a ToT-course are also mentioned.

No grounding in ToT

From the interviews some of the participants explained that they had read literature about ToT. However, most of the participants explained that they have not or to a very little extent read literature about ToT as concept, pedagogics or other relevant literature. Some of them explained that they are aware of the literature that exists, but that they have not read it. Furthermore, the participants also explained that they have not been educated in ToT or "ToT-methodology" or any other pedagogy.

> *R4 "No, I do not think I have gotten an education in it or any educational training, no, but it has probably come over the years."*

Instead, the majority of the participants explained that they have gained inspiration in designing ToT-courses from real events or feedback from previous ToT-coruses. They also made connections in how the ambulance service works where you learn by experience and can use that experience, for example designing a course or giving feedback to a person who is being trained in becoming an instructor in a ToT-course.

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Difficult to ensure quality

From the interviews the participants thought that the ToT-courses that they have participated in, both as trainers and being trained, had a good quality. However, something that most of the participants mentioned as a weakness regarding the ToT-concept was the difficulty to ensure the quality after every step of training, when one who has been trained will train their organization. It is difficult to ensure that they will train others the same way that they have been trained. They expressed this problem, even though many of the participants believed that those who have been trained by KMC maintained a good quality based on how KMC had trained them. KMC does not have any method to investigate the quality of training of those who they have trained.

Some of the participants were concerned that it could create a "whisper game", where the instructor has an important role to ensure the quality. Because someone who has been trained could have interpreted something in the wrong way or created their own values and adaptations that do not align with the original. Other participants also expressed the important role that the instructor has when educating others and ensuring the quality. Someone can be an expert in the subject, but not in pedagogics or vice versa.

Since the majority of the participants expressed this problem, they also had suggestions on how to improve it. The most common suggestion was to have more follow-ups with the people who have been trained with a closer dialogue and communication between the various parties.

> R9 *"That particular disadvantage, maybe more frequent follow-up, it might be the instructors who have become instructors, they might not have to attend a course very often, but you might be able to get some written follow-up. Now I have trained 10 people in this and that you might have to fill out a piece of paper and then you can send it to the head trainers so that there is some form of quality review. So that it does not happen that you train 10 people and then in 10 years you see each other next time."*

DISCUSSION

The aim was to describe the ToT-concept from a learning perspective and to investigate what trainers think about the concept.

The participants explained that the aim with the ToT-concept is to spread information in an effective way. To achieve this aim, the participants design their ToT-curses by using the "learn-by-doing method". This means that an individual who is being trained can explore his/her own role as a future instructor by learning from mistakes or tasks that went well. The individuals perform practical tasks, i.e. where they experience and actively experiment. This is in line with ELT (Kolb & Kolb, 2011; Kolb, 1984), but also what previous research have addressed when designing ToT-courses, as it will ensure that the participants will practice (Royakkers et al., 2021; Baron, 2006). Furthermore, the participants also described the importance of making a ToT-course a group process where discussions, reflections, and feedback from each other and the trainer stimulate learning. Baron (2006) writes that collaborative learning stimulates participants' learning in the way that they can share thoughts, exchange experiences as well reflect and give feedback to each other. The participants explained that the instructor has an important role in adjusting a course according to participants´ experiences and knowledge and in making enough time for reflection and feedback.

Moreover, to achieve training with practical tasks, reflections, and feedback the participants explained that they design the ToT-courses in different steps. After each step a course gets more difficult and challenging for those who are being trained.

Lastly, most of the participants had not, or only to a small extent read literature about the ToT-concept. The participants also described that they have not been educated in "ToT-methodology" or any other relevant training pedagogy. However, all participants had the same perspective and understanding of the aim with ToT, fully in line with previous research (Baron, 2006). The participants also described how they design their ToT-courses, also in line with previous research (Royakkers et al., 2021; Baron, 2006; Lai et al., 2016; UN, n.d.).

The generated themes indicated a shared understanding of the purpose of ToT; to spread information and knowledge in an effective way. It was seen as an effective method of spreading knowledge on a large scale in comparison to more traditional courses. The participants also said that the ToT-concept has created a network within the 21 regions in Sweden, that they "speak" the same language and a common understanding of how to perform their tasks. This aligns with research where the ToT-concept can create a network where members can exchange knowledge and experiences with each other (Yarber et al., 2015). Furthermore, participants also meant

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that the ToT-concept has made the knowledge stay within the organization even though there is a lot of staff turnover. This can therefore be connected to organizational learning theory (4I) where the goal is to make the knowledge stay within the organization and not be dependent on specific individuals (Crossan et al., 1999). This also strengthens this study's synthesis that the ToT-concept can be used as a method to make sure that the knowledge stays within the organization and the goal with 4I.

Moreover, the participants had the same thoughts about the disadvantages of the ToT-concept. Most participants expressed difficulty to ensure the quality after every education step due to the quantity of knowledge that is being spread. Someone who has been trained as a trainer might tarin colleagues in a faulty way if he/she has misunderstood the education. This could create a "whisper game" where the message is altered over time between new receivers. This has been addressed earlier and can be risky if the information is incorrect or dangerous (Hahn et al., 2002; Prytz & Jonsson, 2019; Baron, 2006). As the participants work in healthcare, this may therefore be something to delve into more, so the right information and knowledge is spread through the ToT courses. Here, the participants addressed the instructor's role to ensure the quality of a ToT-course. The instructor must have the basic knowledge in the subject that is being taught, and in pedagogy. Some of the participants expressed that there have been some tendencies of too much focus on knowledge in pedagogy, but not as much in the actual subject. This problem is mentioned by Baron (2006) who writes that an instructor can be an expert in the subject but not in teaching and training others in it, which therefore can affect the quality of a course. One suggestion to address this was to have more follow-ups with those who have been trained, and to initiate dialogue within the network. This has not been addressed in the included literature and may be something for future research to investigate. To improve communication within the network and to have follow-ups can be connected to 4I (Crossan et al., 1999). For the knowledge to stay within the organization, communication and follow-ups are essential. So, to achieve organizational knowledge, but also to maintain the quality, and to ensure that the knowledge stays within the organization, a closer dialogue within the network and to conduct follow-ups can be one solution.

The participants described how they design ToT-courses with learn-by-doing, reflections and step-by-step in line with experiential learning theory (ELT) and its four-stage learning cycle. The descriptions from the participants also confirms Lindhagen (2022) and her descriptions in connection to ELT on how KMC educates future instructors in ETS-courses. In relation to 4I, the language has an important role, which is something that the participants explained with reflections and discussions. This is because the language helps people define, convey, and explain different terms or insights, and to proceed from the different sub-processes to achieve organizational learning (Crossan et al., 1999). Hence, ELT can be used as theory and ToT as the method to achieve organizational learning. For example, in line with ELT, experience-based training and the four-stage learning cycle, participants in ToT-courses are allowed to experience, reflect, experiment, and act using simulations (learn by doing), reflections, discussions, and feedback to grasp and transform experiences to knowledge and skills. Moving through the ELT step the sub-processes from 4I can begin. For example, an individual gets an idea (intuitive level) by recognising different patterns when performing tasks or listening to others. The individual can later interpret (interpretation level) this intuition by comparing it with previous experiences and knowledge. To do that language has an important role, as internal reflection. The individual can also share the intuition with others through shared reflections or discussions. From the reflections and discussions, the group can form new ideas by performing new tasks. New challenging tasks (as the participants explained) can lead to more nuanced reflections and discussions which deepens the understanding and knowledge about the subject (integrating level). With this new deepened understanding and knowledge, the trainer can educate its organization which will make the process to start over for new individuals. This knowledge will therefore not be dependent on specific individuals, instead it will be combined, and the knowledge can be kept within the organization, or in this case the 21 Swedish health care regions.

CONCLUSION

The purpose of this study was to investigate how the ToT-concept is perceived among ToT trainers. We have identified definitions of the ToT-concept and put it in a theoretical learning context. To train individuals through ToT-courses who then can become verified as trainers which allows them to train others is a useful definition of ToT, and where the intended result is an effective way of spreading knowledge (Baron, 2006). Through interviews with trainers, who train new trainers, discuss how they perceive ToT. The results show how the design of a ToT-course has similarities with, and can be framed using ELT. ToT as a concept also fits well with the 4I framework where the aim achieve organizational learning. A model was suggested which presents how ELT can be used to explain and increase learning from ToT-courses, and in turn, how this can result in, and affect organizational learning. The participants discussed how ToT-courses were designed, which was in line with ELT and the 4I framework. The analysis of the interviews in four themes: Common understanding of ToT, Learn-by-doing, No grounding in ToT, and Difficult to ensure quality.

The ToT-concept is frequently used in different fields and in different organizations. It is an effective means of

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spreading knowledge and educating people. It is inexpensive and can quickly contribute to educate and train many new colleagues. In situations where organisational infrastructure has been seriously impaired, like after a disaster, a ToT approach to increase number of trained persons can be a very effective in building capacity.

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