Citation for the published paper:

Haave, Hanne Marit; Vold, Aud Tone. (2018) Knowledge management in action: A case study from Norway. Proceedings of the ... European conference on knowledge management. vol. 1.

Knowledge Management in Action: A Case Study From Norway

Hanne Haave and Tone Vold
The Inland Norway University of Applied Sciences, Norway
hanne.haave@inn.no
tone.vold@inn.no

Abstract: Organizations may experience a knowledge gap and the most common way of covering the gap is to either hire the competence needed or educate the existing work force. In this paper, we present a case study of a training executive that experienced a knowledge gap regarding his own execution of his job. The case study shows how learning by doing, doing by learning, assimilating, developing and sharing knowledge in an organization can enhance and develop ones work and induce changes in ones workplace. This paper will present how this approach has contributed to develop routines for training new staff, and how it has enabled the co-workers to take part in developing these routines, and execute them. The result is a dramatic reduction in the time it takes new staff to be operable.

Keywords: knowledge sharing, knowledge management, reflective practice, reflective practitioner, case study

1. Introduction

In order to develop and stay competitive, many organizations also need to be learning organizations. Knowing that any learning organization is dependent on that it is the individuals within the organization that needs to learn, for instance about either about new approaches or new technologies, it is vital also to disseminate, share and make use of this new acquired knowledge (Davenport 1998, Filstad and Blåka 2007) in order to make learning in organizations happen.

For a learning organization, it is possible to gain new knowledge in different ways; by organizing internal courses, send staff to external courses/education, or by recruiting new staff. When recruiting new staff, the time it takes from the hiring to being fully operable may vary. The longer it takes for the new staff to be operative, the higher the cost for the organization (Filstad and Blåka 2007).

However, it may also require a learning process in the organization. If the organization experience a long period before all new staff are operable, it may also be necessary to do something about the training or introduction.

In this paper, we present a case study from Norway. The person in question, our informant is a training executive at a department of a larger company and responsible for developing a new program for the intern- training in his workplace. The background for changing the newcomer training is said to be a high turnover in the company, and thus the need for training in the workplace is comprehensive. It also has been a problem with how the newcomers are prepared for the job. They have had a system with the most experienced employees being responsible for training newcomers as a side-man training. The problems with this seemed to be that

- The learning process would take a long time as it took about a month before the new employees were operative,

- The quality of the training would differ due to the senior member's competence, sometimes in lack of up-to date-knowledge.

Our informant has taken a study program at The Inland Norway University of Applied Sciences called "Knowledge Management" and consists of 4 courses of 7, 5 study points each. The study is seminar based and with extensive use of "flipped classroom"-approach, using streaming video and assignments between the seminars and student active methods at the seminars. The study Knowledge Management has been taught using student active methods that support and facilitate for reflection and reflective thinking.

In this case study, we look into and show how individual learning and organizational learning can be connected. It shows how it is possible to build a bridge between the formal knowledge and learning with learning in the workplace. We argue that the case show how this person has been responsible for implementing new regimes based on what he has learned from his studies. As well as this case shows learning processes on different levels – also within the organization. How he has managed to utilize his knowledge in order to facilitate for a learning process and a change process within the department makes this an interesting case.

2. Theoretical backdrop

Davenport and Prusak (1998) defined KM as being about capturing, distributing and making sense and use of knowledge. Reducing training time on new staff and supporting their development to become "full members" of the organization, means that monetary costs are reduced as well as the organization has enhanced its knowledge repository. This will aid in the process of staying competitive. This also support Frappaolo's (2006) definition: "Knowledge Management is the leveraging of collective wisdom to increase responsiveness and innovation".

Gilbert Ryle (1949)introduced the terms "knowing what" and "knowing how". Combining this with Peter Senge's (1992) five disciplines about sharing visions, mental models and working in teams to support personal mastery, will support systems thinking. To be able to understand "the system" and utilize this understanding in order to enhance the work environment is a key to innovation and development.

When deciding on new staff, this may be a decision made after finding a gap between who works there and the work tasks in question (Lai 2013). Linda Lai has introduced the knowledge gap model.
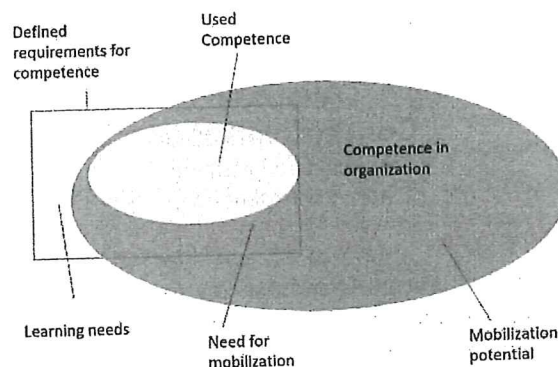

Figure 1: Competence mobilization model (Lai 2013)

The model show how knowledge can be distributed in the organization. The knowledge in use may differ from the collective knowledge. The mapping of the total competence can disclose unutilized competence. The knowledge needed but not existing in the organization can thus be acquired by educating the staff or hire new work force. Training new staff can be time consuming and the time that it takes the new employee to be fully functional may vary. The shorter the time is, the more cost effective for the organization. New staff and/or education may also contribute towards learning in organizations. If they have the competences and/or knowledge needed in the organization, it is also a question of disseminating and sharing the knowledge and put the new knowledge "to work". This may require different processes. For instance, to make use of new knowledge may require a learning process from the organization that resemble a double loop learning as described by Chris Argyris and Donald Schön (1996).
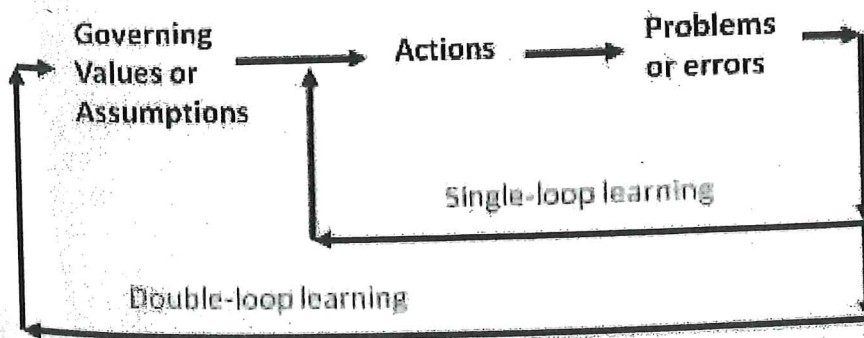

Figure 2: Single and double loop learning from : Organizational learning: a theory of action perspective (Argyris and Schön 1978)

This means that the organization needs to do things differently in order to make use of the new knowledge. It may require changes in organizing, in how they organize knowledge sharing, how they reward knowledge sharing, and how they organize the processes of organizational change.

The change process is also a learning process. It is thus also important to draw lessons from adult learning. Adults learn best by using their previous experiences to acquire new knowledge (Dewey 1938). Just like David A. Kolb (1984) described in his experiential learning cycle, building on existing experience, new experiences can lead to a reflection process around what happened and lessons to be drawn from the new experiences, and how to process this in order to establish new experiences to learn from.
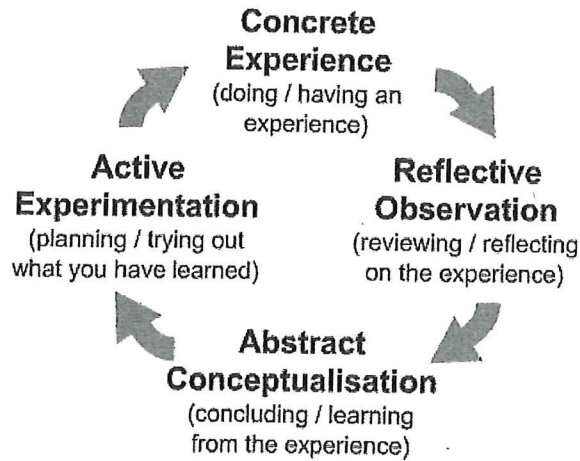
Concrete Experience
(doing / having an experience)

Active Experimentation
(planning / trying out what you have learned)

Reflective Observation
(reviewing / reflecting on the experience)

Abstract Conceptualisation
(concluding / learning from the experience)

Figure 3: Kolb's experiential learning cycle

To be actively involved in the learning process is another key feature (Knowles 1984, Knowles 1990). The "owning" of the new knowledge and organization is important to secure loyalty and ownership towards the solutions. Knowledge can be distributed in different ways. One can learn by working together with peers and copy what they do. This "apprenticeship" can be important when sustaining a particular knowledge in an organization. In order to create new knowledge, it is possible to create what Jean Lave and Etienne Wenger call "Communities of Practice" (1991). This is in short where peers meet and discuss solutions to existing or emerging problems. Depending on the area in question and the experience and knowledge level of the peers they will have different roles in the community of practice, meaning their legitimate peripheral participating may vary.

Some types of knowledge is also difficult to share, such as tacit knowledge. Tacit knowledge is the type of knowledge that is difficult to verbalize and is a part of the individual's internalized personal knowledge (Polanyi 1967). Nonaka and Takeuchi (Nonaka and Takeuchi 1995, Von Krogh et al. 2000) described a way of distributing this tacit knowledge, called the SECI-model.

Tacit knowledge

Socialization	Externalization
Empathizing	Articulating
Embodying	Connecting
Internalization	Combination

Tacit knowledge

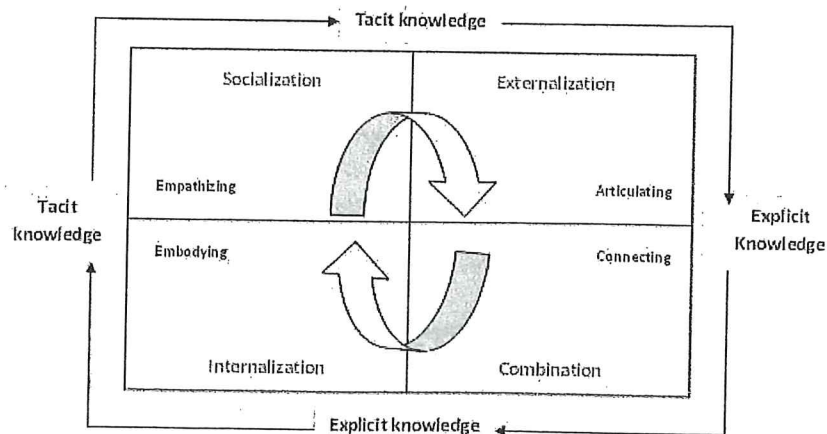Explicit Knowledge

Explicit knowledge

Figure 4: The SECI-model from Nonaka and Takeuchi (1995)

The figure describes a way of disseminating tacit knowledge by socializing and discussing around the theme in question, this needs to be elaborated and thus externalized through articulation. It then needs to be connected and combined with the learners own knowledge and lastly, they need to internalize the new knowledge and make it their own, and thus again; tacit knowledge.

It is also important to recognize if the knowledge is only declarative or procedural. Gilbert Ryle (1949) describe different types of knowledge as *knowing what* and *knowing how*. Sometimes it is also about knowing when to use what knowledge for which situation.

3. Methodical approach

The research design is a case study with a one-case study unit. Yin (2014) defines a case as "a contemporary phenomenon within its real-life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context". The case-study approach give us the possibility of understanding the interaction between participants and context. It also gives us the possibility of so-called thick descriptions of the case and the situation (Geertz 1973, Remenyi 2012).

Remenyi (2012) states that before a case study research one should conduct a pilot case study. The pilot case study was done as a part of the preliminary research and the outcome of this resulted in the present case study.

Remenyi (2012) suggest using a "gatekeeper" that ensures access to relevant data. Our "gatekeeper" is also our informant and we chose our informant on the background of his relevant combination of being a Knowledge Management (KM) student and at the same time responsible for the intern-training program in his workplace. The data are collected by a semi-structured in-depth interview with the informant. This has given us an understanding of how the informant has experienced his learning processes. The fact that his job gave him the possibility of combining theories of KM with real life project of implementing the newcomer intern-training program made him an interesting case for us to study. As it is our understanding that "...reality is constructed by individuals interacting with their social worlds" (Merriam, 1998), in analyzing our data we search for the informant's understanding of his learning process and of the organizational events. We aim at capturing the informants' meanings of these processes. The data have been analyzed by theoretical categories relevant to understand how the processes of both individual learning and organizational changes have taken place.

Limitations to the study will be that, although we have a broad description of the case, and the processes of learning and implementation, there would have been interesting to do observations and interviews with other members in the workplace.

4. Results

The material shows that our informant has managed to take what he has learned from the KM study program and made direct use of it in his work as responsible for the intern-training program. He has been responsible for changing the newcomers training program, by reorganizing and intensifying the program. As a result, the newcomers have become operative after two weeks, instead of one month as under the previous regime.

The fact that the company hired someone new to manage their intern-training indicates that they have acknowledged the need for a change. This is according to Lai's competence mobilization model (2013) to identify the knowledge gap and the needs for competence in the organization. The next step is to use the intern competence and mobilize it to do the intern training even better, at least when it comes to the newcomers.

The mentors in the new program were recruited from the criteria that they are amongst those that are most skilled at their work in combination with being good at explaining. The training is a combination of learning in a social setting with explaining and discussions, where tacit knowledge is made explicit, and then internalized by the newcomers. (Nonaka and Takeuchi 1995)

According to our informant, the mentors find it both interesting and some kind of a diversion to be able to take part in the training. It is also a fact that there are no strong incentives to participate in this. The mentors have to work extra shifts to be able to do the mentoring during the daytime. They get some minor benefits, but no extra pay. Thus, the changes in the training program seems to have been developed in cooperation with the rest of the experienced staff. This resembles the use of Communities of Practice (Lave and Wenger 1991, Wenger 1998).

Before:	After:
Share knowledge: "sideman training" – where the most experienced was responsible for training newcomers along their work, and showing them the ways to do the job. Problems with high turnover Correct knowledge-risk that the quality of the training would differ due to the senior member's competence It took one month for newcomers to be operative	A form of apprenticeship training is still in use, as experienced employees are mentors to newcomers when it comes to learning in praxis. The learning sequences are more intensive and last for one week. The management are more in control with the content as the "curriculum" are more standardized than before. Newcomers are operative in two weeks

Our informant *"has brought his school-books with him to the workplace"* and have combined his studies with developing the new training-program. He has thus managed not only to relate to the study program and learn from the curriculum, but has also achieved to take the knowledge with him to work (literary spoken) and make good use of it in his job, namely as a reflective practitioner. We find that our informant has had a learning process on an individual level. It seems that the new competence has also been transformed into a learning process at an organizational level, and thus be contemplated as a form of reflective practice (Bolton 2014).

Is there according to our material a culture for learning in the organization?

In the interview, our informant points out that the change in intern-training has been initiated by the local management. *"It's local, not something that has been thrown down on us from above"*.

This statement points to the ownership of the solutions. To have been a part of developing the solutions they have made use of, is important for the dedication and loyalty towards the work to be done in order to solve the problem (of reducing the training time for the new recruits). This coheres with organizational learning theory that support the co-development with the workers in order to create sustainable solutions (Filstad and Blåka 2007). Establishing a culture for introducing knowledge management (KM) issues is according to Davenport and Prusak (1998) difficult to enable. This is confirmed by Moffett et al. (2003) who have done investigations where few report on the climate change that enables the KM issues to unfold. In our case study, the climate and culture for embracing KM issues (e.g. knowledge sharing) has been a major factor for learning in the organization.

5. Conclusion

The background for our study is the development of KM process in a company in a town in Eastern Norway. Our informant has participated in a "Knowledge Management" study program. At the same time, he started in a new job as responsible for developing a new program for the intern- training in his workplace. Where problem with high turnover and the need for workplace training is comprehensive. It also has been a problem that it took a long time to get the new employees operative. Furthermore, the quality of the training would differ due to the senior member's competence. The way our informant has managed to reduce the time of the newly recruited personnel to be operative (from several months to approximately two weeks), is a result of how our informant has introduced the change in the organization. The co-workers have had a part in how they were to organize the work of training the new staff (create "apprenticeships") and this has required a double loop learning cycle (Argyris and Schön 1996) in the company. The way they have found the new way of training new recruits resembles the use of Communities of Practice, and the employees take responsibility of the training and seem to "own" the solutions.

The "apprenticeships" is a way of sharing both tacit and explicit knowledge in the organization.

The case study shows how an employee with a knowledge management theory based education, can have an impact on major changes in the intern-training of an organization.

5.1 Further research

The discovery of the lack of updated knowledge requires attention and how our informant should go about detecting less updated knowledge and organize training for these employees will be an interesting research project. It is required and necessary for the organization to be updated regarding their work. Following up our informant in this work, will be interesting and be a source for further research.

References

Argyris, C. and Schön, D. (1996) *Organizational Learning II. Theory, Method, and Practice* New York: Addison-Wesley Publishing Company, Inc.

Argyris, C. and Schön, D. A. (1978) *Organizational learning : a theory of action perspective,* Reading, Mass: Addison-Wesley.

Bolton, G. (2014) *Reflective practice : writing and professional development,* 4th ed. ed., Los Angeles: SAGE.

Davenport, T., & Prusak, L. (1998). : (1998) *Working Knowledge: How organizations manage what they know.*

Davenport, T. and Prusak, L. (1998) Working Knowledge: How organizations manage what they know. *Havard Business School Press.*

Dewey, J. (1938) *Experience & Education,* New York: Touchstone.

Filstad, C. and Blåka, G. (2007) *Learning in organizations,* Oslo: Cappelen.

Frappaolo, C. (2006) *Knowledge management,* Capstone Publishing [online], available: [accessed

Geertz, C. (1973) *The Interpretation of cultures,* New York: Basic Book.

Knowles, M. S. (1984) *Andragogy in action,* San Francisco: Jossey-Bass.

Knowles, M. S. (1990) *The adult learner: a neglected species,* Houston: Gulf Pub. Co.

Kolb, D. A. (1984) *Experiential learning: experience as the source of learning and development,* Englewood Cliffs, N.J.: Prentice-Hall.

Lai, L. (2013) *Strategisk kompetanseledelse,* Bergen: Fagbokforl.

Lave, J. and Wenger, E. (1991) *Situated learning - Legitimate peripheral participation,* Cambridge: Cambridge University Press.

Moffett, S., McAdam, R. and Parkinson, S. (2003) Technology and people factors in knowledge management: An empirical analysis. *Total Quality Management & Business Excellence, 14*(2), pp. 215-224.

Nonaka, I. and Takeuchi, H. (1995) *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation,* New York: Oxford University Press.

Polanyi, M. (1967) *The tacit dimension, Anchor Books,* Garden City, N. Y: Doubleday.

Remenyi, D. (2012) *Case Study Research : The Quick Guide Series, Case Study Research,* Reading: Academic Conferences Publishing International.

Ryle, G. (1949) *The Concept of Mind,* London: University of Chicago Press.

Senge, P. M. (1992) *The fifth discipline : the art and practice of the learning organization,* London: Century Business.

Von Krogh, G., Ichijåo, K. and Nonaka, I. (2000) *Enabling knowledge creation: how to unlock the mystery of tacit knowledge and release the power of innovation, Enabling knowledge creation,* Oxford: Oxford University Press.

Wenger, E. (1998) *Communities of practice: learning, meaning, and identity,* Cambridge: Cambridge University Press.

Yin, R. K. (2014) *Case study research : design and methods,* 5th ed. ed., Los Angeles, Calif: SAGE.