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KM Strategies taught for Crisis Preparedness

Stig Holen, Ole Jørgen Steffenrud Ranglund, Linda Kiønig and Tone Vold
Hedmark University of Applied Sciences, Rena, Norway

stig.holen@hihm.no

ole.ranglund@hihm.no,

linda.kionig@hihm.no,

tone.vold@hihm.no

Abstract: Knowledge Management (KM) is about capturing, distributing and making sense and use of knowledge, as stated by Davenport (1994). Teaching students about how to capture what data, distributing what data and how to make sense and use which knowledge, has become increasingly important as the organizations, both in the private and public sector, have seen the benefits of KM. One area that has singled itself out in Norway, particularly after the terror strike of 22 July 2011, is the need for being prepared for crisis. Both in municipalities and in organizations, the need for capturing, distributing and making sense and use of knowledge that can contribute to avoiding crisis of any kind has become a significant area of interest. However, it is not only about capturing, distributing and making sense and use of knowledge, we claim. It is also about making students capable of capturing, distributing and making sense and use of the knowledge. We have thus seen the need for enabling by empowering the students and provide them with knowledge on how to be able to conduct KM. The paper will describe how this is undertaken in a course at Hedmark University of Applied Science. The main feature is about providing the students with knowledge on how to discover, analyze and handle cases. It is explained how the students are trained to discover, discuss, analyze and handle different cases plenary in smaller and larger groups. The data the paper is based on are collected by group interviews. The students report on increased learning outcome and being more qualified to solve, and prevent, issues (like potential crisis) in their own organization. Both researchers and students have used member checking to validate and secure credibility and improve the accuracy of the data.

Keywords: crisis preparedness, crisis communication, knowledge sharing, KM principles, Positive Deviance

1. Introduction

The danger of terror strikes has seemed to increase these last few years. In Norway a new awareness arose after the terror strike on July 22nd in 2011 (Gjørv, 2012). Most recent the terror strikes in Paris and Belgium also contributed to a higher awareness and need for preparedness (<http://www.nrk.no/nyheter/terrorangrep-i-paris-1.12653115>) (http://www.nytimes.com/interactive/2015/11/15/world/europe/belgium-terrorism-suspects.html?_r=0) The need for being prepared for crisis emerged and this is manifested in demands for municipalities to create plans and train for crisis preparedness ((DSB), 2012, Beredskapsdepartementet, 2012).

This creates the demand for education within this field. Hence, a degree in crisis preparedness and crisis management was developed at Hedmark University of Applied Sciences.

For several years Hedmark University of Applied Sciences has taught Knowledge Management (KM) in the study of Organization and Management. KM is about capturing, distributing and making sense and use of knowledge, as stated by Davenport (1994).

Combined with the focus on enhancing the students learning outcome through student active methods, the desire was to utilize these student active methods with KM strategies in order to enhance also the learning of preparedness for crisis and crisis management. Crisis preparedness and management is also about capturing information and knowledge, it is about sharing (distributing) knowledge and also there is a great need to make sense of the information and the "making use" of the knowledge is on how you either handle and manage the crisis or how you avoid it.

Also, the desire is to educate reflective practitioners (Schön, 1987, Schön, 1991) is high, particular within the area of Crisis Communication. They also need to be able to receive, refine, make sense of and act upon information, and also to communicate (share) further, all in order to aid in a serious situation, like a terror action or an accident. What they need to communicate is decided by the curriculum in the course Crisis Communication, and the other courses in the bachelor degree. In this paper, a group of three students have been followed closely with the purpose of teaching the students about KM principles and how to utilize them with regards to their assignment. KM principles are not an explicit part of their curriculum during their study.

However, to learn to retrieve, make sense of and use information should be very useful regarding solving assignments.

The students are engaged in work at the Norwegian Red Cross, and have thus experiences with crisis and crisis management. With this background, they wanted to learn more about prevent and manage crisis and enrolled in the bachelor degree at Hedmark University of Applied Sciences.

1.1 July 22nd 2011- When Terror Struck in Norway

The students have also been involved in the rescue operation at Utøya in 2011. This was the second place terror struck on July 22nd 2011 (Gjørsv, 2012). The first place where the terrorist Anders Behring Breivik struck was at the government offices in the middle of the city center of Oslo, the capitol of Norway. The terror action is the largest on Norwegian soil in peace time, killing a total of 77 and injuring approximately 100 persons. The number of killed could have been higher if it had not been in the middle of the time most Norwegians have their summer holiday.

This terror action proved to be a turning point for our perception and adaption to a larger terror threat, and preparedness thinking on a national level. This newly gained consciousness regarding terror supports the need and effort for learning about preparedness for crisis, transfer of knowledge and also KM.

1.2 Positive Deviance as method of inquiry

The group consisted of three students. During the advising session, they were explained the assignment, which was about exploring crisis communication cases, and interview people they knew had been working with crisis and crisis communication. This type of assignments makes the students actively seek information and knowledge which supports engagement and involvement (Filstad, 2010, Filstad, 2016).

They were also to use the method of Positive Deviance which is about finding cases where statistically things should have gone “wrong”, but did not, and to find out why in order to use this to improve the situation for others (Singhal, Buscell et al., 2010, Vold and Kiønig, 2015). This approach is somewhat different than most inquiry methods regarding decomposing crisis. Generally, the focus is on what has gone wrong and how to avoid this in the future. Using the method of Positive Deviance will focus differently and in our experiences, there are valuable lessons to be learned from these deviances. The respondents are also more relaxed and less defensive when they can elaborate on success stories rather than defend their choices where it went wrong. Using the method of Positive Deviance thus enables *knowledge sharing* and *knowledge collecting*.

1.3 The research question

The research has thus been to focus on the impact of using and utilizing KM principles, like collecting and sharing knowledge, when working with students assignments. The advising has been conducted with a clear focus on KM principles and with the aim of not only collecting data for their assignments at our University, but also focus on how they can utilize this knowledge in their later worklife.

The research question has thus been:

How can teaching students KM strategies support learning about crisis preparedness and crisis management?

One of the student groups in the course Crisis Communication volunteered to test out working with the method of Positive Deviance when doing their assignment of interviewing managers in call out services. Since they all have a background in the Norwegian Red Cross working with emergency situations, they already have experiences they can make use of in their education. Combining this with being taught how to retrieve, collect, make sense of and share the knowledge they uncovered, and teaching them about methods of collectively making sense of knowledge and how to share the knowledge in groups (like Communities of Practices (CoP's) as described by J. Lave and E. Wenger(1991)) represent a student activity that they will be able to benefit from in later worklife. To use the different ways of analyzing that are presented in the course on the collected material in order to make sense and learn from the knowledge collected, will offer them ways of analyzing own experiences when they return to their worklife. Through the supervising of the students, they are taught how to work as CoP's and how to combine and make sense of their experiences. They are also taught about systems thinking, shared mental models and group learning from Peter Senge and his five disciplines (Senge, 1992).

2. Theoretical backdrop

Knowledge Management (KM) is about capturing, sharing, making sense of and making use of knowledge (Davenport, 1994). And even if there are discussions as to the definition including von Krogh et al(2000) claim that knowledge cannot be managed and McAdam and McCreedy (2000) state that: “KM relates to the management of anything classified as knowledge”, the definition chosen for the work in this paper, is the one by Davenport. Student active methods are inspired by theory on experiential learning(Silberman, 2007). To learn from experiencing and to reflect on the experiences is important to the learning outcome. The reflecting upon own experiences in order to have a learning outcome from it, is described in David A. Kolb’s experiential learning cycle(Kolb, 1984). The cycle describes how one can have a concrete experience that requires a reflective observation where one is reviewing and reflecting upon the experience. Then follows a phase of where one reflects upon the learning from the experience (abstract conceptualization) before trying out what one has learned (active experimentation).

To be able to use the students own experiences regarding the reflection processes, will support the learning process (Boud, Keogh et al., 1985). The students are encouraged to form groups similar from principles of Communities of Practice described by Lave and Wenger (Lave and Wenger, 1991, Wenger, 1998). As CoP’s are defined as: “... groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly”(Wenger-Traynor, 2016) this will not only support their learning process at our University, but also support their process of training for learning in later worklife.

Learning and *reflecting* are also interconnected. Reflections can be done within the team, but also each team member must learn how to reflect in and on action, as described by Donald Schön (Schön, 1987, Schön, 1991). To become a “the reflective practitioner” is important for the learning outcome and for the work to be undertaken in the future. This will support an ongoing learning process that will prove beneficial, as each crisis and each accident will be different and also perceived differently.

Reflection is also an important part of “sense making”(Weick, 1995). Sense making is ongoing and based on reflections from actions and information, and although reflection can be a personal process, it is important to bring in the social aspect as this improves on the common understanding and “shared vision”(Senge, 1992).

The desire is also then to change the students, not only to become reflective practitioners, but also make them learn through self-reflection. Jack Mezirow has defined this as “transformative learning” and is “...the process of learning through critical self-reflection, which results in the reformation of a meaning perspective to allow a more inclusive, discriminating, and integrative understanding of one’s experience. Learning includes acting on these insights” (Mezirow, 1990). This is similar to what Gilbert Ryle (1949) states when he discusses the need to go from “knowing what” to “knowing how”. This is possible to achieve with the student active methods. Using assignments that utilizes the students own work on collecting knowledge will enable the students to go from “knowing what” to “knowing how”. The assignments and the discussions within their CoP’s will provide them with tools for working with these issues.

The students in higher education are adult learners. Theory on how adults learn is thus of major importance. This theory aligns with learning in organizations as the main features are about involving and engaging the participants (in adult learning: the learner, in worklife: the workers). Involving and engaging will support the process of creating ownership of the solutions in worklife(Filstad, 2010, Filstad and Blåka, 2007) and enhance the experienced learning outcome(Brookfield, 1991, Knowles, 1990, Rogers, 2007).

Also to learn from crisis it is important to disseminate what can be retrieved as information with regards to the incident. It is for instance possible to also utilize techniques like “The Critical Incident Technique”(Flanagan, 1954). This is about using”... a set of procedures for collecting direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems and developing broad psychological principles. The critical incident technique outlines procedures for collecting observed incidents having special significance and meeting systematically defined criteria”(Flanagan, 1954). It is about people with adequate background presenting observations from incidents and it is again about capturing, making sense and use of information and knowledge.

Using Positive Deviance as a method of inquiry for the students will allow their respondents to elaborate on crisis in a positive way and be able to explore valuable lessons that can be learned from their experiences. This way of investigating unveils knowledge that is valuable to both the respondents and our students. How the respondents collect, share and stores this knowledge is not a focus in this paper. However, how the students collect, share and *use* this knowledge is important, both for their assignments *and* for their future usage of this knowledge.

Positive Deviance can thus be combined with Action Research (AR), as AR is about co-producing knowledge between the researchers (here: students) and research objects (here: the students respondents) (Greenwood and Levin, 2007). The Action Research Cycle depicts a model where the researchers and the research objects are co-researchers and co-generate knowledge through the research process.

In order to analyze the data collected they can use a model developed by Timothy Coombs (1999). This nine stage model serves to analyze incidents. The nine stages are within three phases; pre crisis, during crisis and after crisis. This model serves as a tool for analysis with regards to crisis communication (Johansen and Frandsen, 2007).

3. Methodological approach

The data is collected using interviews and group interviews (Brandth, 1996, Dalen, 2011, Guldvik, 2002, Jacobsen, 2015). Interview guides have been developed (Dalen, 2011, Postholm, 2010) and we have also used field notes when working with the students.

The volunteering group of 3 students were given the assignment of exploring crisis communication and make use of theory from the course Crisis Communication for analyzing the data collected. In addition they were to use the method of Positive Deviance, meaning that they were to explore the success stories that in spite of circumstances became success stories rather than failures. Through supervising them and at the same time telling them about how CoP's work, how to share mental models, how to develop systems thinking and learn in groups as well as personal mastery, and how they can make use of this through working on assignments, and at the same time encouraging them to collect data from managers and people in call out services other than what they themselves have experiences from, they would be subjected to different KM strategies for sharing and learning from knowledge.

The student group was thus our target group and through interviewing them and observing them we wanted to understand *how teaching students KM strategies can support learning about crisis preparedness and crisis management*. Also by making them collect the data instead of choosing a theoretical assignment understanding the theory taught through the course, we could seek to explore the effects of "student active methods", making the collecting into a student activity.

We interviewed the students to explore how supervising that including presenting KM strategies had made an impact on their work with their assignment. Also we needed to establish if the student active method had contributed to their learning process.

When analyzing our data we have operationalized our research question into categories and subcategories. Based on the analysis we drew important lessons about how student active methods can work as a KM strategy.

To secure the data and make the data reliable and valid, it has been important to "member check" (Guba and Lincoln, 1989) the notes taken during the interviews, and to discuss the findings and results with our students (our respondents).

4. Findings and discussion

The students report on an enhanced experienced learning outcome by using student active methods. The way of "forcing" the students to be active and engage in their learning process is for some of them, to step over a threshold as they are used to a different way of studying, namely by being lectured in a one way direction and with them as listeners and receivers of information. The student active methods utilize the potential that is potentially in each student with regards to their previous experiences. This aligns with what John Dewey

suggests; to base the teaching on the students own experiences (Dewey, 1902, Dewey, 1938, Dewey, 2008). It is also about reflecting about their experiences, something they also needed to learn. And they claim to have had a similar experience as described in David A. Kolb's experiential learning cycle (Kolb, 1984). Even if they have not had a concrete experience, their respondents share their concrete experience and also share their reflections upon the experiences. To a certain extent they claim to have co-developed an "abstract conceptualization" from their respondents' experiences. Actually testing this out through active experimentation will have to wait until they have an opportunity to simulate the situation at the University or use it in their later worklife. Their claim of reflecting, co-reflecting with respondents and also with each other in the student group will also support the students in their road to become reflective practitioners as described by Donald Schön (Schön, 1987, Schön, 1991).

The making sense of information is also done by reflection (Weick, 1996). Karl Weick here refers to two similar incidents both with the tragic result of lives lost; first the Mann Gulch fire and then later in South Canyon. Here it should have been possible to capture, share, make sense of and make use of the information gathered from the first incident (in Mann Gulch). The major point here, according to Weick, was that the fire fighters should have dropped their tools and then they would have had a possibility of being rescued. Instead, in the new fire in the South Canyon, lives are lost due to the same reason; they did not drop their tools. The students also report on similar stories from their respondents. One discussion has been on how to avoid this (for example by learning as in response, meaning that personnel need to train often and learn to "drop the tools" as a response (almost) without reflecting, similar to some training in e.g. the military).

Regarding the knowledge collecting and sharing, the students claim that being organized as a CoP has supported their learning process. They have individually or in smaller groups collected different knowledge that is shared in the "community" and then they have discussed how to use this knowledge to form, and inform, their assignment.

Using Positive Deviance as a method of inquiry they report on having been a very positive experience. They claim that learning about and using the Positive Deviance approach has been a fruitful experience. Not only have the respondents been very positively surprised by the approach, but they claim to have received a lot of useful data. This data they report on not only being able to use in their assignment, but will also be learning they will use in their worklife. The knowledge *sharing* they experience during the data collection has been extremely useful and even if they did not experience a *co-generation* of knowledge with their respondents (like when using Action Research), they do co-generate knowledge within their "CoP" when the group were reassembled.

An unexpected finding from using the approach of Positive Deviance is how the students now claim to view their own education. They claim that they perceive the lectures differently after learning about the approach. They are now not only focusing on the presentations of what went wrong and how to rectify this, but also pay more attention to the "stories" about when things went well – in spite of circumstances pointing in a different direction.

Taking the new knowledge from "knowing what" to "knowing how" we assumed would be rather theoretical, However, they claim that using Coombs analytical method also provided them with ideas on how to "translate" "what" to "how" in such a way that they would be able to utilize this knowledge in their further worklife. They do however acknowledge that their previous experiences from having worked with crisis and incidents also help in this "translation".

5. Conclusion

To use the KM strategies for learning about crisis management and crisis preparedness can prove important, as the need for capturing, sharing, making sense and make use of the knowledge is also what is necessary not only for KM but also for crisis management and crisis preparedness. Student active methods are useful as they support engagement and involvement with the students. The approach of using Positive Deviance as a method of inquiry proved more useful for several purposes than first expected; mostly due to the way the students were able to obtain valuable data from their respondents, but also due to the way this changed their way of perceiving lectures.

This way of *collecting* and *sharing* knowledge has proved very valuable to our students. Also to introduce them to work forms like CoP's have been useful. In this group they have been able to share and co-generate knowledge not only useful for them regarding their assignment at the University, but also for their later worklife.

Although they have less opportunities of going from what Gilbert Ryle (1949) call "knowing what" to "knowing how" by active experimentation, they still have the opportunity of reflecting and becoming reflective practitioners as described by Donald Schön (Schön, 1987, Schön, 1991).

Focusing on KM principles and learning about collecting, sharing, co-generating and reflecting upon knowledge has enhanced their experienced learning outcome, also when it comes to crisis preparedness and crisis communication.

These men and women are to work with crisis preparedness and crisis communication, possibly handling not only incidents but also aid in the work against terrorist attacks. It is thus important to our University to provide the students with an education that will enhance the learning outcome and provide the nation with reflective practitioners that are able to not only collect, but also share and co-generate new knowledge in order to enhance crisis management and crisis handling.

5.1 Further research

The next step will be to implement this in the course of Crisis Communication. The impact this research has had should be shared with all the students, offering an improved study. It is, however, important to perform a larger study to see if the same results can be replicated in a larger number of student groups. To use the course of Crisis Communication for further studies will be prepared and executed in the next semesters. It will also be important to follow up the student group of this research project in their further studies at the University to see if it is possible to establish if there are any differences in how they adapt to the rest of their courses compared to their fellow students.

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