



COMPANY AS A LEARNING ENVIRONMENT

Case study –
Implementation of learning theories

Soile Lahtinen

Development project report
June 2007



JYVÄSKYLÄ UNIVERSITY OF APPLIED SCIENCES
Teacher Education College

Author LAHTINEN, Soile	Type of publication Development project report	
	Pages 25	Language English
	Confidential <input type="checkbox"/> Until _____	
Title COMPANY AS A LEARNING ENVIRONMENT, Case study – implementation of learning theories		
Degree programme Vocational teacher education		
Tutor Eila Burns		
Assigned by		
Abstract <p>The aim of this project is, by using a case study, to examine how the different learning theories could be applied when implementing a new system/ways of working into use in a working place. The target is to find and point out successful factors to gain learning in the organization.</p> <p>This project looks at the points that were done in a certain company where a new system/way of working was taken into use. The methods used are compared to most common learning theories.</p> <p>As a result of the study observations were made of similar roles and activities in a learning process between teachers/tutors in an educational setting and managers/supervisors in a company. The main focus of this project was my own self-directed learning in the life- long learning process.</p>		
Keywords constructivist learning theory, experiential learning, learning organization, on the job learning, company as a learning environment		
Miscellaneous		

Contents

1. INTRODUCTION	4
Reasons for the development project	4
2. COMPANY AS A LEARNING ENVIRONMENT	5
Learning organization	5
Learning deviation of organization	7
The role of management in learning	8
Learning in organization – challenge to the management.....	9
Importance of communication in changes	9
Reflective expert.....	10
3. LEARNING THEORIES TO APPLY.....	11
Behaviourist learning theory	11
Cognitive learning theory.....	11
Constructivist learning theory	12
Experimental learning theory.....	12
Novak & meaningful learning theory.....	13
TWI, Training within Industry by School of Management.....	14
4. CASE STUDY	15
The background of the case	15
Introduction to personnel	16
Introduction, first presentation	16
Training day	16
Summary of the training day.....	18
The theory of theories.....	18
5. CONCLUSIONS.....	21
Some detailed notifications	22
Management assessment	23
The next step	24
Final words.....	24
REFERENCES.....	25

1. Introduction



Reasons for the development project

Changes are met by everyone, every day and everywhere. The subject of this development project was selected because of the continuous progress in working life. Only one thing that is permanent is the change. More and more we are talking about burn outs and difficult times at work. Would different learning theories provide any help or support for the management to tackle this problem? People are involved in life-long learning, but still supervisors are not thought pedagogical skills. How should the supervisors and management run the changes? Are we good employees or is the blame always on the poor management?

The case, which is presented in this report, the implementation and the training of new way of working, was thought successfully in the company. Similar implementations could be done also in the educational environment. The results of this study could be applied for an educational setting. The hierarchy and rules of society applies in every workplace. The old mentality is seen in the “case” environment very easily. “Workers against bosses” is still playing very strong role. This causes often challenges and attitude against the change. Most of employees have been doing their jobs for years and the habits to do something in a same way, is very deep. The professionalism is very high, but still the latest “new wave issues” are not in use. To run an implementation project in this kind of infrastructure is very challenging.

The reason for this development work is to study how the implementation was done and which were the most common learning theories applied. Why certain things were realized in a way they were done and how. Finally some notifications for improving the methods and the system are introduced.

The biggest challenge in this development project has been my personal growth. The understanding the relation between management and teaching has been very interesting. These two subjects are in most cases handled separately. In this study the use of learning theories is implemented in to the company environment.

2. Company as a learning environment

There are several differences to be taken into account when thinking of the company as learning environment. The learning in the company can be formal or informal. The special knowledge is transformed. Equipment is based on needs by work. The ability for continuous life long learning is the most important value for the employee. The only thing that is certain is the change.

People react to the changes in variable ways. For many the change is always unpleasant, for the others it can be the way of life. Others feel that it is a challenge and the others fight against it. They fight to keep the familiar ways of thinking and the routines of working.

Still the best result is gained by them who accept the change and the uncertainty that follows the change. We should turn the change to our own benefit. (Ruohotie, 2000. 35)

Learning organization

The learning culture in a company is affecting to the general atmosphere of the organization. The amount of support and promoting for learning is affecting to the learning style of organization and the motivation of dedication of personnel.

The development of learning culture can be supported by developing individual-, team-, and organizational level of learning, by creating inspired reward systems and

developing structures and processes for more flexible organization structure.
(Ashkenes 1995) (Ruohotie 2000, 67)

The transfer of new learned knowledge to work can be supported by using “situational provocation” (tilanneilyke). This can be for example a special reward which does not need to be financial. It might also be a private or public positive feedback, which is given by the supervisor. The follow up of the development of learning process by using e.g. benchmarking-assessment, having the follow ups and again rewarding knowledge and developing is confirming the commitment. (Ruohotie 2000, 67)

One of the main activities of the supervisors is to make learning easier, create constructive human relationships and share responsibilities and encourage employees to continuous learning. They need to get people work for one common vision. The clear vision commits everyone and they work hard for gaining the vision. The effects of learning are most visible when people are able to make true something that they see meaningful. (Ruohotie 2000, 70)

According Huber, the unit is learning when information processing causes the change in the variation of the potential functions. This classifies certain type of processing, where old way of acting is generated not valid anymore, as learning. Also should be provided replacement for old method with a new way of working. Learning has led to a visible change in way of working. (Huber 1991, 89) (Lehesvirta 2005, 44)

When thinking of the learning theories, the theory of learning organization would be a good theory to apply to a company environment. In companies there is a lot of talking about how to unlearn the ways from doing something. When some actions are re-evaluated and found more profitable or efficient way of doing, the old ways of acting need to be changed to the new ways of working. This is about processing new information. When self-reflecting the new information and if it causes a permanent change in the knowledge of learner, learning has happened.

Organizational learning is a process where the information process is handled by an individual, a group or the organization level is leading to a new knowledge. This new information changes the possible action choices of learner (individual, group or organization). (Huber, 1991) (Lehesvirta 2005, 44)

Learning does not happen as an independent process but always as co-operative action to some “real work”. There is always a context involved in learning. In addition constructivist learning theory points out also the importance of feelings, emotions and social communication. Learning happens as “side product” of some “real action”. (Lehesvirta 2005, 46)

When thinking of a learning organization as an object to be developed, the leader is thought as a teacher or tutor and the workforce as students. The difference appears when there is no educational aspect but only well motivated adults involved. According to Engeström sometimes also adult learners might be challenging, when their assumptions of educations are behaviourist. They just appear to the lesson and wait for the information flow to be entered in their heads. (Engeström, 1988)

The individual perspective of learning will be complemented with social learning ideas by mean that the strategic leadership develops when people are involved in developing their own environment (business). The cultural awareness and understanding confirms that everyone likes to be valuable and wishes to be able to be heard when developing their own work.

Learning deviation of organization

P-M. Laine states in her study that the learning of the organization is understood either as an individual and cognitive issue, or as a social and cultural process (Easterby-Smith 1997) (Laine 2005, 108)

- *The individual and cognitive learning*

The key point for organization to develop is that individuals develop themselves. Information and knowledge is gained by individuals and spread out by them by spreading the information. The way individuals transfer the

learned skills and knowledge to be used for organization's purpose depends on the organization's learning system. The learning system of organization is built of structures, ways of working and incentives. Also the political interests and the power relations are affecting to the organization's learning system.

- *Social learning*

Social learning is understood as a process. It is not just gaining information but becoming a professional. It is based on the knowledge and on the increased the level of professionalism that is gained in interactive communication. Social learning happens by creating common meanings affects to cultural practices and situation related experiences. The meanings are also created by participating to verbal- and operational activities of work community. When participating, also the professional identity is empowered.

Developing the business is not only a cognitive process but it is happening in actions too. Most important is that people are allowed to participate in development process. According the study, done by Laine, the strategic management according social constructivism is in minority. The social learning point of view learning is understood as a social process. Learning is not only gaining knowledge but becoming an expert. The interest is focused on actions in the organization. Interaction provides knowledge and professionalism is gained.

Social constructivism observations are depending on the orientation bases of the learner, for example of the theoretical orientation and the observations are created as a part of strategic management practices and discords. (Laine 2005, 109-110)

The role of management in learning

Most of the studies see the management responsible for the development of the unit and for learning that happens in the organization. According Nonaka (1996) (Lehesvirta 2005, 51) only a few managers understand what creating knowledge in the organization is all about. That is the reason why taking the advantage of learning and the guiding learning is impossible.

In the mentioned study of Lehesvirta she describes the management very hierarchy, authority and old fashioned way. Even those who saw their own close environment flexible knew the description of hard hierarchy. When a new employee arrives s/he is quite fast integrated to the social and cultural hierarchy of the organization. This is one limitation for taking advantage of new ideas and visions of the new force. Integrated learning processes may even hinder the new employee to give all the contributions where s/he is originally recruited for. (Huber, 1991) (Lehesvirta 2005, 51)

Learning in organization – challenge to the management

The role of the conflicts, informal communication and trust are highlighted in the summary of the Lehesvirta's study. Most people do understand the importance of chats over a coffee break and corridors but as instructions forward official information this is not the concretized way of sharing information. Using time for chatting and just changing ideas and developing them "just by accident" does not fit in to the picture of an effective and well organized company. The measurement and efficiency follow-ups of management notes only the official reports and earned euros. We have not heard about the company which rewards time to be used getting know each others, creating the confidence and reliable atmosphere. (Lehesvirta 2005, 53)

Importance of communication in changes

When studying the learning in the organization there was mentioned here and there the meaning of communication. This is one important issue when creating the motivation for learning. Puro (2003) is stating the idea in very sharp way in his book "Työviestinnän kipupisteet".

As a basic idea for communication in changes is that the more effective the coming change will be the closer to the floor level the direct communication needs to be taken. If the change will really affect my job – I need to be told personally. No mass email or e-bulletin board advertising is acceptable. The main issue is "face to face" -

communication. It is different to read from the bulletin board than to be directly told. The main issue is that I am valued and given a possibility to ask. Using personal communication demands time. Usually changes come too quickly and there is no extra time available. It would be important to evaluate the investment of time. Anticipating is always involved in good management of changes is. It is better to inform people early enough – even without the full details. This shows the will to have open discussion of a common subject. (Puro 2003, 110)

Reflective expert

The employee that is able to control changes actively and flexibly could be described as a reflective expert. The difference comparing to the technical rational expert is that the reflective expert is not satisfied by only finding the solutions for given aims but also limiting and forming the given task or case again and again by gaining flexible and multilevel dialogue with it. S/he is very committed to continuous self improvement and learning process. (Eteläpelto, 1992) (Ekola 1992, 29)

3. Learning theories to apply

In the following chapters are the most common learning theories presented. *The ideas are extended to apply the basic ideas when teaching by using the theory. The environment for teaching is the working place. (School, company, - work)*

Behaviourist learning theory

Behaviourist learning theory is aiming to the reaction caused by stimulus and it is established to be a standard behaviour. Surroundings are forming the behaviour. Reinforcement increases the positive behaviour occurring again, or punishment, decreases the same behavior recurring in the future.

Typical for behaviour based teaching is that the specific aims are defined in the learning plan. Teaching is seen as transforming the information. Teaching is teacher orientated and the student is seen as an object. Giving feedback is very important. (Hannula, Niskanen, 2003-2004)

Cognitive learning theory

Learning is seen as processing the information. Learning starts when the internal conflict of information has been created and the existing knowledge is not enough to solve the case. The learner is aiming to solve the conflict either by assimilating new information or accommodating the existing information. As a result constructed ideas and principles are guiding the internal structures and models – schemas. The cognitive learning values and aims to improve the meta-cognitive skills of learner.

Teaching is seen as systematic guidance of learning, instead of forwarding information. Thinking and processing the learned content is aimed for. Learner orientated methods are used and planning is not too detailed. Main issue is the processing of information. The model of perfect learning process by Yrjö Engeström is based on cognitive learning process. (Hannula, Niskanen, 2003-2004)

Constructivist learning theory

The main idea of constructivist learning theory is that the learning is seen as active process of constructing the knowledge. There is no transfer of knowledge, but it is re-constructed by learner him/herself. The previous experiences and knowledge have great influence how s/he interprets the new information. Learning is a result of learners own action. Subjective experiences are creating objective knowledge when the learners are in social interaction and working together.

According Maija-Liisa Rauste-Von Wright (1997, 19) descriptions, the learner selects and interprets the information against exceptions and existing information. Thinking and understanding are the core idea of learning. The aim is to create own and meaningful problems to be solved during the education. Learning is always bonded to context and circumstances. The core is to create abilities to learn how to learn.

Päivi Tynjälä (2000, 60-67) points out the role of a teacher as one who supports the learning process. Teacher is seen as a guide to his/her expertises. Conflict exists. Understanding is more important than remembering by heart. Understanding is supported by reflecting with other learners, which is the social aspect of learning. Finally she highlights the direction from fact based learning to the problem based learning.

Experimental learning theory

The experimental learning is based on the humanist psychology; learning is based on experiences and self-reflection of a learner. The aim is the growth of a learner.

Learner has the responsibility of learning. Basis for learning are the needs and motivation. The aims and planning of content is done together with a learner and a tutor/teacher. Base level is created based on the level of the experiences of learners. Teacher is a supportive guide for learning where the responsibility of the process is carried out by the learner. The process of experimental learning by Kolb is described in the figure 1.

Used methods in teaching could be e.g. immediate, personal experience – phase; the opening phase needs to be planned very carefully. The used methods learning log, brainstorm or group chat. Orientating could be done by using “imagination travelling”

(mielikuvamatka) or having concrete experiences to remember previous experiences relating the issue.

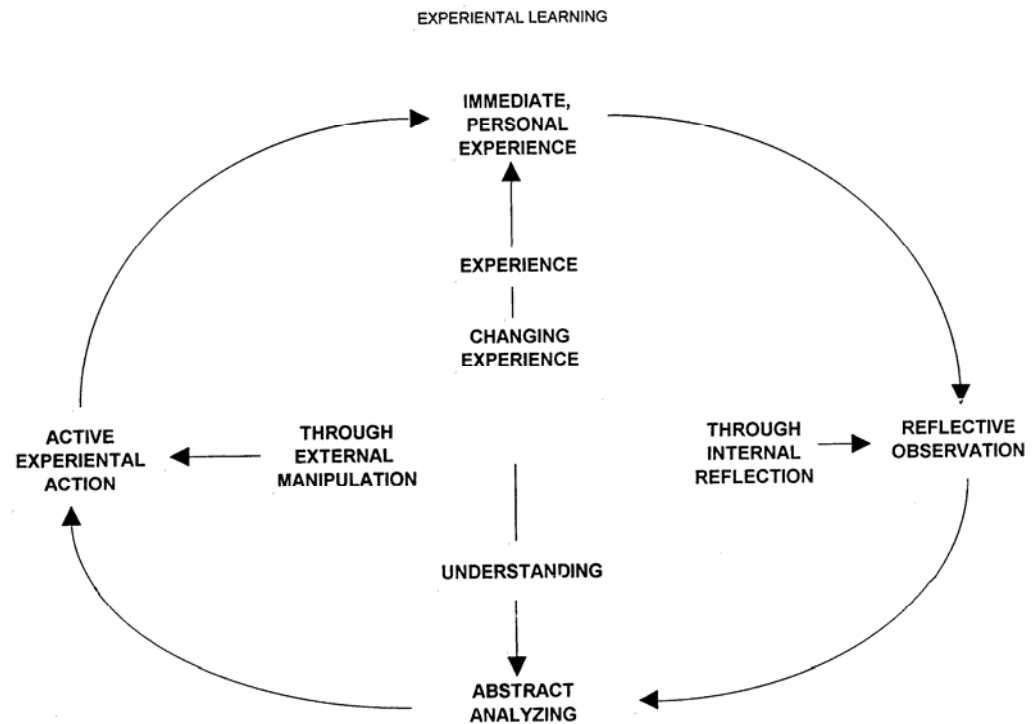


FIGURE 1.
“Kolb’s experiential learning”

Novak & meaningful learning theory

Novak, (Novak, 2002) by processing the Ausubel’s assimilation theory, proceeds from the discovery learning to the meaningful learning. The requirements of meaningful learning according stated on the figure 2.

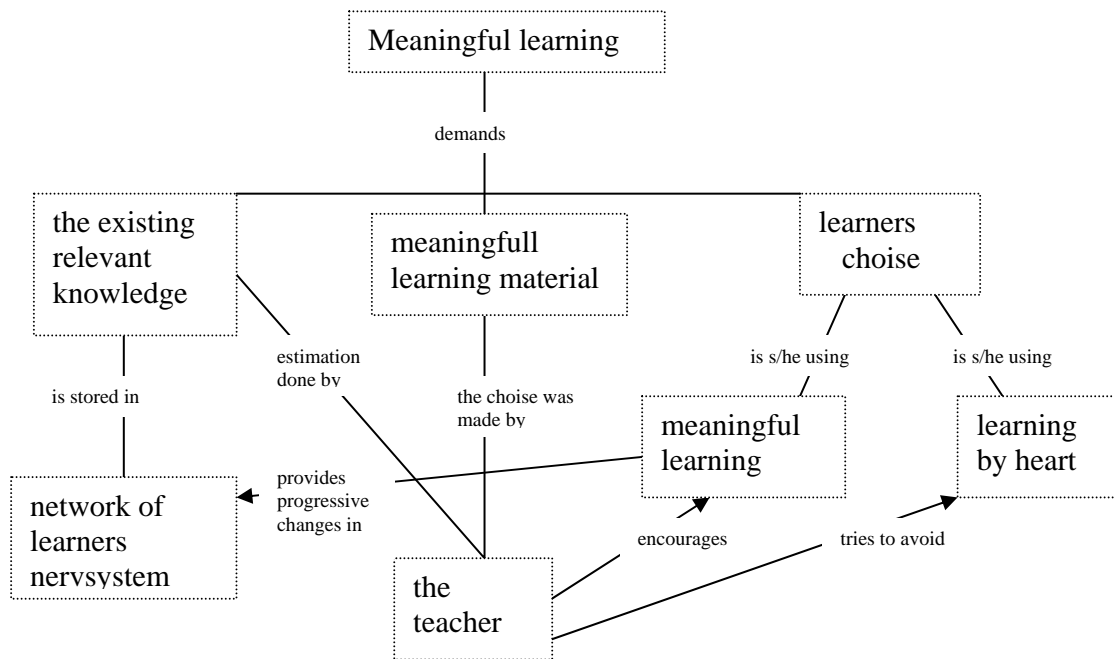


FIGURE 2.
“Requirements of meaningful learning”

TWI, Training within Industry by School of Management

Training with in industry is better known as TWI. It is a more common learning method used in automotive industry. This theory is taught in Finland e.g. in School of Management.

The theory is based on four different steps. On the first step the learner is prepared for receiving new information. The existing experiences are studied and general presentation over the new issue is given. On the second step the real work is taught. The most important is to place the learner in right position to allow a good view to see the demonstration properly. The description what happens is given simultaneously. All what is done needs to be explained properly. The speed of demonstration needs to be slow enough. The third step is to test the new knowledge in action. Let the learner try new methods and encourage him/her tell what s/he is doing. Give feedback immediately and mentioned about mistakes before they are done. Make sure the action is done in a correct way. Remember to give positive feedback. The fourth step encourages questioning, instruct where learners and from who to ask advice if any problems appear, check often enough and remember the positive feedback again. When see that the knowledge has learned – then change to normal follow up. Kuukasjärvi, M. (2006)

4. Case study

The background of the case

In the manufacturing facility, it was found a new and cost effective way of gaining to the idea of lean manufacturing organization. A project was set three years ago to study different solutions. As a result of the project reported a direct line feed system (DLF). The theoretical studies were done and they showed the financial value of the new system. A new way of working wanted to be taken in to use. The old system had been in use “for ever”. It is said, it is more difficult to unlearn something than to learn something totally new. This implementation project was planned very carefully how to do it. As a challenge this kind of way doing DLF system was not in use anywhere in Europe. This project was pilot. If the implementation and the system in use were successful, some other companies would follow our example.

Some of the thoughts may sound incredible but reader needs to keep in mind that when it is about aircraft parts and raw materials some safety and quality regulations apply. The material needs to be traceable until the raw material mine. That means in practice, that none of the items can be with out an ID number. Each bolt and screw is traceable. This is due to aero regulations and safety reasons. For military applications the sources are not as tightly specified as they are for civil aircraft applications.

The gained benefits when comparing old and new system are many. The most important issue for management is saving money by doing the purchases from a one source. The employees on the assembly line saved time. If the part, which was picked up by storage personnel, was wrong length, someone from assembly line needed to walk back to the storage area to change the part to a proper one. Also some extra paperwork was needed to complete the change.

Introduction to personnel

The new way of working was supposed to be taken in to use. The implementation project plan included introduction to personnel, the training, the demo period and finally the real action. The follow up is not done yet but the new system, direct line feed, "DLF" is in use.

Introduction, first presentation

Even before the final decision was made, some people from each programme, storage, material department and design were invited to a short introduction meeting. They were told what was under work and their opinions were requested to avoid possible mistakes. As it was the first time they did hear about such as a system, some comments were given. The participants were also asked who would need to participate in the training and demonstration when the new system would be implemented. One representative from each department was invited crossed organization, vertically and horizontally. These people were then authorized and obligated to forward the information. Everything was explained as detailed as possible. No information was hidden from the operative experts. No special words were used with out explaining their meanings. The open atmosphere was creating dialogue. All the comments were written to meeting notes.

Between the steps there was ongoing discussion with the storage personnel about who would be the key players to use the new system. The links were created vertically across the organization. Unplanned meetings were held impulsively if there was a need for additional information. Feeling of two way vertical information flow existed.

Training day

After the final decision was made and the agreement was signed, everyone involved were invited to a training day. The location of training day was carefully planned, due all important people were needed to involve. By choosing the place close enough to the factory, nobody could blame too long distances. On the other hand it was

important to have people out of their offices and normal environment to be able to concentrate only for this case. Too often behind our desk email is bombarding, telephones are ringing and queue at the door is long. The place for training day was the “Club House” of company. Most of the employees knew the place, but not had ever visited there. The valuable and precious environment gave the impression of very important happening.

On the afternoon of training day the whole group visited in the storage area, where demo system was set down. The chain was able to be tested in “dummy action”. Everything worked out like it was supposed to work in real action. Only difference to the real action was that the plug attaching everything to the internet was missing.

The service provider company, not only the operative- and sales people but also managers from their side did attend the training. This was done to show that understanding of everyone involved is very important and valuable. Since the level of language skill was not high enough among the group, the training was done bilingual. The agreement, which was originally in English, was translated in Finnish to be understood by everyone. Everyone got their own personal copy, where they were able to note and highlight the points which were important for them personally.

The agenda for the day was the following:

- Opening of the day: “Why we are here.”
- Presentations of participants: “Who we are”. Everyone was introduced, also all workers, not only the visitors.
- Service provider company’s presentation “Who are we dealing with”
- Agreement – discussion sentence by sentence.
- DLF presentation * video and slide show
- Simulation – drama & everyone were able participate the action.
- Visiting the demo area in the real environment in storage area
- Group work
 - Task: to find out possible problems and strengths of the new system from that certain group point of view. Ideas were written down by using brainstorm method.

- open word
- Summary: “What we have learnt.”

Summary of the training day

The agenda of the day followed a standard of lesson in a nutshell. First was told what was about to come. Then using different methods and teach the new matter by using different kind of teaching methods which were supporting and taking all different kind of learning styles in to account.

In the beginning the task was presented in the very traditional behaviourist way. The procurement director gave “a lesson”. Those who wanted were allowed to make personal notes. All material was given on paper and some of us made additional personal notes. If “proper teaching” was not done, it has been noticed, that adults do not value the training. We had slides to support visual learners and finally simulation supporting kinetic learning style. In the lean organization the social pressure made everyone active. The idea of learning organization where everyone wishes to improve their own field came true. The motivation for gaining improvement for my own field was very high.

The theory of theories

Not only one of the learning theories but many of them were adaptable when studying the way how implementation was thought. This is the normal issue when thinking of different learning theories. For the teachers/trainers theory-in action has merged ideas s/he seems the best to that certain point.

The original meaning was to use constructivist way of learning as a base, but if that is not planned carefully enough, the real action easily changes to the old teacher orientated teaching – not student orientated learning. The requirements for teachers are to support the learning processes. The teaching solutions effect to the learners learning steps in sensible way and do them well enough. Interesting is how well the actions were adaptable to the cognitive learning process by Yrjö Engeström.

The teacher should plan and apply teaching by using flexible and comprehensive tasks. There is no absolute truth of correct order of tasks. Teachers are targeting to teaching entities that secures the learning. Hannula, K./Niskanen, L. (2003-2004,)

The adaptation of Engeström's theory starts by preparing learners to new knowledge and assure their motivation. This is done by creating the basis for new issues and creating the conflict in the existing knowledge. In our case the motivation was already created when introducing the issue earlier. The discussion and reflection among the employees after the introduction did ensure the interest for the becoming renewal. This was easy part for them who were struggling with everyday "simple challenges".

The orientation base was explained in the introduction part of the day. The new information was given in several different ways. The methods used were traditional "lesson", even it was quite short, standard slide show, "drama"; where managers showed that the system is "dummy proof", simulation when all were able to participate the action and finally a video was shown of professionals running the process.

As repetition of learned, we did group work. The big group was divided to smaller groups for having discussion over stated tasks. All groups did some notes of their discussion. The group work was introduce and expanded to a common dialogue with whole group. This was the systemizing part. The atmosphere was very open and there was a competition of the most stupid question. Nobody won the competition.

The practice where new gained knowledge is developing to automatic actions was taken place in the demo system in the storage area. Everyone was allowed to play with the real system. People took their proper places in the chain and all actions were done like in a real world. Additionally they were able to take somebody else's place on the chain, to understand why their own piece of the chain is important for the well rolling actions. The understanding the entity of new information in the orientation base was assured when everyone did see the whole chain in a full working order.

Quite soon after the training the real phase was taken in use. All participants did take their place in the new chain and started the real actions, applying the new knowledge to the new tasks.

The control was done only in the management level. The financial results have been remarkable. From Engeström's point of view there is still something to be done. The assessment and the self assessment of the new orientation base have not been done. Also the used method has not been controlled in any other ways than the financial reports. This is a common mistake through the line. The follow up was not done properly.

5. Conclusions

The original idea was to present the idea how constructivist theory is applicable for implementing a new way of working in a manufacturing facility environment. After careful study, the method used was not constructivist, but cognitive. The idea of learner orientated organization did not fully happened. The organization is not yet ready to give the responsibility for lower level in the hierarchy. The difference between self-learning organization and total chaos is too small. See figure 3. The people who have basic attitude to be against changes are not yet ready to take responsibility of their own work. Their attitude is changing but it happens very slowly. Originally the idea was directly from “student orientated learning”. “Don’t tell me how I should improve my work, but show me that you trust me and let me be responsible of my own work.”

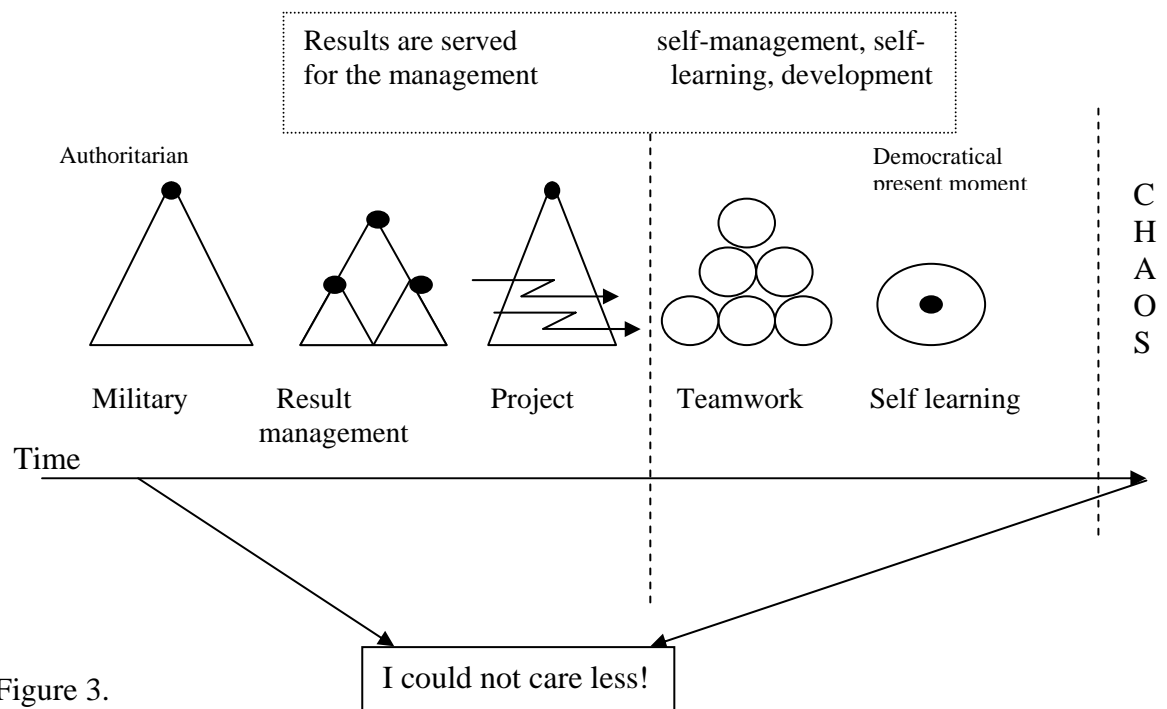


Figure 3.

“The line on the water”

The strict quality and security instructions of the branch, where the case study was done, did affect to the used learning method. Like in the military school environment, teaching also in the aircraft industry is very much following certain laws and

instructions. There is very limited possibility to have humanistic learning theory in place. Nobody can afford “human mistakes” in these branches. Some issues need to be learned by heart, there is no space for “understanding the problem, but not having the automatic knowledge.”

Still the project was not run totally according to cognitive learning theory. Some ideas were applied from Kolb’s experimental learning theory. The principle of learning was based on the needs and motivation of learner. The planning what were the aimed results and how to get there was done together. When studying the new information, the experience of learners was taken in to account. The self directivity was supported and learners were self-responsible of their own learning. After all the self-directivity did work as everyone felt this implementation was meaningful.

Some detailed notifications

When running the implementation project, one of the most positive phenomena was the well working communication. There was no need of waiting for the “next meeting”. The team worked well and solved the problems independently. There was enough authorization given by the management to make prompt decisions to gain the set aim. Aim was very clear and all worked for that. All key players were involved and motivated.

The importance of right timing to engage people can not be underestimated as part it creates motivation. In the beginning it is not useful to involve too many people. Smaller group should prepare proposals to a bigger group to handle. Nothing is against the idea to use consulting or skilled experts for special questions if needed. When the frames are clear, then the experts of narrow branch specialists are ready to invite to project. This was seen as the phase of dialogue planning the aimed information and knowledge.

The way the new partner showed how it valued us as a customer and all involved people were perfect. On the other hand the management also from there was involved and some “carrots” were taken in use. Having the similar T-shirt, coffee mug and key holder gave all a feeling of belonging to the group. This had a great affect to the team

building. “Did you also get the mug...?” – This was an example of using a piece of behaviourist prizing. If it is clearly seen, that using “carrots” is beneficial, why not to use them?

Management assessment

When choosing the key players for the managing the project, the selection were done in a wise way. Instead of using the managers, the leading responsible was given to the operative person. With this appointment the gap between operative personnel and management was flattened. The development came out from the team itself, instead of an expensive outsider consult coming and telling how the work should be done.

Maritta Pirhonen (2005) highlights in her development work the difference between a student run development project and the project that is bought from a professional service provider. In this project the part of the base work was done by a student, but the most important phase, the implementation was run by the permanent work force. A student running this implementation would have met a huge authority problem. S/he should have needed to have great group leading skills to come as an outsider in to a group of multi-skilled senior workers, who had done their job maybe even before the student was born.

The importance of having an expert leading the pilot project is additionally supported by the idea stated by Eteläpelto (Ekola 1992, 33) “The novice sees the task as a detail – instead of understanding the whole idea and all issues that are bonded with the task”. The experts observe the entire task when the novice sees only his/her point of view.

No matter if the management did the implementation in the way it was done as long as the results were successful. The workforce was motivated and the aimed results were achieved, in the financial- and the practical ways. Lots of new knowledge was transferred from outside an inside of the company.

The next step

The next step in the development is to create e-learning materials to support learning. This would be used by new employees and in case of sudden need of checking something. The common place for such issues could be intranet that is available from each computer in the facility. The language of e-learning material should be both in Finnish and in English.

This is a good subject for next development project.

Final words

Learning is divided to formal and informal and happens every day and everywhere. This study roughly touched an implementation that was run in the manufacturing facility but the results could be applied anywhere. Similar challenges are met in every working place. We are waiting for the information from the higher level and are hurt if the information does not reach us. The basic idea of a learning organization, where our own activism over our own specific field shows the professionalism, is in most cases forgotten. Do we have proper forums where to discuss our concerns and possible development ideas? Is there anyone who is giving the blessing for us to be active and develop the environment where we are or is the depressing atmosphere spreading everywhere to each organization? If you did think answering positively, you have won in the job lottery or you are single entrepreneur.

Most of the representatives of different professions should study about how we are learning new things. The teacher's profession is in principle "planting new ideas to someone's head". Why not taking the advantage of pedagogical ideas also in work environment? The fashionable word is "on the job learning" – (työssäoppiminen). The transform of tacit knowledge would be much more successful if the usage of learning theories were in use more effectively.

References

Ekola, J., Eteläpelto, A., Honka, J., Huttunen, J., Koro, J., Lehtinen, E., Löfman, T., Nuutinen, A., Seppänen, R., Takatalo, E. 1992. Johdatusta Ammattikorkeakoulupedagogiikkaan. Juva; WSOY

Engeström, Y. 1988. Perustietoa opetuksesta. 2.-4.painos. Helsinki: Valtion painatuskeskus.

Hannula, K., Niskanen, L. 2003-2004 Opetuksen suunnittelun peruskysymykset – seminaari. Jyväskylä University of Applied Sciences

Novak, J. D. 2002. Tiedon oppiminen, luominen ja käyttö. Keuruu; PS-kustannus.

Pirhonen, M. 2005. Projektioppimisen ohjauksen haasteet. Kehittämistehtävä. Jyväskylän ammattikorkeakoulu.

Puro, J-P. 2003 Työviestinnän kipupisteet: hallinta ja ratkaisut. Helsinki; Infor viestintä Oy

Ruohotie, P., 2000. Oppiminen ja ammatillinen kasvu. 1.painos. Juva; WSOY

Sarala, U., Sarala, A., 1996. Oppiva organisaatio; oppimisen laadun ja tuottavuuden yhdistäminen. 2. painos. Tampere: Tammer-paino.

Kuukasjärvi, M., 2006 Yliopettaja, Jyväskylä university of applied sciences. On the job learning –lesson 29.11.2006.

Kirjavainen, P., Lähteenmäki, S., Salmela, H., Saru, E.,(toim.) 2005. Monta tietä oppivaan organisaatioon. Sarja keskusteluja ja raportteja / Series discussions and working papers 9:2005 Tampere; EsaPrint Tampere.
http://www.tukkk.fi/julkaisut/kr/Kre9_2005.pdf

Lehesvirta, T. 2005. Miten organisaatiossa opitaan ja mitä johdon pitäisi siitä tietää? Turun kauppakorkeakoulun julkaisuja. Sarja keskusteluja ja raportteja / Series discussions and working papers 9:2005 Tampere; EsaPrint Tampere.
http://www.tukkk.fi/julkaisut/kr/Kre9_2005.pdf

Laine, P-M. 2005. Strategisen johtamisen opettaminen ja oppiminen. Turun kauppakorkeakoulun julkaisuja. Sarja keskusteluja ja raportteja / Series discussions and working papers 9:2005 Tampere; EsaPrint Tampere.
http://www.tukkk.fi/julkaisut/kr/Kre9_2005.pdf