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16. Free Space in Action Research and in Project Oriented Traineeship

16.1 Introduction

In this article I present personal experiences gained from an Action Research project aimed at developing the culture of real life projects for 3rd year students at The Norwegian School of Information Technology (NITH) in Norway. The main conclusion of the experiment is that the students were encouraged to see new perspectives concerning their real life projects. They questioned their traditional student role and wanted to have more control over the project's initial phase: its establishment. They challenged the NITH's project culture, and wanted to provide an extended free space within project learning. The research also led to questioning the tutor's role as a representative of the institution. The experiment revealed that critical Action Research can relate itself to project learning in educational institutions.

The basis for my interest in Action Research is a background in practical work including teaching and learning. The most valuable experience I have gained is that learning and creativity take place in an environment where the content is perceived as meaningful, refreshing, and challenging, both for the curious student and for the inspired teacher.

The main project for NITH's third year students, the last of several learning project experiences, consists of an assignment; a real life project given by a private, public, or non-profit organisation not linked to the NITH. The students are meant to develop a functional product over a period of four months during which they spend three days a week in an organisation. This is considered the final practical exam for the

IT students. Through the reciprocal exchange of knowledge, the project creates an opportunity to forge useful links between the academic and the organisations' worlds. The students contribute to increasing the organisation's capacity, as well as to creative development within the organisation. Thus, the projects are contributing to academia's so-called third task, namely their participation in the development of businesses in the region (Brulin 1998). There are three parties in these real life projects, the students, the university colleges and, in the cases presented here, the enterprises. In this article I will focus on the students' role, and only touch on that of other parties portraying them from the students' perspective. Enterprises are usually quite satisfied with the projects and the majority make use of the products created by the students. To increase the quality and to have more inventive projects, however, a better dialogue between the students and their respective enterprises has to be developed. This concerns both the scope of the project and the development of the product. There is a need for a dialogue between equal parties, which should be characterized by reciprocity, confidence, respect and recognition. A dialogue based on asymmetry is always in danger of creating disrespect, mistrust, manipulation and rigid control. There are great differences in the ways that students handle this relation. In a traditional learning situation, the students often have difficulties feeling safe and as equals in the dialogue with the enterprise's representative. The traditional role of the student is often characterized by a) poor confidence in their own competencies, and therefore b) the expectation that the other party takes the initiative, asks the relevant questions, and prepares for the students' work, and c) lack of practice in using their own experiences and thinking alternatively.

Students often have important, special, competencies, which are unknown to the enterprise. However, at the beginning of a project, students do not always take the necessary initiatives to decide what competencies are needed. Many times they do not take initiatives to explore the meaning of the defined scopes and their contexts, including the specifications of demands, or they do not take initiatives to collaborate with the enterprise when making definitions. Even the cleverest students, the students with better marks, wait for the initiative to be taken by the enterprise or the tutor. With disrespect for their own competence, they end up carrying out orders made by others. The

traditional student role emerged through a long history of power rela-tions between teacher and student, which were accepted as common sense and were reflected by similar relations in society as a whole. The relationship expresses a view of knowledge as a transmission from the educated to the learner – with an accompanying lack of initiative.

Reflection has been an integrated part of project organized learning at NITH from the beginning. For each project a "reflection note" has to be written by the students. This has been a way of integrating reflection into students' daily studies to strengthen learning. For this chapter, the following definition of reflection was chosen: *"Reflection is more or less conscious and more or less all inclusive judgments about the connections between our acts and their consequences"* (Wahlhagen et al. 2002, p. 17[1]). The authors make a distinction between *"how we are acting"* (reflection) and *"why we are acting"* (critical reflection). But is this enough? Can Action Research contribute to encouraging reflection? In this connection it is convenient to use Argyris and Schön's (1983) work where they distinguish between reflection making the changes of a single loop, and the reflection mak-ing the more basic changes of the double loop, the changes of structures and prerequisites for actions.

Undertaking real life projects at NITH takes its inspiration from Problem Based Project Pedagogy as formulated by Knud Illeris (1981), and which is based on Oskar Negt's (1994) Critical Theory and John Dewey's (2000) pragmatic philosophy. The pedagogy relating to project work challenges the student's role in three ways: by making them engage in real life experiences, by participatory undertakings and by the relative free space at their disposal. The students gain different experi-ences from projects, and they do not benefit equally from making them. So, in order to develop our knowledge of practicing real life projects, I wanted to carry out an experiment introducing new perspectives drawn from Action Research.

An Action Research project was chosen to make the students, through their experiences, strengthen their subjectivity *before* they enter their dialogues with the enterprises and the NITH:s tutor. In this way, they were empowered and thereby able to reduce the asymmetry of the situ-ation. A workshop where the representative from the enterprise, the

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1   Translation mine.

NITH tutor and the students all participated in a Dialogue Conference was considered. However, it was necessary to give the students time and space, and an opportunity to find their own platform as a starting point for the dialogue with the other parties.

By strengthening the students' subjectivity and individuality, they will be able to experience the existing project culture at NITH, including constraints and attitudes, and possibly point to spaces that need improvement. This led to my research question for this Action Research project, namely: *"From asymmetry to symmetry in real life projects: What can be done to improve the project culture at NITH in order to facilitate the students in being real contributors to the enterprises?"* Project organized learning and Action Research have many commonalities. An important concept that emerged in my PhD work was that of free space (Nielsen 1996). Free space is a technique of counteracting the asymmetry, something more than empty time and room. The space is structured by a workshop organized in such a way that students create their own experiences in the free space. This will encourage processes, which will strengthen their subjectivity, ability, and the opportunity for more creative reflection. The free space in real life projects can contribute to strengthening the integrity and the creativity of the students and the integrity of the university college in relation to the business environment.

16.2 Free space's contribution to making change possible

The creative and initiating attitude that I often miss among the students can be seen as being rooted in ambiguousness, the choice is either to adapt to the dominating structures or not. Man can adapt to power, but not entirely. There is always a remainder, the transcendental ego, as in Hans Skjervheim's (1973) philosophy, that will not be disciplined or adapted. In the ability of man to reflect about his actions and himself, there is a possibility for change. This possibility "can be used or lie there unused". There are some possibilities of choice, which cannot be seen because they are unconscious. Man can choose to avoid making choices, letting others make choices for them, to let heritage and the environment, habitus, decide. That is also a choice, which Skjervheim

emphasises. But do we have possibilities to choose, not just an apparent choice? Are we not all exercising power?[2]

16.2.1 Is power in each process?

Foucault's concept of the way power works in modern societies provides the hierarchical theories of power as being constrained from outside – power is gradually and increasingly socialized and internalized by the individual. Man himself carries anonymous power; power is in all processes. The discourses about right or wrong, rational and irrational, normal and abnormal are a part of our ordinary life, and they influence our perception of reality. The discourses decide the theme, and what and who is important, relevant and interesting. In measuring oneself in relation to the expressions of the apparently open public, it is most convenient to adapt to its norms.

What do the students do? Traditional hierarchies and the traditional complementary teacher/student roles have been reduced, to a certain extent, through the principles of "responsibility for one's own learning". At the same time, there have been changes in the structures of working life where Taylorism has, in some areas, become less dominant. The growing development of technology has focused on a need for the staff members' professional competence. Thus there is a tendency that projects offered by enterprises have changed character. From being dominated by performing technical problem solving, the projects offered have sometimes been more like a partnership involving dialogue and collaboration. Hence the content of power and the content of roles have changed. These tendencies open up the possibility for problematizing the students' real life projects and questioning how to improve the dialogue between the students and the enterprise from being one way to being mutual.

16.2.2 The free space of the Future Creating Workshop

To be able to develop alternative ideas and ways of thinking in everyday working life, critical Action Research has focused on facilitating partici-

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2 These questions are posed in order to express the problem. As mentioned above, however, this will not be further developed in this chapter.

pation in a free space, an experienced based free space where "reality is set out of function" (Nielsen 1996), it is not only the discourse based free space. The ideas about free space are inspired by Robert Jungk and Critical Theory (Kurt Aagaard Nielsen and Birger Steen Nielsen in this book). The ambition with the idea of the social free space is that the participants strengthen their subjectivity, become more conscious about their ambiguities, their own ideas, alternatives and possibilities in the real world. This is not happening in a space of pure rationality, but in a space structured to make emotional experiences, and the critical reflections emerging from these experiences. The principles of the Future Creating Workshop are a way of structuring the social free space (see Lise Drewes Nielsen's Chapter in this book). This workshop is organized as a training area relating to the democratic learning processes with space for change and processes of renewal, to get to know possible activities to be used in real life. The Future Creating Workshop takes place in a room away from the work place with enough space for the physical movement of all the participants. It is performed in an atmosphere of democratic processes, accept and recognition. Learning processes are based on a space for social imagination, everyday life ways of thinking, and on having a joint objective. It is a general perspective of "being subjective" (Skjervheim 1976), this is not education for something instrumental.

The free space of the Future Creating Workshop is more physical than the free space based on what Habermas terms the language discourse (Gustavsen 2001). Experiences gained from the Future Creating Workshop can provide awareness about one's own wishes and requirements relatively independent of a predefined perception of reality and enhance distinguished alternatives through reflections.

Foucault's concept of power tries to close the image of a social free space. The technique used in Future Creating Workshops tries, however, to penetrate this concept of power and opens up for the possibility of subjectivity to distance oneself from the discipline.

16.3 The Action Research Project: "Better dialogue in real life projects" – the organizing and principles of the experiment.

The experiment *"Better dialogue in real life projects"* was undertaken during the autumn of 2003 and spring 2004 in relation to the Bachelor IT students' final year's project. The experiment must be understood in terms of the interface among three different fields, the culture of Information Technology, the culture of enterprise projects and the culture of learning projects. These three fields are influenced by the new information based and network based economy (Svensson 2002), and thus a twofold perspective exists, a development logic of hermeneutic and a productive logic of science. This twofold perspective is constituted by the interchange between, for instance, "reflection and processes" as opposed to "efficient action based on routine or rules", and between "alternative thinking" and "problem solving according to existing rules". The twofold perspective in these fields influences NITH, both its students and its teaching staff, and is experienced in the real life projects offered by enterprises. It leads to a certain amount of insecurity regarding norms of right or wrong, hence there is a high level of instrumentality and adaptive thinking, but also a level of open-mindedness, and curiosity concerning new work and modes of thinking.

NITH has a long tradition of having the students perform their bachelor real life projects in cooperation with private enterprises. The projects have been recommended due to the great amount of learning students engage in, and the enterprises' benefit and have therefore been prestigious for the NITH. However, the projects have been pulled between the influences of the development logic and the product logic. There is a discussion as to what extent the projects should be product oriented enterprise projects or, explicitly, also experience based learning projects. The culture of project work at NITH, which is expressed by the attitude and guidelines of performance, carries the two conflicting logics. It is a general perception that the project's method has great potential, its weakness being that students often seem to be led by short term instrumental demands from both the school and enterprise.

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16.3.1 The organizing of the experiment "A better dialogue in real life projects"

The experiment included two project groups of five students each, and started at the beginning of the academic year in August 2003, and ended in June the following year. An important precondition was for the experiment to strengthen the work of the project.

The experiment incorporated three workshops:

- The Future Creating Workshop (workshop 1), at the start of first term
- The resource workshop (workshop 2), in the middle of first term
- The public and experience workshop (workshop 3), after examination in spring term

Between the workshops, meetings were arranged with each group with the intention of sustaining the groups' own long term principals for their work, their utopian ideas, to ensure that these were kept vivid and were not lost as the focus was on short-term activities. Two meetings were arranged between workshops 1 and 2, and four meetings between workshops 2 and 3. The principle of the free space was emphasised by the researcher (myself) who was neither as representative of NITH nor a group tutor. The researcher's detachment from the examination and the power to influence the assessments was important for the experiment.

16.3.2 Organizing of the Future Creating Workshop

The Future Creating Workshop was organized along Jungk's (1989) principles: the critical phase, the utopian phase, and the implementation/realisation phase. The scope of the workshop created an arena for students to establish their real life projects. The definition of the main theme was collaboratively elaborated: "*What do we want to work with in our project? How would we like the collaboration between the students, the enterprise representative and the NITH tutor to be carried out in our main project*", and was directly connected to their own student project. The democratisation principle was implemented according to the workshop guidelines, and through organized training, the participants had collec-

tive experiences of democratic practice. In the critical phase, they had to use their own previous negative experiences with their earlier project work as the basis for their utopian ideas. Working with utopias through creative processes was the most important issue in the Future Creating Workshop. The intention was to be conscious of their inherent wishes and dreams. Through evolving a common document of realizable utopian sketches, the participants should also get to know each other's utopian ideas.

16.3.3 Students' utopian ideas: The ideal project – combination of professional and the personal wishes

The students have great expectations when undertaking their main project, which is done in the final term of their Bachelor's programme. Expectations about their project are influenced by the short-sighted requirements for good assessments, as well as an experience of the professional life in combination with everyday life. Similarly, this combination influenced the utopian documents: the dream of innovation, the product's usefulness to the public, the wish to be valued, the wish that the people surrounding them should be their partners in dialogue and supporters, the wish that the chosen enterprise meets the requests of a single mother: a town centre location, as well as regulated working hours. The utopian document functioned as a basis for developing criteria for choosing an enterprise and for normative guidelines for the project.

16.3.4 The students' results, the completed real life project

The two project groups, A and B, delivered their products to the enterprises and their written reports to the university college, received the highest grades. Group A delivered a prototype for a module for a large dental system. Group B delivered a "stand alone" application, a CRM system; a product completed for sale, and which was successfully launched on the marked a couple of weeks after the examination. Group B functioned as expected in the "*Better dialogue ...*"-experiment. On the basis of the students' initiative, the enterprise changed their system architecture during the project process. Group A had significant problems in the process of their project. Their product demanded a component, which was to be

produced by another party in the enterprise. The component was not finished and the project group waited unquestioningly for a long time before recognizing the problem and reacting. They chose to develop a prototype product instead. In addition, they wrote their paper on why IT projects fail. As a learning project it turned out to be a success, but as a product oriented project it failed.

16.4 How did free space in the social experiment, "Better dialogue in real life projects" manifest itself?

I now go on to discuss my experiences gained from the social experiment, the organization, participants' expressions and actions, as well as my own reflections, based on the process' resumes and diary notes.

Did group A accept the asymmetric situation by immobilizing themselves? The student role confused them so that they did not take initiatives, trusting enterprise assurances and just waiting. Why should these students accept their asymmetric relationship? They all had the potential to see through the unequal situation and be able to change it earlier. Through participating in a *"Better dialogue ..."*-experiment, they had experience with democratic actions, were trained to use their previous experiences, and to use their utopian ideas as horizons and references for their activities. After being exposed to these experiences, the students did not, however, manage to change the relationship with their enterprise before it was too late for their assignment. This situation was too difficult for students to deal with, and it could not be expected that they could, they said. Hence the effects of a *"Better dialogue ..."*, experiment can be questioned. Did the training give the students the necessary consciousness of democratic processes, or was the training insufficiently systematic and for too short a time? Why did the experiment not live up to our expectations? These questions must be left open here, but they show that the research experiment did not produce clear short-term results. What could the potential be of experiencing structured free space in changing this situation? The students in group A could break the pattern of the powerless student role by being able to think in alternative ways and make their own strategy and plans by

using their everyday perspective. By seeing themselves as equal partners in dialogue with the enterprise, the students could find ways of solving problems during the process. Experiences with structured free space can open this possibility. In a meeting in a "*Better dialogue ...*" experiment in February, the students in group A were confronted their utopian ideas and acknowledged the problem situation of their project. Their wishes to be equal partners and respected in the project process opened up the horizon. The free space revealed the problem, which was too difficult to express. They discovered each others' tacit feeling of uneasiness. The day after the meeting they started changing the situation by making relevant initiatives.

Why did the two groups have different results? Their real life projects had similar bases; apart from participating in a "*Better dialogue ...*"- experiment, they were all experienced students, almost the same age, had good assessments, ambitions, their engagement, same gender division (one woman and four men). They had different types of project and different enterprises chosen on well-founded criteria. Both assignments demanded high levels of IT knowledge, workload and self-reliance. Both were, in different ways, dependant on the surroundings, the first project was thought to be good enough for launching on the market. The other assignment demanded other parties in the enterprise make a component for their use. What distinguished the two projects? Two different fields distinguished the projects, firstly, the possibilities for the students to influence the project or business, and, secondly, the enterprise representative's acceptance. Group B, with their "stand alone" application, negotiated with their enterprise and proposed improvements to the system's architecture. Group A could have influenced their project in spite of their dependence on another party and in spite of the low degree of acceptance by their enterprise representative. They could have made a clarification of their own process of technology development at an early stage, as well as analysing and clearing alternative solutions and following up on schedules. Alternatives could have been the basis for negotiations about priorities and changes in the project process.

16.4.1 The researcher's normative role and the free space.

Were the democratic processes in the Future Creating Workshop

genuine, or were they hidden manipulation? How did the researcher's mindset influence the participants? By making use of a Future Creating Workshop, the researcher made a conscious normative choice of a research technique and method structured to encourage participants' way of working. The participants' experiences, perspectives and premises were the interesting issues. There were three ways of assuring democracy in this research experiment: a) the topic emerged from the collaboration between the researcher and the students, b) researcher assuring the democratic structure of Future Creating Workshop, c) the subsequent advocating of students' utopian ideas by researcher. a) The topic for the Future Creating Workshop was proposed by a researcher on the basis of knowledge about the students' reality and the researcher's own interests. The proposed topic was discussed and agreed on as being the common theme meaningful to everybody. All parties could, however, withdraw from the Future Creating Workshop if they did not feel they owned the topic and the process. b) The standard structures of the Future Creating Workshop were chosen to carry out a social experiment on the participants' premises. The essential task of the researcher as a workshop leader was to assure the creation and functioning of the workshop according to the established guidelines, and that the agreed theme guided the content of the workshop. It was important for the researcher to be the attentive and neutral workshop leader to ensure that the Future Creating Workshop accomplishing its intentions. c) The workshop leader's task was to remind the participants about their utopian ideas throughout the entire project process. Hence, the researcher's role was not neutral, but normative, to confront the participants with their expressed wishes to avoid them disappearing into the usual instrumental orientation of their study. Using the students' way to express their wishes through their utopian document, the researcher positioned herself normatively, avoiding, however, transforming their issues.

To sum up briefly, the researcher's effect is consciously used to develop democratic processes by a) establishing a common theme of Future Creating Workshops, b) engaging in structures of Future Creating Workshop on the participants' premises, c) following up of the participants' utopian ideas. In addition it is essential to underline the importance of researcher avoiding the role of a power embedded representative of the university college. Simultaneously, the achievement

was that the students gaining experiences of participating in democratic processes which have significance for being active partners in democratic processes in the world of reality outside the Future Creating Workshop.

16.4.2 *Inspirations for development of the tutor's role*

Inspirations for the development of the tutor's role emerged from the Action Research social experiment. The experiment showed that the empowerment processes could be set in motion through opening up more evident free space. The students were supported in building their self-confidence and they were encouraged to choose an assignment that was meaningful to them, both short term and long term. They felt that they could trust that the encouragement to make use of the free space was real, not empty words. For instance, the February meeting changed group A's attitude to the project showed that it was possible to put processes in motion through the conscious use of free space. These measures of free space should be possible for the tutor to apply in the everyday life of the university. This would demand another understanding of the student and tutor roles. The project culture had to be further developed by reducing the tutors' power representation and increasing the legitimacy of the maintenance of free space for the students. The tutors' focus should be to support the students in how they solve their problems – not to put forward their own solutions of the problems. To be able to achieve this, the tutors' culture and attitudes must be reflected in the free space in the teachers' own working situation. The teachers' organisation must be encouraging empowerment processes, so that they know in what way they have power of influence in everyday life. In that way, they can be proficient project tutors who sustain the free space and the democratic processes for the students.

16.5 Conclusions

What experiences can be drawn from the Action Research social experiment? The research question was: *"From asymmetry to symmetry in real life projects: What can be done to improve the project culture at NITH to facilitate*

the students in being real contributors to the enterprises?" The experiment encouraged the students to develop new perspectives on their real life projects and my own perception of the project culture. The students undoubtedly gained much in acknowledging the free space, especially in the initial phase of their project. The main conclusion so far raises the questions of how to facilitate free space for the students in their projects, and how to give them the opportunity to benefit from the existing possibilities presented by free space.

16.5.1 Three important lessons can be drawn from this experiment

Firstly, the students gained from developing their utopian ideas at the start of their project. It was important for them to control the initial phase to be able to choose the assignment, and have a feeling of power over the situation. They used the possible free space. On this issue, the students contributed proposals for structural changes, and improvements of project culture at NITH in accordance with the concept of the double loop (Schön 1983). They put forward the principle of students choosing the enterprise, and not the other way around, namely enterprises choosing student groups. Hence students can be the driving force in project development. Further, they want the information about the project premises and constraints to be given at an earlier time, not in October as now, but already at the end of their 2nd year, so students have more time to make preparations. They proposed that perspectives concerning free space should be a part of their curriculum in their 1st class. In addition, they suggested that the student groups should be expected to choose their enterprise early in the autumn and that the external breakfast meeting with enterprises offering opportunities, usually in October, could give the students further possibilities for choice.

The second interesting experience was that I, in my researcher's role, acknowledged a different free space relating to students than through my ordinary tutor's role. In my practice as a project tutor, I thought that I was always tutoring on the students' premises. Through my experience as a researcher without being the representative of the school, I used this independence for advocating the students' future wishes in quite another way than through the ordinary tutor's role. The students noticed this and related to it. What does this imply for the tutor's role

at NITH in the future? How can the tutor's role facilitate the free space to a larger degree than today? Such discussions take place today among tutors and so the project has the learning culture at NITH.

Further, I pose the question of whether it was right to choose the Future Creating Workshop, a technique from the world of the humanities, in developing technology students' assumedly "narrow" questions. Is it relevant to bring the concept of free space and logic of everyday life into a world of technology regulated by the logic of the product? The two cultures correspond in their affectedness by human beings.

To be able to reflect about alternatives, however, it is sometimes necessary to withdraw from the real world, for instance a social experiment. Business leaders have been aware of this and had the opportunity of using social free space in their leader enhancement activities. Making working life and academia sustainable, we can encourage free spaces in daily life so that ordinary people have space for their everyday reflections. If the logic of everyday life is an alternative to the logic of the product, creativity and innovations can be put forward breaking patterns of power. Organizations' norms can be discussed, the possibility of thinking alternatively is opened, and the fact that solutions are not predefined, can be discovered. This requires a constant consciousness to question alternatively transcending constraints simultaneously relating to reality.

16.5.2 Implementation

The final challenge in the Action Research project is how the results are implemented at NITH. The diffusion process is a constantly returning theme within Action Research, as further elaborated in Chapter 2 of this book. The most important thing in that sense, to my opinion, is that the existence of the social experiment and students' engagement has confronted the atmosphere of consensus and revealed some central questions, made some values evident, and initiated discussions in the organization. It has become more legitimate to discuss experience-based learning, students' free space and democratic participation among teachers and tutors. It has also become meaningful to discuss dialectic processes between structures in the project culture and learning processes. It is crucial, however, that both teachers and leaders are involved in

the further development of the common goal and scope: better student learning culture – enhancing further request for and thus sustainability of the NITH. These are future processes.

Has the Action Research experiment contributed to developing the project pedagogy? Many similarities between the project pedagogy and critical Action Research have emerged. The main perspective of student's empowerment is in the foundation of project pedagogy, even if it has changed much since the seventies (Ulriksen 1997). However, the importance of this Action Research experiment has primarily been the contribution of a more distinct free space perspective with a utopian horizon through the Future Creating Workshop. Secondly, my own experience of the tutor's role as the representative of power has been more evident. Further progress at the university college will, however, reveal if new cultural perspectives can be opened. So far, these experiences have brought new angels to the space of pedagogy of real life projects to be challenged by developing categories for PhD work in the future.

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