

Dialogue Seminars as a Pedagogical Tool for Case Studies

Abstract

Teaching of the case study methodology has a central place in the postgraduate education within the research field of skills and technology. Our pedagogical idea in this project is to implement a doctoral course based on the dialogue seminar method. The dialogue seminar method was developed during the second half of the 90's as a part of Maria Hammaréns work on her doctoral thesis at the high-tech company Combitech Software AB where the aim was to speed up transfer of the experience based knowledge. The conventional methods for pursuing case studies, such as interviews and questionnaires, have serious limitations when the study object is professional knowledge. It is extremely difficult to capture the essence of the professional skills, known as tacit knowledge, by putting direct questions. Especially efforts to construct so-called expert systems have shown the scope of difficulties. Indirect methods, as dialogue seminars, have proven to be more helpful. By implementing the dialogue seminar method in the graduate education we expect to achieve:

- students' own experience becomes a central part of the reflection on the use of the method,
- qualification from experience to skill occurs through reflection which is structured by means of the dialogue seminar method,
- design of doctoral students' case studies can be supported in an early phase,
- advanced group leadership of doctorate students where the interaction between the individual and the collective is used as a source of power for individual development,
- 15 case studies are carried out by means of the same method; this makes possible a comparative analysis of the ways the method is used,
- theory, practice and critical assessment, that otherwise tend to be done as separate moments, are brought together in the same course.

Keywords: Higher Education, Classroom Research, Instructional Innovation, Professional education, Group Discussion, Dialog Journals, Experiential Learning, Transformative Learning

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Abstract

This paper describes and discusses a new postgraduate course based on the dialogue-seminar method. The course and the method have been developed within the research area of skill and technology, based at the Royal Institute of Technology in Stockholm. The main features of the course were dialogue and reflection on practice of research inspired by reading of the source texts from the history of science and philosophy written by: Descartes, Leibniz, Diderot, D'Alembert, Gadamer, Galileo and Darwin. The concept of liberal education was of importance in the design of the course. Doctoral students were all adults at average 46 years old interested in applying of research in order to improve practices at their own work places.

Keywords

doctoral programs, reflective teaching, dialogic education, dialogue seminar method, theory practice relationship, adult education

Introduction

This paper describes and discusses a new postgraduate course based on the dialogue-seminar method¹. The course and the method have been developed within the research area of skill and technology, based at the Royal Institute of Technology (KTH) in Stockholm since 1995. In 2003 we were granted funds from the Swedish Council for the Renewal of Higher Education to develop a course on the philosophy of science and case study methodology in a pedagogical project named *Dialogue Seminars as a Pedagogical Tool for Case Studies*. The project itself consisted of a series of pilot courses based, held between autumn 2002 and spring 2005. Research area of skill and technology has been dedicated to the long-term case studies of professional skills, epistemology of practical knowledge, and methods for sharing of tacit knowledge within organisations. At present there are twenty postgraduate students at the Department of Skill and Technology at KTH doing research through the case studies conducted at their own working places. All of them are active practitioners within different professions, with long working experience, interested in putting their own research in the service of changing and improving practices at their own work places.

Rationale for change

The idea of a new postgraduate course based on the dialogue-seminar method emerged partly from the specific needs of our students and partly from some broader considerations about teaching of scientific methods. A title of a typical postgraduate course at KTH and elsewhere usually includes words like “theory and method”, “philosophy of science” or “theory of science”. Labelling courses like this assumes that a novice researcher first learns a theory, in a classroom, and then proceeds to apply the theory to solve some practical problems. Theory and practice are thus divided with no room left for reflection on practice within the scope of academic courses. This approach does not pay attention to the fact that practice has its own mode of reasoning that is not deductive or inductive but analogical, resembling the reasoning used in artistic and aesthetic contexts. It also disregards the fact that scientists can be seen as reflective practitioners (Göranzon, Hammarén & Ratkic, 2005; Schön, 1991).

On several occasions our doctoral students expressed their dissatisfaction with this state of affairs. One of them, a 43 years old system developer, voiced it as: “I’m not investing time and effort to do research besides my ordinary job just to be treated as being back in school with a teacher telling me what is right or wrong.”

The other motive for designing a new postgraduate course was to investigate a neglected aspect of the concept of a scientific method. Scientific method is usually associated with the idea of a set of rules organised in an algorithmic

¹ Manual of the dialogue seminar method can be downloaded from www.dialoger.se, link Forskning. A short presentation of the method is included in this paper, in section on method.

structure that, only if carefully followed, yields wanted results. Academic courses on method focus often on the study of the logic of this structure, leaving out reflection on problems that emerge when steps of a method are to be followed in practice. Within the research area of skill and technology the concept of method has been broadened to encompass even a philosophy of language, epistemology and the imaginative potential of arts, all this in order to help researcher and his informants describe the tacit aspects of the skills pertaining to a studied professional group. In the actual course we tried to broaden the concept of method by considering how use of methods can be constrained by researcher's bearings in the context where method is deployed.

The third and the most important rationale for change was to try out the dialogue seminar method (originally developed for reflection on experience based knowledge) as a pedagogical tool suitable for both bridging the gap between theory and practice and for creating a reflective milieu in which practical aspects of the concept of scientific method could be considered by reflective thinking open for connections to participants own experience.

Review of relevant literature

Göranzon, Hammarén & Ratkic (2005) give a short account of subject area's background and bearing ideas. Skill and technology, which evolved from long-term case studies on skills from the end of the 1970s, established its profile through basic research studies on the epistemology of practical knowledge. The tradition of passing knowledge and skills was a key issue from the outset.² At this stage attention was drawn to the need for reflection as an alternative way of "theorising" about experience-based knowledge. A researcher can be seen as a reflective practitioner who gains knowledge from learning by example rather than from instructions, and through personal contact with prominent researchers rather than just reading books. The classic studies of scientist's knowledge by Fleck (1979), Polanyi (2002) and Kuhn (1996) point in the similar direction.

Nielsen & Kvale (2000) stress the master-apprentice dimension of learning in the education of scientists. They refer to Kanigel's (1986) and Zuckerman's (1977) studies of the learning paths of American Nobel prize winners in which pioneering research is described more as art and craft than as a mechanical application of methodological rules. The Nobel prize winners give evidence that the acquisition of a researcher's knowledge is a question of learning the mentor's way of thinking, that the critical and independent attitude is transferred more through the personal contact than by reading, that the mentors teach more by example than by instruction, conveying a feeling and taste for good science, and so on. Roald Hoffman, the 1981 Nobel Prize winner in chemistry hosted our Dialogue seminar at the Royal Dramatic Theatre in

² This early research was presented to an international audience through the two international conferences held in Stockholm in 1988 and 1993. Papers from these conferences have been collected in a series of six books edited by Bo Göranzon, Magnus Florin and Ingela Josefson, published between 1988 and 1995 at Springer Verlags series on Artificial intelligence and society.

Stockholm this year. He emphasized that relation between an academic teacher and a student is reciprocal; teaching and working with students was what stimulated him most in his research.

Is it possible to recreate, or even improve, something of the reflective dialogue between master and apprentice in a classroom situation or in an academic seminar? Göranzon & Hammarén (2005) attempted to do this when they created the dialogue seminar method in cooperation with a Swedish high-tech company Combitech System. The dialogue seminar method was thereafter tested in a number of other contexts presented in Göranzon, Hammarén & Ennals (2005.).

The idea with the method can be perceived if we compare our work with the ideas of Donald Schön who is often mentioned in the context of the action research on professional knowledge and its consequences for learning. While augmenting that professionals reflect in action, Schön admits that there is a need for reflection separated from action, labelled by Schön as “reflection on reflection-in-action”, especially in situations of learning where experts need to describe for someone else what they are actually doing when they are reflecting in action (Schön, 1991, p. 127). But Schön does not pay much attention to the question of how reflection separated from action can be arranged because he is mainly concerned with reflection-in-action. This is where we claim the innovation with the dialogue-seminar method; speaking in Schöns terms we apply the dialogue-seminar method to arrange “reflection on reflection-in action”.

Schön (1987) proposes the “reflective practicum” as an arrangement for education of practitioners. Reflective practicum is an educational setting where a student is introduced into traditions of a community of practitioners and their practice world. An architectural design studio is for Schön a prototype of a reflective practicum. In such a studio students (apprentices) are working under the supervision and in a reflective dialogue with a coach (master) learning to master unique, uncertain and conflicting situations of practice. Schön’s view is that students will reflect given the right organisational setting, time, coach asking questions about students’ failures and student having some experience to reflect on. But will they?

Our experience is somewhat different. Göranzon, Hammarén, & Ratkic´ (2005) claim that asking people directly what they know and how they know it has its limitations. They stress that quality of reflection can be significantly improved by providing humanistic reading to reflect on. Reading of texts from philosophy, history of ideas, literature, literary criticism and drama provides us with models for coping with situations of uniqueness, uncertainty, and conflicting values. Even Schön emphasizes humanistic reading’s potential for stimulation of reflection on practice but does not develop this idea in further detail (1987, p. 325).

In order to broaden our insight in what others are doing we have also searched ERIC and EBSCO educational databases for full text articles. ERIC database seems to cover mainly the educational research done in the US. We have restricted our search to the articles available in full-text, published between

1994 and 2004. We used following descriptors: doctoral programs, reflective teaching, dialogic education, dialogue seminar method, theory practice relationship, adult education, course descriptions, dialogs and group discussions. We found, in short, that similar ideas are circulating elsewhere, e.g. on importance of reflection in learning or on importance of dialogue and journal writing, but we did not find any description of a method where all moments were integrated to an equally high grade as in dialogue seminar method.

The concepts of reflective practice and action research have, with good results, mainly influenced design of teacher professional development (Ferraro, 2000). The classroom tools mentioned by Ferraro are dialogue journals, students' personal histories, group discussions about students' experiences, peer coaching, portfolios, etc. Journal writing is very often connected with the idea of an individual reflecting on personal experience through the journal. In contrast to the view that experience is primarily an individual's possession we are interested in individual experience just to the extent to which it is connected with collective experience embedded in the praxis of a whole profession.

Knowles, as cited in Cyr (1999) draws a sharp distinction between pedagogy – “the art and science of teaching children” and andragogy – “the art and science of helping adults learn”, a model developed by European adult educators in the early 1960s. According to Knowles adults' learning is oriented towards performance rather than subject, adults use experience as a resource for learning and they orient their learning around developmental tasks of their social and work roles.

The role of the short essays that participants wrote for each dialogue seminar can be compared with Virginia Woolf's experimenting with short sketches that she collected in her diaries as described in Ippolito & Tweney (1997). Woolf was an autodidact who invented her own writing apprenticeship program. Her private journals became “a place to hone her writing skill absent critics and publishers, and eventually were the kind of record of observations and theories in development kept by a scientist at work” (Ippolito & Tweney, 1997). Five of the participants in our project have completed their licentiate or doctoral theses since the beginning of the project. In this case it is possible to trace transformation of their ideas from the short sketches presented and discussed at the dialogue seminars to the backbones of their thesis.

Questions

One important question connected with dialogue seminars is which texts are good enough to serve as impulses for students' reflections. This means that the question of understanding a method's "how" is closely related to "what" the method is applied to. In this course we decided to try out some classical readings from the history of science and philosophy: Descartes, Leibniz, Diderot, D'Alembert, Gadamer, Galileo and Darwin. For more detail about which texts were used see appendix. Why just these classical thinkers and not some others? This question could be developed in a whole book, so let me here hint to just handful of answers relevant to our interests. The first four thinkers have been important for the development of the subject area. Göranson (1993)

has used writings of Leibniz and D'Alembert to explain how the idea of the expert system evolved, and writings of Descartes and Diderot to mount a critic against it. We decided to include Hans Georg Gadamer's *Truth and method* because we believed that his thoughts about the fusion of horizons and reasoning on why we should read classics could encourage and inspire students to do this. Galileo was chosen, among other things, because he has used dialogue to write about problems of methodology of a natural science and Darwin because he has exerted such a great influence on following generations in so many different areas of thought. Last but not least both Galileo and Darwin were brilliant writers whose styles of thought deserve study in their own right.

A further reason for our decision to read classical texts was that we, through our collaboration with the Royal College of Music in Stockholm, learned that first hand reading of the source texts could stimulate student's own creative thinking on the concept of method in search of their own personal voices as researchers (Göranzon, B., Hammarén, M., Ratkic', A., 2005).

Another question was whether to write a journal of ideas.³ A journal of ideas is a written record of a dialogue that takes place at a seminar, where an interpretation of a conceptual content of the dialogue is more important than an exact record of what has been said. This is why we use expression "journal of ideas" instead of "dialogue journal". To write a decent journal of ideas takes time. For example journal of ideas from a whole day (6 hours) seminar can have between 20 and 25 pages and it can take a whole week to write. Most of our doctoral students had to look after their ordinary jobs at the time they attended the course, so it was very difficult for them to make claim to such amount of time. Because of this we decided to skip journal of ideas in two of three courses in the project. Yet the journal of ideas was kept in the third course.

Importance of the project

The most important assumption concerning our pedagogical philosophy is just that it is rooted in philosophy and not in psychology, behavioural science, cognitive science or cybernetics. Why is it so? Because research subject of skill and technology was formed in opposition to the disciplines that saw human beings and their ability to learn in analogy to the information processing machines. Our pedagogical philosophy draws from the pragmatic tradition of philosophy, mainly from the tradition that stems from the later philosophy of Ludwig Wittgenstein. In this tradition learning and thinking takes place in a community, as a part of historically established practices. Because we are concerned with situational aspects of learning, including every individual's responsibility for appropriate action in actual circumstances, we don not find

³ In some other publications, e.g. in Göranzon & Hammarén (2005) and in the grant application for this project, we have used word "minutes of ideas". After reading several articles on learning in ERIC database about courses based on similar ideas as ours, where people talk about dialogue journals, reflection journals, etc., I decided to call the record of the dialogue for "journal of ideas" instead of "minutes of ideas".

general theories on learning and cognition applicable to our field of interest (Bergendal, 2003)

Method

Students

19 doctoral students have participated in three courses held between autumn of 2002 and spring of 2005. 6 of these students were women. All students did not participate in all courses; there were on average around 12 students per course. All of the students were also active practitioners doing action research at their own work places. They studied in the first place for the licentiate degree (level between master's degree and doctorate). Their professions were following: four system developers in leading positions, two entrepreneurs with own businesses in marketing and marketing research, one innovation researcher, one officer specialized in military leadership education, one researcher within elderly care, one teacher from KTH Learning Lab, two organisation developers, one leadership consultant, one quality engineer, two professional musicians and teachers, one painter and teacher at the University College of Arts, Crafts and Design, one mathematics and philosophy teacher and researcher, and one full time researcher and doctoral student in skill and technology who administered the project and who is also the author of this report.

Innovation

Innovation in relation to our ordinary courses in philosophy of science and method consists partly in forming the course according to the dialogue seminar method and partly in arranging the course around reading of classical texts of Descartes, Leibniz, Diderot, D'Alembert, Gadamer, Galileo and Darwin.

Leadership of the course was shared between Bo Göranson, professor in skill and technology, and Gunnar Bergendal, mathematician and former chancellor of the School of Teacher Education at the Malmö University. Innovation introduced by Gunnar Bergendal was to make a sharp distinction between behaviour and "responsible action". This distinction helped us to realize that doctoral students should not be thought how to "behave" when using a scientific method. What is the difference? For Bergendal behaviour is associated with the logic of mathematical models. Someone has thought out in advance how a general model works, and the user of the model does not need to repeat this thinking again. Thinking is thus separated from doing. Responsible action, in contrast, means that we have to judge what is appropriate to do in every single situation, and that the judgement can not be done by anybody else but a person directly involved in the situation, thus being responsible for what she is doing (Bergendal, 2003).

Here is a short account of the dialogue seminar method taken from Göranson, Hammarén & Ratkic' (2005). The dialogue seminar method uses external impulses to bring experiences to life. These experiences are then represented in

stories. The source of the external impulses is found in literature and essays on knowledge. The method is founded on humanistic traditions and traditional humanistic reflection: reading slowly and constantly making notes in the margin. There is also the challenge of having the notes act as a record of the connections to examples that reading the texts may produce. In preparation for each seminar, the participants read the same texts. Slow writing, which includes a process of examination and reappraisal, is just as important as reading. Taking their notes as a basis, the participants paste together a new story, a written reflection. Interweaving reading and writing in this way impels the people in the group to reflect. The reflection, which works on the group members' individual experiences, is shared with the group by reading aloud. The preparatory work and the risk and responsibility that must be taken in order to present one's own reflections for the group by reading aloud qualify the conversation that this process produces. This qualified conversation is set out in the journal of ideas, where an interpretation of a conceptual content of the dialogue is more important than an exact record of what has been said. Different language games are brought into play, and nuances and contrasts stand out in a detail that is not possible in an ordinary conversation.

The flow of thought in the dialogue seminars is anything but straight, and it should be noted that this is a deliberate choice. The participants are invited to give free rein to their thoughts, to seek examples and examine the area of thinking that is the theme of the session. This makes special demands of the person leading the seminars and of the person appointed to write the journal of ideas.

The concept of liberal education was an important aspect of the project. "Liberal education" is here corresponding to the German concept of "Bildung". Degerblad and Hägglund (2002) assert: "The aspiring German official, meant von Humboldt, did not need to know only actual rules and regulations, but also their philosophical foundations" (my translation). In our project we have approached the history of methodological rules through the study of classical source texts from the history and philosophy of science.

For this course Göranson formulated an alternative definition of the meaning of a liberal education as knowledge of one's own limits. In the natural science context it means knowing what can and cannot be done as a consequence of our choice a specific methodology.

Each of the project's three courses consisted of five whole-day dialogue seminars (between 9 a.m. and 4 p.m.), plus one day for examination.

Procedures

The self-assessment of the project has been done through the following steps. Course activities result in written documentation. The documentation consists of the short essays on assigned reading that each student writes for each seminar, of the examination essays, and of the journal of ideas from each seminar (or alternative to the journal as described in the section on method). In the middle of the project, in 2003, eleven of our doctoral students handed in

written course evaluations in form of short critical essays. One of the students, who also kept close contact with teachers, interpreted and compiled these evaluations in one essay. The essay was then presented and discussed by the group on two different occasions. Besides this the author of the evaluation had individual conversations with students. In the final stage of the project both mid-term evaluation and other documentation were used to produce the draft of a final report. The draft of the final report was discussed during the project's last dialogue seminar. The final report is thus result of a collective effort to interpret what happened in the course.

Results and discussion

The explicitly stated objective of the course was "training in analogical thinking". Analogical thinking, for example in seeking suitable expressions for description of a tacit knowledge or comparing the business of being logician to the business of being poet, is an essential methodological principle of the research area. It is evident from the course documentation that many analogies invented by course participants found their way to four licentiate and one doctoral theses that were finished between 2003 and 2005.

One thing that surprised teachers was that experienced practitioners could become so stimulated by reading more than four hundred years old classical texts like those of Galileo and Descartes. Our explanation for this is that there are many illuminating and well formulated passages in Galileo (1632) and Descartes (1637) where reasoning from experience is part of the argument, and that these passages correspond with our student's own experience. One example of such reasoning is in Galileo (1967, p. 35) where he, in an argument against his Aristotelian opponent Simplicio, compares logicians' professional knowledge with that of a craftsman or a poet. Our point is that such passages can be found in Galileo's source text but that they are usually omitted in secondary sources on Galileo's work. What can postgraduate students use such insights for? One example is a case of a 50 years old system engineer and consultant who struggled to find a form for presenting his own experience as a central part of a scientific work presented in his licentiate thesis. He found a solution by organizing his experiences in correspondence to the passages in writings of Descartes, Diderot, Gadamer and others (Sjunnesson, 2003).

Another unexpected outcome was that the project stimulated us to rethink our own assumptions on what reflection is and how it proceeds. To reflect is usually connected with making reference to our own experience (Hammarén, 2005; Smith, 1999). But how can we reflect on things we do not have any personal experience of, e.g. when a novice researcher needs to reflect on methods he has not been used before? This is an intricate question. This course stimulated us to think of reflection not only in terms of relation to personal experience but also in relation to theories, ideas, and other people's experience.

A valuable result was that through the dialogue even teachers became stimulated to relate to their own professional experience as researchers. This is important regarding our aim to try to bring some aspects of the reflective dialogue between master and apprentice to a classroom situation.

Engaging one of the students at 20% of a full time in the project ensured student participation. He participated both in the planning of the project and by assisting the course leader in the realisation of the courses. Other students were involved through the work with journal of ideas and, when journals of ideas were not written, through the teachers written comments on students' essays. Journals of ideas and teachers' comments from the preceding seminar were presented at the beginning of each seminar and students were given possibility to give proposals on what can be improved on the next occasion.

When subject matter of participants' texts is personal experience negative criticism is forbidden. This because an atmosphere of trust must be created in order to make people share their experiences with others. Instead for looking for flaws and errors in others narratives participants are asked to respond with own associations, own examples and analogies. In this way the framework of the conversation is created. Our participants appreciated such style of conversation, especially in the introductory phases of their research work when it was important not to kill potentially good ideas ahead of time. Criticism thus became constructive and collegial.

Can dialogue seminar method be transferred to other learning milieus? Yes, but we don't believe that it can be done just by reading about the method and listening to the couple of lectures on it. We require people who will be entrusted with the teaching of the method to have a deep understanding of the areas covered by the method: the philosophy of language, concepts of praxis and tacit knowledge, the philosophy of practical knowledge and, above all, that they are proficient in the aspects of the method that have to do with preparation, with setting up and leading the dialogue seminars, and with how to write journals of ideas documenting important points from dialogue seminars. Education for the leadership of dialogue seminars can be compared with the education of the theatre directors, who have to acquire their skills under the supervision of more experienced people. At present it takes participation in our two years long programme in reflective practice which leads to the licentiate degree in skill and technology-

We have in this essay talked about courses, but maybe it would have been more appropriate to talk about a series of dialogue seminars. This distinction is related to the concept of liberal education that was an important aspect of the project. In a course we talk about objectives, in relation to which the course can be evaluated, in liberal education we talk about personal growth and explorations with unpredictable outcomes. Where a course is mostly a matter of reading liberal education is a matter of an interplay between reading and experience.

Literature

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Skill and technology on the web:
www.dialoger.se, link Forskning

Appendix

Course readings

Here are the titles of the classical texts read in three doctoral courses on the philosophy of science and method which together constituted our pedagogical project. Titles are in Swedish with English translations enclosed in brackets.

Autumn 2002

- Gadamer, Hans-Georg, *Sanning och metod i urval* (Truth and method - selected chapters), Göteborg: Daidalos, 1997. First published 1960
 Descartes, René, *Avhandling om metoden* (Discourse on Method), Stockholm: Natur och Kultur, 1998. First published 1637
 Leibniz, Gottfried Wilhelm, "Om et universelt tegnsystem" (On a universal system of signs), in Norwegian philosophical journal *AGORA*, nr. 3-4 (1990), original "De numeris characteristicis ad linguam universalem constituendam"
 Leibniz, Gottfried Wilhelm, *Den förutbestämda harmonien* (The pre-established harmony; ten texts by Leibniz selected by G. Nordstrand), Stockholm: Björck & Börjesson, 1927
 D' Alembert, Jean Le Rond, *Inledning till Encyklopedin* (Discours préliminaire), Carmina, 1981. First published 1751

Spring and autumn 2003, spring 2004

- Diderot, Denis, *Skådespelaren och hans roll* (The paradox of the actor), Prisma, 1963. First published 1830, rewritten in different versions between 1770 and 1784
 Galilei, Galileo, *Dialogen om de två världssystemen* (Dialogue concerning the two chief world systems), Stockholm: Atlantis, 1993. First published 1632.

Autumn and spring 2005

- Darwin, Charles, *Om arternas uppkomst* (The origin of species), Stockholm: Hiertas, 1871. First published 1859

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