The relation between tools used in Action Research and the Zone of Proximal Development

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The aim of this paper is to discuss whether it is possible to use the theories about the Zone of Proximal Development as understanding the value of using tools in action research as a way to challenge teacher’s thinking and acting in practice. Vygotskij’s theories are enlightened in a group perspective of learning and are applied in a school development context. In the project three tools are introduced; shadowing, writing, and facilitating. The argumentation is focusing the importance of using a variation of tools and taking different roles in a changing process; the person who gives and receives response concerning their own practice.

Introduction

Action research is sometimes identified as a means of stimulating teachers’ professional development. It can be linked to personal development, the knowledge base of action, professional development and increasing the social status of teachers' activities (Reason & Bradbury, 2000; Zeichner & Noffke, 2001). Swedish studies indicate that, through action research, teachers acquire increased consciousness and self-confidence; they learn more about their work; and they change their activities in conscious directions. Joint activity fosters deepening of ideas taken from theory, challenging taken-for-granted thinking, reflecting over past and current activities, as well as gaining a sense of future possibilities (Frykhammar, 2000; Runesson, 2000; Rönnerman, 2000; Thomas & Ganeteg, 2002). While the international literature on action research displays a range of standpoints, there is widespread agreement over common characteristics. These include cooperation between researchers and practitioners, starting from practical questions, valuing practical knowledge, fostering personal and content-related change, and accepting methodological pluralism (Hollingsworth & Socket, 1994).

In this paper we want to discuss whether it is possible to use the theories about the Zone of Proximal Development (Vygotskij, 1978; 1986) as understanding the value of using tools in action research as a way to challenge teacher’s thinking and acting in practice. In the paper we give a background to the field of praxis related research under development in Sweden and to a school development project related. This part is followed by an introduction about Vygotskij’s theories and thereby a description of how tools have been used in the project and the teacher’s experiences of using them in practice. The paper will end up with a discussion about relating the tools to the theory of the Zone of Proximal Development. The following questions will be guiding our discussion. Do tools used in action research challenge teachers’ way of taking their teaching for granted? Are there tools that are more powerful than others?
Background

In the beginning of this century, teachers’ professionalism is on the agenda. In Sweden there is a discussion and a development of a field named praxis related research. This field is not yet defined, but is talked about as research to be used in practice and leading to a better connection between academic research and improvement work in schools. According to the curriculum in Sweden, teachers and schools have the responsibility to develop teaching, to develop learning environment, and to improve the whole school. This development should derive from the schools’ own context and intentions. One way of understanding praxis related research is through action research in the meaning of challenge and improve teachers’ practice. Focus is on teachers practice and how to improve it with a better relation to research. Kemmis and Mc Taggart (1982) talk about action research that involves several steps in a process where the social practice is in focus. The four steps of planning, acting, observing and reflecting are by them described as a spiral. The practitioner formulates his or her own question from practice. The practitioner also produces and directs the action; which is then followed up with observations, discussions and reflections. These, in turn, lead to greater insight on how things relate to each other. In the actions different techniques to render everyday life visible are used, to initiate action, to observe what happens, and to reflect over what has happened. Tools, such as journal writing, observation, interviews and facilitating, are used to follow the process in the classroom. Such tools derive from instruments originally developed in the social sciences. Analysis, which usually involves documentation, confronts different portrayals of experience and theory. Praxis related research (action research) could then be described as a meeting of two fields of knowledge: the research field and the practitioners’ field, each with its own knowledge and traditions. It seeks to build on and extend the respective merits of these fields. Thus, such collaboration lies at the heart of action research. An open question is still: what are the possibilities to challenge teachers’ thinking, and by that improving practice by using tools in projects like this?

In this paper we will use data from a Swedish national school development project. The 60 participating teachers have been in a changing process for three years. The teachers work in all stages in five compulsory schools in different parts of Sweden. The composition of the development groups includes a mixture of participants from each school. The person in charge of the facilitating and the researching separately meets the groups twice a year. Between physical meetings each group have access to a discussion forum on the Internet

Zone of Proximal Development (ZPD)

In a socio-cultural perspective the below figure can be regarded as illustrating how knowledge and skill development function. According to the Zone of Proximal Development zone (ZPD) a person’s competence will not be of interest. The focus being made is on the potential in understanding and acting (Vygotskij, 1978; 1986).

Simply being in zone 1 means really confining oneself in activities and repeating more than learning. Which means by doing what you already know, you also feel this is the right method (Alexandersson, 1994). Few challenges are to be found in this zone. To all
intents and purposes the teacher’s learning is a repetition, and being in this zone for a lengthy time can be regarded as rather boring. But zone 1 can also be perceived as safe and cosy, since the teacher is not called upon to make changes all the time, the learning being continuously repetitive. Such a status leaves no scope for engagement in and ownership of knowledge development for oneself and the school (Mellin-Olsen, 1993). Response between colleagues, in this zone, is mostly a confirmation modus.

Figure 1: Knowledge development 1 = Attained competence
2 = Development zone 3 = Future competence (Figure from Säljö, 2000, p.122)

According to Säljö (2000), Vygotskij is basically of the view that people are continually undergoing development and change. In every situation it is possible to acquire knowledge and skills from other people in different teamwork situations. Vygotskij sees people as continuously on route to appropriating new forms of learning tools, based on what they already know. In other words, this is a way of looking at human development and learning in terms of always being in the ZPD (zone 2). In the terms of Vygotskij (1978), this zone is the gap between what people already know and what they achieve with the help of guidance from or collaboration with a (more) capable colleague. It will therefore be important to support the person who wants to learn with communicative support or scaffolding (Wood, Bruner & Ross, 1976). The scaffolding provided will naturally vary within the group. Being a part of scaffolding in the development zone can be looked upon as guidance within a special context, with a view to being one another’s “critical friend” (Handal, 1999).

In the ZPD the participants do their utmost to find a balance between confirming and challenging one another. They are aware that they need one another’s support in order to develop further (Dysthe, 1993). A joint responsibility for knowledge development, preferably from several perspectives, is there to help achieving this. Regarding studies with students, Mellin-Olsen (1993) shows that responsibility merely at one level can have a positive influence on the on the entire learning process. It is really a matter of producing knowledge together in harmony with one’s own and other’s social practice. In due course this knowledge will make it possible to progress to zone 3.

Zone 3 should then deal with having a meta-perspective on one’s own learning, to learn how to be able to change. This implies that participants feel that they possess and have control of their own development work (Mellin-Olsen, 1993). This can create an awareness of one’s own commitment to complete all the stages in the action research spiral (Kemmis & Taggert, 1982). It is almost impossible to reach zone 3 without first being active in the development zone. Coming directly into this zone may be far too big a challenge due to the lack of a deeper understanding. The learning situation, therefore, may not be optimal. After contributing to and learning from the scaffolding in zone 2, you may find that zone 3 deals with meta-reflections on these processes (Alexandersson, 1994). Centrally it is the participants themselves who are the actors in a
Tools used to support communicative practice

In the project different tools were used to for inclusion in a co-operative learning. The tools that have been used are shadowing, writing and facilitating. Each tool has been presented for the teachers and there has been time to try them out and discuss the outcome in groups. What follows is a short description of these different tools mixed with the teachers’ experiences using them in practice.

Shadowing

Shadowing as a phenomenon is a variation of observation with a purpose decided by the participating teachers. It includes response to the teacher in form of documentation, reflections and open questions. The starting-off point within the referred project for creating participation and providing scope for reflection has been the shadowing situations. Shadowing a colleague gives the observer time to make reflections about someone else’s classroom work – at first stage as individual reflections and thereafter by cooperation during facilitating. From the authentic questions raised in shadowing the main development question is formulated by all the participants.

The kick off gave me the feeling of creating the project together with my group (teacher C).

The teachers contribute to or participate in shadowing other teachers, who have showed themselves willing to be shadowed by observers. If the school has an open and trustworthy climate, shadowing can be done openly and in a spirit of understanding and collaboration with the teacher that is being shadowed. Observations contribute towards augmenting teacher’s understanding of the social terms of the practice; they also develop the ability to systemize one’s observations (Tiller, 1999). The documentation arising from shadowing in this case can be regarded as a developed form of learning log, where the response to the recipient teacher is made known.

For me this tool needs a learning process of how to give and receive challenges. How to give challenges depends very much of the receiver. How do I ask and what do I ask about? It’s easier when I initiate the response situation from a colleague. When she finds something out of my references it is easier to take the challenges (teacher G).

Positive response in the form of confirmation can be looked upon as a strategy towards bolstering the self-confidence and trust of the participants. Nevertheless assessment must be specific. Generally praise, such as fine and good, is seldom regarded of any real value (Dysthe, 1993).

It doesn’t give me anything when the response is indifferent or mediocre. When the shadowing teacher is critical it lead me to enter deeply in my reflections (teacher D).

The responses vary to a great extent between confirmation and challenges. Neither excessive response nor extremely hard challenges benefit the learning process, when bearing in mind that the purpose is to be one another’s critical friend in the ZPD.
You need support and confirmation to know if you have found a practicable solution. When someone is shadowing me I ask for challenges, at first it is difficult to face but a necessity in the perspective of development practice (teacher G).

All the participants agree that the opportunities for shadowing colleagues, and/or themselves being shadowed, increases understanding and greater awareness of various classroom cultures. It also motivates and inspires participants to develop their own practice.

The experience feeling is like studying myself [in the classroom] from a distance. The questions and reflections raised in someone else’s practice are actually meant for me (teacher G).

Writing

Individual writing: After starting up the groups have a common direction for the development work and each teacher is responsible for implementing the changing experiments in the classroom. For documentation and reflections according to their authentic question, teachers are expected to continue writing a learning log. Keeping a learning log will enable the teachers not only to have better access to their own thoughts, it will also give them an opportunity to return to these for renewed reflections.

Because I have to formulate my thoughts it is a useful tool. It allows me to go back and find out more about my thoughts and also ask myself why. It is perfect for analysing the past and a powerful tool for me (teacher D.)

The participants assess in widely varying degrees the importance of regularly keeping their own learning log: some don’t bother at all, some are about to do it and some are on the way to discovering a learning medium.

I have no tradition of doing this, it is difficult to find time to write and I can’t find a purpose of it (teacher E).

Cooperative writing: It is physically possible for the development groups to meet only once per term. This opens the way for exchange of views via the group’s discussion forum on the Internet. The idea is that the teachers can use this medium to share their experiences, and raise questions and ideas concerning the improvements being attempted in the classroom.

It’s like a collegial guidance on an equal basis (teacher E).

Since the teachers in the group within the framework for the development work have decided what they want to achieve in the classroom, there is much variation in the way they intend going about it. One can say that this forum focuses on a reflective how-perspective. The endeavour for these teachers is to go from questions about how to what they should learn. The gain to be made here is that via these dialogues the teachers can combine what and how since this can contribute to an experience learning (Tiller, 1999). The aim is for the teachers to read one another’s attempt in a reflective way in order to be able to give a constructive response in a spirit of critical friend.
facilitator is a part of these discussions as one of the participants in the group that, in the introductory stage, finds itself hard to grasp the situation.

After the first meeting the facilitator’s writing on the network has been like the ending up the discussion. We want her to participate on equal premises as the rest of us (teacher C).

Dialogue on the network requires openness, a personal motivation and an understanding that this forum requires both input and response. Teachers that are not afraid to engage in a writing style on the network that is more like a type of learning log writing understand that dialogue should contribute to learning.

Getting response of my reflections from the group is of deep value for me. But the most important thing for me is my own writing. Writing on the network also starts a process of more systematically reading my reflections in the learning log (teacher A).

The feeling of being a member of a group is not so apparent in a virtual forum of this kind. According to the participants, physical meetings ensure that the dialogue will be enriching. Many, however, are not sure about what can be written, which response is relevant and which type of response can contribute to the learning.

I’m not participating in the web network. I wonder if it is a lack of time or motivation (teacher B).

**Facilitating**

In this context the pedagogical task for the facilitator can be seen as using different forms of scaffolding, to guide the participants in searching different answers of their authentic question, but also to challenge their thinking of practice. It includes discussions in a variation of perspectives, to enlighten the difference between easy highways in zone 1 and taking the roll of being searchers of narrow paths in the ZPD.

The facilitating has been as important as the hub of the wheel or a compass when we are disorientated (teacher E).

In the beginning I thought that the facilitator was holding some answers of our questions. But than I realized that it is up to me to search for them (teacher B).

Most of the teachers participating in the project have not participated in facilitating before and are rather sceptical in the beginning. The picture is quite different after an intensive period during the starting-off point.

I have never been participating in facilitating before. I get a positive feeling when someone is collecting the questions and reflections from the group and leads the discussions in a direction. I am proud of our discussions and I could, at a very early stage, realize a progress in our changing process (teacher B).

The meeting between participating teachers and their facilitator is affected by a number of dilemmas, just as the committed researcher also is in the action (Lendahls Rosendal & Rönnerman, 2002). Bearing in mind the links the facilitator has with the university world, the dialogue will not be understood on equal terms. It may, however, be of importance to emphasise that in research work *with* teachers, the fact is that the
participants come from different backgrounds and thereby have different ways of looking at and dealing with the questions involved (Greenwood & Levin, 1998). In spite of this asymmetrical situation we venture to say that it is possible for every voice to be heard if the participants take the responsibility for engaging in other’s views and for developing their own perspectives.

For me it is important that the person is an outsider. It would never have worked out otherwise (teacher C).

I have deepened my thought thanks to many and difficult questions. This gives me new perspectives of teaching and learning. But it also gives me confirmation because I got the feeling of not judging in the terms of right or wrong (teacher C).

Reflections

In this project it is obvious that tools can be single, double or multi oriented. When more than one person is engaged, focus is on the interplay between colleagues in a learning situation. Different tools of writing can be used as activities or isolated skills in zone 1 if the response giver finds it hard to give challenges to a colleague. The reality is that the learner depends on knowledge and consciousness of others, how to give response in the zone of proximal development. To achieve meaningfulness and engagement, as required in the ZPD, also includes responsibility for an ownership in both roles. To be the one who gives and the one who receives the reactions (Mellin-Olsen, 1993).

Is it possible to visualise “the other”, colleagues from other practises, to function as a receiver for providing different kinds of reaction? In practice it is not a matter of support clashing with challenges, since both are involved in being a critical friend. It is according to Bakthin (1981) the difference between the voices of the participants that constituted an important learning potential. Development always means exciting meetings between different voices (Dysthe, 1993).

When participants have integrated scaffolding in using their tools during the action research process our interpretation is that they also have found an arena to be in the ZPD. But the metaphor of scaffolding can, however, obscure and tone down the fact that learning in the development zone strongly features challenges. These can cause conflicts that in their turn can be a spur to development.

Individual development must not conflict with co-operative learning, and the most important link binding individual and the co-operative experiences is communication. “The other” is an important part of personal learning in the ZPD, since it can be developed through reaction and response in writing to dialogues in shadowing or in facilitating. In this perspective of learning, where other’s thoughts, words and texts are used as think-tools, a new meaning and a new knowledge can be created (Bakthin, 1981; Dysthe, 1993). In a meaning-making like this, it is not important to find out which tool is the most powerful – or maybe it is the combination that can stimulate teacher’s professional development? Is it hard to get a variation of perspectives of practice in your individual writing, or what do you talk about during the facilitating without writing or shadowing? From our point of view it is the interplay between
discussions and writing that plays an essential role for learning in the zone of proximal development.

References

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