Teacher professionalism and the process of change: Developing a professional self through reflective assessment

Manfred Lang
IPN, Kiel University, Germany

Abstract. Teachers and schools are increasingly subject to policies of educational change, imposed and controlled through government. But as documented in different analyses little will be accomplished by imposed change if teachers do not understand these reforms and get involved. An alternative of imposed change is professional "self-development", supported by a systemic framework. Results from a continuous workshop of the German PING project for the development of integrated science teaching and learning are presented in a model of a professional Self. In this model assessment with concept maps was part of the process for teachers' self-development, supported by a collaborative system of a network of colleagues, teacher trainers and researchers. Through interviews and questionnaires teachers progress of concept integration for planning and conducting lessons are elaborated.

Educational reforms are a result of rapid changes and developments in society and increasing political pressure for competitiveness on international markets and for accountability on multinational test scores such as the Third International Mathematics and Science Study (TIMSS). Research on changes in the OECD study about science, mathematics and technology education (SMTE, Black et al., 1996) and in a study conducted by Poppleton et al. (1998) document diverse approaches, ranging from promoting teacher development and practice and supporting school cultures to systems of imposed policies. Especially changes imposed and controlled through government are judged to be the dominating choice of approaches (Hubermann et al. 1989, Sikes, 1992, Poppleton, 1998). But this type of approach proofs to be a failure in different analyses because of lack of teachers' commitment or resistance. While governments might be concerned about learning outcomes and their potential consequences, little will be accomplished if teachers do not understand these reforms and get involved. The outside pressures for teacher development can frame or support development but do not constitute a system for professional development because any imposed system collides with demands for professional autonomy.

An alternative of imposed change from outside is "self-development" or "self-cultivation" (Terhart, 1998). The "Self" inside the individual teacher is the source of "self-cultivation" that guides professional development in a specific culture with its socializing forces. The "Self" cannot be produced from outside, but is formed by an individual's wisdom, ethical and moral conviction on a cultural and social background. But "Self-development" can be supported in a systemic framework (Yinger et al., 1998) by creating the conditions in which teachers can teach well and are challenged to improve their practice. A model of the "Professional Self" is proposed by Bauer (1997). This model is used for analysis and reflective assessment in a continuous workshop for teachers' professional development in integrated science teaching and learning. It is part of the German PING project about basic integrated science education, conducted as a sequence of meetings during the years 1996 to 1998.

The PING concept of innovation is based on the collaborative activity of teachers,
researchers and teacher educators who want to make science more meaningful to students, to develop professionally, and to evaluate their professional practice and beliefs against classroom outcomes and common curricular practice. In the PING project teaching is an open process of planning and learning for teachers and students. Experiences with this teaching and learning process are part of reflective collaboration on development and revision of teaching materials and concepts, teacher training, research and administrative changes. Professional development in the project is maintained by agreement of teachers to participate in evaluation activities for material development and workshops for exchange of experiences. The cooperation between teachers and students in the same school is part of an interpersonal exchange. It is linked with institutionalized groups in regular teacher training workshops, a core group of teachers, teacher trainers and researchers in the project, regional project groups and regular meetings of representatives from different federal states. The IPN - the research center at the University of Kiel - maintains a coordination center for planning, information exchange, material development and revision that supports the cooperation. Most federal states are connected in networks for exchange.

The analysis of the PING project in the OECD/CERI report (Black et al. 1997) suggests that change in science teaching is mainly due to the central role teachers play in a system of collaboration with university researchers and teacher educators. The report points out that practice in some cases is not sufficiently linked to elements of a curricular system allowing reflections as analytical view. As a consequence an approach of a collaborative teacher and researcher curriculum (Clandinin et al., 1992) for the PING workshops was adapted that fits to the teachers' central role in the project and the aim of professional self-development. The teacher in this system is an integral part of a dynamic interaction with learners, subject matter and milieu in collaboration with researchers. Reflection in this process is supported by assessment controlling professional development by feedback and change in the curriculum. Especially self-assessment of students and teachers is a basis for reflection, guiding students' learning and teachers change of routines for the development of a professional self. Results from research done during the continuous workshop were used in order to develop a more detailed picture of changes affecting teachers' professional self. What is the professional core of a teachers’ self? How does collaboration influence aspects of teachers professional self? Which educational changes may be expected?

Developing a Professional Self in a continuous PING workshop. The professional self is defined by Bauer et al. (1996) as a result of a professional effort to develop an action repertoire in practice, a system of values and goals, occupational and subjective knowledge and a professional language in a professional culture. This culture is the core of knowledge, experience and skills, developed in a community of persons involved in education as teachers, learners or parents. Collaboration as described in the PING project is a prerequisite for the development of this culture. But in addition an environment is needed with openness, trust, mutual help and understanding. Professional development was supported and studied in a collaborative PING workshop conducted between June 1996 until June 1998. During this period a group of 22 teachers from 11 school met in 9 sessions for preparing, planning and analyzing lessons about the topics "water", "soil", "animals", "the sun", "plants", "other people" and "machines". In two of these sessions teachers developed concept
maps as assessment instruments about their planning of lessons on the topics "water" and "soil". These concept maps were discussed and changed during the workshop sessions. Final versions of concept maps were copied and given to the teachers for their lesson planning. On the basis of these concept maps they tried to conduct their lessons, followed by two other sessions reflecting on their work, comparing it with a standard concept map of the PING core group, revising their original planning and commenting on it in interviews. At the end of the workshop in June 1998 questionnaires and interviews were used for inquiries on the effect of lesson planning and preparation, collaboration, feedback and self-evaluation on teachers' understanding of the PING concept of integrated science.

Analysis of concept-maps and interviews indicate, that during the workshop teachers used disciplinary knowledge related to the topics "water" and "soil" and partially developed specific concepts and relations in concept networks that are specific for subject integration. Concept maps, constructed and discussed during the workshop were judged to be useful for conducting lessons. They were limited in use through lack of time, different student interests and organizational barriers in school. Results from a final questionnaire indicate, that changes of professional development are related to usefulness of teacher training, support for lesson planning and former specific experiences and knowledge of school types. Self-assessment through concept maps is correlated with usefulness of teacher training especially for the development of integrative goals and lesson interventions. Concerning the model of Bauer the aspects of subject knowledge, goals and action repertoire of the professional self was developed to a relatively high degree. In the interviews aspects of professional knowledge and an action repertoire of the Self were mentioned in lesson organization, use of external impulses in lessons and variation of teaching methods. Collaboration with colleagues and members of the workshop were seen as helpful for improvement of professional knowledge and a corresponding action repertoire.

References.