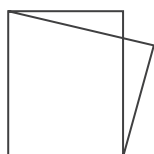# Continuing innovation and development of teacher expertise

– the continual transformation of personal knowledge for teaching

Clemens Wieser,
Department
of Educational
Research, University
of Graz, Austria

Teachers develop their expertise progressively through experiences of teaching and reflecting on these experiences. When teaching in class, personal educational knowledge of teachers provides the horizon to maintain their performance, to interpret classroom events, and to react to them. Out of class, personal educational knowledge is used to reflect upon personal performance and classroom events, and these reflections modify orientations for teaching. Personal educational knowledge incorporates concepts for teaching and reflection. How personal educational knowledge of teachers is structured and used in and out of teaching is subject to discussion in educational research to date, and empirical research yet struggles to trace how personal educational knowledge is transformed for teaching. Sensitising conceptual perspectives may clarify how knowledge is transformed for teaching and how knowledge and knowing differ. This paper introduces two conceptual perspectives that provide sensitisation for ethnographic fieldwork:

- A post-critical perspective highlights that knowledge is used in distance to teaching for analysis and comprehension of events, while knowing is used when a teacher is involved in teaching and manages these events.
- A post-structuralist perspective highlights transformations of knowing and knowledge, which take place in technologies of the self that foster a matrix of practical reason.

Both perspectives can support ethnographic fieldwork on knowledge and knowing. The paper introduces four areas of fieldwork in which knowledge and knowing are represented: (1) Videographies of classroom interaction document educational knowing in classroom interaction. (2) Narrative interviews with teachers document reflective educational knowledge in which teachers have to condense and detail lived experiences. (3) Stimulated recalls offer ex post rationalisation of actions within events. (4) Video diaries document stories of formation that reflect technologies of the self. The conclusion outlines a perspective for integral analysis of the four fieldwork areas.

Conceptual perspectives on educational knowledge and knowing of teachers
Classroom performance of an experienced teacher strikes us because we are able to observe a teacher who is "practicing a profession" and virtuously handles a complex situation (Borgnakke 2004, 547). This complex situation is handled in order to create a context that facilitates learning, to constrain activities that divert the focus from learning, and to shield learners "against the chaos and inflexible demands of 'reality'" (Saugstad 2005, 359). Even though virtuous teacher performance can be observed immediately, it remains difficult to pinpoint the personal educational knowledge a teacher draws on. In professional performance, a teacher is immersed in skilful activity, sees immediately how to achieve a goal, is able to make subtle and refined situational discriminations, and distinguish situations that require one reaction from those that demand

another. In order to perform, teachers rely on a set of personal orientations that guides their attention while teaching. These tacit personal orientations are expressed in teaching, while the orientations themselves are created and recreated in reflection on teaching. Orientations are shaped by practices both in and out of teaching, and these practices have to be studied to comprehend how personal educational knowledge is transformed for teaching.

Sensitising perspectives for empirical research on teacher knowledge and knowing
Perspectives that regard different modes of knowledge and processes of knowledge formation and transformation have been outlined in philosophy of education and can be translated into sensitising perspectives for fieldwork and empirical analysis. Two of these perspectives, namely from post-structuralist and post-critical theory, seem particularly relevant for the study of personal educational knowledge transformation because they provide complementary approaches on the matter:
- Post-critical epistemology empha-sizes the tacit quality of knowledge when teaching. Teaching is enacted professionally by tacit comprehension of classroom events and situated reaction, which are scaffolded by educational knowing. Post-critical epistemology now is fundamentally distinct from personal educational knowledge, a mode of knowledge that exists explicitly to a large extent and may be recalled by the teacher.
- Post-structuralist epistemology highlights that teaching performance widely relies on personal educational

knowledge and illustrates that this knowledge is continually developed through technologies of the self. These technologies enable a teacher to align practice with personal educational aims. Educational aims point to the moral dimension of schooling, a morality that sets an ideal of effects personal educational practice should have, and which provides orientations for teaching.
Both perspectives do not reflect much in empirical research on transformation of personal educational knowledge for teaching. Taking such perspectives into account may support comprehension of teacher professionalism: A complementary use of post-critical and post-structuralist perspectives indicates that teaching is dependent on both involved practice that relies on knowing and reflection in action, and detached practice that provides analytical and moral orientations for doing so. The following two paragraphs presents some sensitising concepts from these two perspectives that may provide useful points of departure for empirical fieldwork.

Post-critical epistemology
Post-critical epistemology elaborates on practical modes of knowledge and identifies structures of tacit knowing that ask for a fiduciary approach to knowledge. The perspective suggests an experienced teacher is a teacher that can be trusted because she tacitly knows what she is doing. From a post-critical perspective, critical reasoning serves to undermine practical commitments, but underdetermines practice because practitioners evidently believe more than they can prove, and know more than they can say. Post-

From a post-critical perspective, critical reasoning serves to undermine practical commitments, but underdetermines practice **because practitioners evidently believe more than they can prove, and know more than they can say.**

critical epistemology consequently insists, "we must accredit our own judgment as the paramount arbiter of all our intellectual performances" (Polanyi 1998, 279). Teacher professionalism becomes evident in practical modes of knowledge such as "knowing in action" and "reflecting in action" (Schön 1983, 55). Knowing in action refers to the non-reflective mode in which professionals act when they are not confronted with unusual challenges, a mode in which a teacher does not need to solve problems or make decisions because "he knew what he was then doing, not in the sense that he had to dilute his consideration of his premises with other acts of considering his consideration of them" (Ryle 2009, 158). Reflection in action is vital when teachers manage teaching in challenging classroom situations that require more than intuitive acting: "By

reflecting on the way we are performing it we may seek to establish rules for our own guidance in this act" (Polanyi 1998, 30). Reflection in action is characterised as episodic step back from the natural state of knowing because the situation requires additional attention. It takes place when routine patterns seem inappropriate to achieve a goal. An attempt to project order onto a situation leads to unexpected results, the situation "talks back" (Schön 1987, 157) to the teacher and the teacher listens to the situation to restructure action. The process of reflection in action starts with an experience of surprise and confusion in respect to a tacit aspect of a situation and gives attention to situational peculiarities in order to comprehend this aspect and handle it. In the process of reflection in action, aims and ways in teaching are not separated, but are set

up reciprocally to define the tacit aspect. When reflecting in action, a teacher does not resolve a situation by searching a rule appropriate for the situation and applying it: "The application of the criterion of appropriateness [of a rule] does not entail the occurrence of a process of considering this criterion" (Ryle 2009, 20). To explicatively assess an action as appropriate, a teacher would have to reflect how to act professionally, which requires the teacher to reflect the mode of reflection and enter regress. Reflection in action is immune to regress because it accommodates the singularity of a situated event and integrates subsidiary awareness into a focal awareness in order to experiment within in a situation. This awareness is directly fed back into action without interrupting the primary process of action, which indicates reflection in action is not

a process separate from action, but part of it "to free possible futures" (Geerinck, Masschelein & Simons 2010, 388). Reflection in action establishes a tentative framing of the situation and openness for situated responses. Professionalism is consequently located in the ability of a teacher to act within a personal framing, break out of this framing and reframe the situation. This post-critical perspective thus provides sensitising perspectives to comprehend educational qualities of situated knowing and reflecting in action.

Post-structuralist epistemology
Situated knowing and reflection itself relies on reflective educational knowing. A teacher has to know how and why something works and requires analytical skills to come to such an understanding. Knowing why and analytical skills do not arise from experience, but from the horizon of a teacher in respect to educational aims. A teacher accommodates and reflects situated action in class within an educational horizon of educational aims, a horizon that makes morality ubiquitous in the interactions between professionals and clients. However, the reality of classroom interaction cannot be judged by the means of theoretical morality and critical rationality because inarticulate tacit knowing in practice cannot live up to "systematic forms of criticism" that can be employed in explicit reflection (Polanyi 1998, 278). Teacher practice is not a consequence of critical rationality, but based on lived personal experience of a teacher and collective experience of a teaching community that provides proven and tested orientations which scaffold teaching. Teaching thus departs from personal educational orientation

schemes, which are in teaching fused with orientation patterns that guide situated action. Orientation frames and orientation patterns jointly shape an orientation framework (Nohl 2010, 203) which enables situated judgements, and these judgements may retrospectively be attributed as professional by teachers and third parties due to their compliance with critical rationality. The orientation framework incorporated by a teacher are related to lived experiences in late modern conceptions of the self (Foucault 2005; Butler 2005). Such late modern conceptions emphasise the frailty of the self because it is not in any way autonomously detached from the world, but is formed through both subjective reference acts to the social and social "putting into place of a subject" (Butler 1997, 90). However, the self is not totally subjected to the social world, but manages its autonomy through "technologies of the self" (Foucault 1988) in which it reflects upon how it is put into place and elaborates strategies to resist subjection. Technologies of the self are used to manage resistance and corrode dissociative interference of the social world with the self. This post-structuralist perspective thus provides sensitising perspectives to comprehend how teachers continually evaluate orientations for teaching, maintain and elaborate their professional aims, and come to terms with institutional limitations of teaching – all of which relate to the development of teacher expertise.

Fieldwork on the development of teacher expertise
How can we explore and reconstruct the orientations teachers rely on for professional teaching practice? The

two epistemologies introduced suggest fieldwork should attend to two kinds of practices: On the one hand side, fieldwork should attend to practices of involvement of teachers and situated educational knowing in classroom interaction. On the other hand side, fieldwork should attend to practices of detachment and reflective educational knowing which is embedded in teacher narratives. Both practices of involvement and practices of detachment reflect diversely in areas of teacher practice, and fieldwork may empirically address educational knowing in practices of involvement and practices of detachment to comprehend how teaching is maintained. The following areas for fieldwork each represent a stage in which teachers connect their involved teaching practice with detached reflective practice on teaching.

Videographies and participant observation of situated educational knowing in class
Teaching practice in class reflects skilful performance that is maintained by situated educational knowing. Teachers continually act in respect to the situation and actions of students. Due to situational complexity and contingency of classroom interaction a teacher cannot predict events, consequently learns to deal with insecurity and unpredictability and to act flexibly. Their ordering of interaction relies on knowing and reflecting in action, and scaffolds teacher practice because it allows teachers to handle classroom situations based on habitual acting, a "kind of practical sense for what is to be done in a given situation" (Bourdieu 1998, 25). Videography provides data of classroom interaction and a perspective on situated

teaching. Induction to situated teaching can take place when researchers attend classes and take the twofold epistemological framework as a starting point for observation. Observations provide an entry point to comprehend "cultural formation and maintainance" (Walford 2009) of teaching as a context for learning, and provides the research with a position and points of view for interviews with teachers. They provide a resource for initial comprehension of educational knowing through "entering a classroom culture" (Putney & Frank 2008, 217).

Narrative interviews on personal educational knowledge
Post-structuralist epistemology stresses that skilful teaching expressed in practice relies on educational horizon and analytical skills of a teacher. Educational orientation schemes are not addressed explicitly in classroom performance. To explore how teachers use them as sources of classroom performance, interviews with teachers can provide communicative opportunity to reflect on events and actions in class. Educational knowing can be elicited in narrative interviews on classroom events because a teacher as narrator becomes impelled to complete, condense and detail lived experiences to fulfil narrative obligations. These obligations make narrative interviews "particularly relevant to studies of everyday information behavior" that aim to conceptualise and theorise everyday knowledge in practice (Bates 2004, 17). Narrative approaches to interviewing presuppose the perspective of the interviewee is best revealed in stories where the participant uses personal spontaneous language in the narration of events in order to

"reconstruct social events from the perspective of informants as directly as possible" (Jovchelovitch & Bauer 2000, 59). Narrations in personal spontaneous language preserve form and syntax native to the culture of teaching in which teaching practice takes place. These narrations also reflect personal orientations for teaching. Teachers narrate previously lived experiences that "enable us to make sense of the present" (Watson 2009, 469), and refer to their educational horizon in teaching practice.

Stimulated recalls on situated educational knowing
Narrative interviewing is complemented with the possibility to talk about videographies collected in class to accommodate aspects that became relevant in observation and substantiate retrospective narratives with particular classroom situations. Without a stimulated recall, teachers can only talk about events and strategies in an abstract way. Stimulated recall provides teachers with „opportunity to discuss their strategies for interaction while they are directly confronted with recorded examples of themselves engaging in interactions" (Dempsey 2010, 350). Recorded classroom interaction provides an opportunity for teachers to recall events and generate retrospections, as well as discuss moments of uncertainty where a teacher had to shift from knowing to reflection in action and elaborate on how they perceived it from their perspective. Retrospections are seen to provide differentiated descriptions of personal comprehension in situations, especially in professional fields that demand self-reflection (Huijts, de Bruijn & Schaap 2010).

Video diaries on transformations of personal educational knowledge and knowing
The fieldwork stages outlined this far are temporally and spatially restricted to the classroom or school, where researchers conventionally do their recording and interviewing. Involved performance in class can be comprehended that way, because it is temporally and spatially situated there and can be covered by fieldwork on site. Detached practice as reflection on action however does not necessarily take place in classrooms or schools, and consequently has to be covered through other stages of fieldwork. Reflection on classroom events and actions regularly takes place when teachers are out of class and school, for instance when they are at home or at other places that provide an environment appropriate for reflection. Video diaries provide an opportunity to access these personal reflections, as they are not strongly aligned to an institutional place of work. They shift attention to personal places of work and professional reflection, which makes for a new stage of fieldwork: With video diaries, "fieldwork was no longer restricted by the time and space in which the researcher naturally could observe and interview", and presented "a chance to define what to disclose to the researcher – and when and where to do it" (Noer 2014, 86). Video diaries allow participants to record themselves, and teachers gain an opportunity to represent themselves and their teaching in time and space (Murray 2009, 475). Performances on video diary have been reported to convey personal spontaneous language (Noer 2014, 88-89), which reflect personal culture and concepts of a teacher similar to

Classroom interaction cannot be judged by the means of theoretical morality and critical rationality because **inarticulate tacit knowing in practice cannot live up to "systematic forms of criticism" that can be employed in explicit reflection.**

narrative interviews. Video diaries thus document personal knowledge of teachers, how they reflect on classroom interaction, and how they develop strategies for re-involvement in class.

Towards an account of the development of teacher expertise

All four areas of fieldwork draw connections between involved practices in the classroom and reflective practices outside of the classroom. Epistemologies from post-critical and post-structuralist theory provide resources to differentiate between modes and domains of teacher knowledge. They provide theoretical sensitivity for observation, fieldwork, and analysis. The orientation framework of a teacher connects personal educational knowledge and teaching. This orientation framework reflects in both practices of involvement and practices of detachment. An account of

such frameworks reveals the resources teachers use to perform teaching, how they maintain teaching practice, and how teaching takes place as dynamic adaption that is rooted in the teacher self. It is the reconstruction of the orientation frameworks of teachers that builds coherence between the areas of fieldwork. However, drawing connections between fieldwork areas remains a challenge, and this is where ethnographic strategies for fieldwork may be linked with Documentary Method strategies for analysis.

The Documentary Method was introduced to ethnomethodology by Garfinkel and Mannheim and enhances analytical possibilities of ethnomethodology because it aims at the analysis of "implicit knowledge that underlies everyday practice" and allows to reconstruct social structures and orientation patterns in everyday

practice (Bohnsack, Pfaff & Weller 2010, 20). Documentary Method data analysis enhances methodical control on ethnographic data because the "focus of analysis moves back and forth between the levels of (a) personal sense and (b) principles of fabricating social practices" (Przyborski & Slunecko 2009, 143). This dual focus allows to reconstruct personal orientations from the social structure of data. Analysis of personal orientations is made possible due to meta-theoretical concepts such as negotiated order. The concept of negotiated order acts as a theoretical tool that links interactions to overarching societal structures and frames "interactive construction (...) as an objective fact (...) only possible to the extent that negotiation is institutionalized as a formal paradigmatic test within a given organizational structure" (Nadai & Maeder 2008, 44). Data from the four

stages of fieldwork is screened and significant passages are transcribed and used for analysis. Analysis may address the different quality of data collected in fieldwork as follows:

- Analysis of involved practice can be realized through hermeneutic sequential analysis. Sequential analysis methodically excludes the context of an individual act in a first step and consequently contrasts the reconstructed potential with the actual subsequence realized in interaction.

- Analysis of reflective practices ¬– in narrative interviews, stimulated recalls, and video diaries ¬– is based on the narratological axiom that narration and experience are closely connected. Analysis of narrative structures initially developed by Schütze is taken up in documentary interpretation to distinguish between different text genres (Nohl 2010, 205). Text genres enable analysis to distinguish between descriptive parts of a teacher narration that account for situated educational knowing and argumentative or evaluative parts that reflect motives behind the action. This distinction is used to segment teacher narrations into parts that address action schemes, institutional sequence patterns, or transformative processes. Segmentation is analytically vital because it uncovers transformative processes that are driven by personal educational orientations. Transformative processes depend on continual experience of new situations and perceived discrepancy between planning and practice and consequently provoke the development of expertise.

Analyses of data from all four fieldwork stages are linked in subsequent integral analysis. Integral analysis is concerned with how knowledge is presented and elaborated on, and affiliates interpretations of involved teacher practice and reflective teacher practice with conceptualizations of knowledge and knowing. These conceptualizations act as comparative horizons for integral analysis and draw attention to probable characteristics in the development of expertise. Such comparative horizons are key elements of comparative analysis, which aims to substantiate the validity of empirically reconstructed orientation patterns and schemes. Aside from employing a comparative horizon, comparative sequential analysis substantiates validity because it compares interpretations of data segments with data segments from other cases to identify homologue structures. These homologue structures draw attention similarities of personal orientation frameworks and scaffold the creation of an account on the development of teacher expertise as continual transformation of personal knowledge for teaching. ◆

REFERENCES

Bates, J. (2004), Use of narrative interviewing in everyday information behavior research. *Library and Information Science Research*, 26(1), 15-28.

Bohnsack, R., Pfaff, N., & Weller, W. (2010), *Qualitative Analysis and Documentary Method in International Educational Research*. Opladen: Budrich.

Borgnakke, K. (2004), Ethnographic Studies and Analysis of a Recurrent Theme: "learning by doing". *European Educational Research Journal*, 3(3), 539-565.

Bourdieu, P. (1998), *Practical Reason: On the theory of action*. Stanford: Stanford Univ. Press.

Butler, J. (1997), *The Psychic Life of Power: Theories in Subjection*. Stanford: Stanford Univ. Press.

Butler, J. (2005), *Giving an Account of Oneself*. New York: Fordham Univ. Press.

Dausien, B., Hanses, A. Inowlocki, L. & Riemann, G. (2008), The Analysis of Professional Practice, the Self-Reflection of Practitioners, and their Way of Doing Things. Resources of Biography Analysis and Other Interpretative Approaches. *Forum: Qualitative Social Research*, 9(1), Art. 61, http://nbn- resolving.de/urn:nbn:de:0114-fqs0801615.

Dempsey, N. (2010), Stimulated Recall Interviews in Ethnography. *Qualitative Sociology*, 33(3), 349–367.

Foucault, M. (1988), Technologies of the Self. Martin, L. (Ed.), *Technologies of the Self: A Seminar with Michel Foucault*. London: Tavistock. 16-49.

Foucault, M. (2005), *The hermeneutics of the subject. Lectures at the Collège de France 1981-1982*. New York: Picador.

Geerinck, I., Masschelein, J. & Simons, M. (2010), Teaching and Knowledge: a Necessary Combination? An Elaboration of Forms of Teacher's Reflexivity'. *Studies in Philosophy and Education*, 29(4), 379-393.

Huijts, P., de Bruijn, E. & Schaap, H. (2010), Revealing personal professional theories An explorative methodological study. *Quality & Quantity*, 45(4), 783-800.

Jovchelovitch, S. & Bauer, M. (2000), Narrative interviewing. Bauer, M. & Gaskell, G. (Ed.), *Qualitative researching with text, image and sound*. London: Sage. 57–74.

Murray, L. (2009). Looking at and looking back: visualization in mobile research. *Qualitative Research*, 9(4), 469-488.

Nadai, E. & Maeder, C. (2007), Negotiations at all Points? Interaction and Organization. Forum: *Qualitative Social Research*, 9(1), Art. 32, http://nbn-resolving.de/urn:nbn:de:0114-fqs0801327.

Noer, V. (2014), Zooming in – zooming out – using iPad video diaries in ethnographic educational research. Landri, P., Maccarini, A., De Rosa, R. (Ed.) *Networked together: designing participatory research in online ethnography*. Rome: CNR-IRPPS.

Nohl, A.-M. (2010), Narrative Interviews and Documentary Interpretation. Bohnsack, R., Pfaff, N., & Weller, W. (Ed.), *Qualitative Analysis and Documentary Method in International Educational Research*. Opladen: Budrich.

Polanyi, M. (1998), *Personal Knowledge. Towards a Post-Critical Philosophy*. Routledge: London.

Przyborski, A. & Slunecko, T. (2009), Against Reification! Praxeological Methodology and its Benefits. Valsiner, J., Molenaar, P., Lyra, M. & Chaudhary, N. (Ed.), *Dynamic Process Methodology in the Social and Developmental Sciences*. Springer: New York. 141-170.

Putney, L. & Frank, C. (2008), Looking through ethnographic eyes at classrooms acting as cultures. *Ethnography and Education*, 3(2), 211-228.

Ryle, G. (2009), *The Concept of Mind*. New York: Routledge.

Saugstad, T. (2005). Aristotle's Contribution to Scholastic and Non-Scholastic Learning Theories. *Pedagogy, Culture and Society*, 13(3), 347-366.

Schön, D. (1983), The Reflective Practitioner: How Professionals Think in Action. New York: Basic Books.

Schön, D. (1987), *Educating the Reflective Practitioner. Toward a New Design for Teaching and Learning in the Professions*. San Francisco: Jossey-Bass.

Walford, G. (2009), The practice of writing ethnographic fieldnotes. *Ethnography and Education*, 4(2), 117-130.

Watson, (2009), 'Teachers are meant to be orthodox': narrative and counter narrative in the discursive construction of 'identity' in teaching. *International Journal of Qualitative Studies in Education*, 22(4), 469-483.