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In school-university partnerships the traditional practicum of student teachers, an approach based on the traditional application-of-theory model, has to change into a learning environment in which student teachers can participate in actual school practices. This participation is called work-based learning and it requires a pedagogy that differs from pedagogies used in a teacher education institute (TEI).

Based on Billett (2001a), we argue that this pedagogy builds on three components: (1) the ‘affordance’ (or invitational quality) of the school, (2) ‘agency’, the way student teachers choose to engage in workplace activities and (3) the intentional structuring of practice and the provision of guidance aimed at developing vocational expertise. This thesis focuses in particular on the third component of a pedagogy of work-based teacher education (PWBTE). In line with Billett (2002a), this guidance should aim at (a) developing the competences necessary for acting and thinking as a teacher and at (b) extending student teachers’ knowledge so as to make it useful for new tasks and in different circumstances.

An important affordance of schools is the opportunity to share practical teaching knowledge with student teachers, which is not an easy task, however. In this thesis, guidance is provided for in two different situations. The first one consists of thematic sessions, derived from the institutional curriculum, enacted by school-based teacher educators (SBTEs) at school. The second situation is found in a collabora-
tive mentoring approach (CMA), aimed at sharing practical knowledge among mentors and student teachers which was especially developed in this thesis. This collaborative mentoring approach is founded on cycles of collaborative preparation, enactment and evaluation of three lessons. The first lesson is taught by the mentor, the second lesson is co-taught and for the teaching of the third lesson, the student teacher is responsible. The mentoring tools that the mentors use are modelling and scaffolding. Modelling means both showing and critically discussing teacher’s behaviour as well as the underlying pedagogical thinking during the lessons and the lesson-based conversations (preparation and evaluation) (based on Loughran, 2006). Scaffolding can be described as supporting student teachers’ teaching during co-teaching (based on Collins, 2006; Warford, 2011; Wood et al., 1976). In line with Harrison et al. (2006) the learning opportunities offered in this approach are, as far as possible, learner-centred. To realise this, student teachers articulate their learning needs, aligned with the institute-based developmental demands, before a collaborative mentoring cycle starts with the help of a SBTE.

The main aim of this thesis is to contribute to the development of a PWBTE by exploring Whether and how guidance aimed at sharing practical knowledge is and can be realised (a) near the workplace during formal sessions at school by school-based teacher educators and (b) in mentoring activities related to actual teaching practice through modelling and scaffolding.

The study was conducted in four schools, all partners in a school-university partnership with a research–based university and a university of applied sciences.

**Chapter 1** pays attention to the history of the emergence of school-university partnerships and its consequences for teacher education. More in particular it discusses the consequences for the school practicum and the roles of cooperating teachers. The thesis further consists of two parts. **Chapter 2** (forms part one) analyses the guidance provided in the first situation described above, namely by school-based teacher educators during thematic sessions at school. Part two that consists of the **Chapters 3, 4 and 5**, investigates several aspects of the
second situation: working with the collaborative mentoring approach.

Finally, in Chapter 6 general conclusions are drawn and discussed. In addition, practical implications are described.

**Part one.** Chapter 2 focuses on the emergence of school-university partnerships and the need for new roles for cooperating teachers. One of these roles, the guidance by SBTEs in thematic sessions derived from the institutional curriculum, is analysed here. An instrumental case study (Yin 2003) describes how four SBTEs at two different schools fulfil their roles as educators of student teachers who, besides attending the sessions, participate in actual teaching. The Cognitive Apprenticeship Model (Collins et al., 1989, 1991) is further specified based on theoretical notions derived from literature on teacher education and workplace learning, and used as a framework in order to describe the activities of these school-based teacher educators.

We found that SBTEs use tools (e.g., apprenticeship assignments) developed within the teacher education institute, without adapting them to the opportunities that the school offers. They rely on their professional knowledge as experienced schoolteachers and their modelling remains implicit. This results in student teachers being provided with useful tricks which, however, hardly help them to interpret and elaborate their experiences in a more generalised perspective. As a result, no attention is paid to the support of student teachers rethinking the limits of their knowledge, or to the discussion of ways that may make their knowledge more useful in new tasks and under different circumstances. Neither did the SBTE’s systematically point out the possibilities of the social context of the school as a learning environment.

**Part two.** The second part of this thesis (chapter 3, 4, and 5) is based on the study into the guidance of student teachers by mentors and SBTEs in actual daily practice, provided with the help of a collaborative mentoring approach (CMA). In the CMA practical knowledge is shared with the help of modelling and scaffolding.

Chapter 3 focuses on the building of quality work-based learning opportunities for student teachers. This is seen as a challenge for
schools in school-university partnerships. The current study evaluates the collaborative mentoring approach (CMA) that aims at mentors sharing practical knowledge with student teachers’ learning needs as a focus. The collaborative mentoring approach was built on the structure of the collaborative apprenticeship model by Glazer and Hannafin (2006). Its main characteristic is the robust, cyclic structure based on collaborative lesson planning, enactment, and evaluation. Each cycle was enacted twice. A model of stakeholder research was adopted in order to incorporate the perspectives of those who have legitimate professional interest in the matter at stake (House, 2005). We followed three triads (student teacher, mentor, school-based teacher educator) in a school for secondary education in a comparative case study. Participants’ appreciation of the effectiveness of the approach and their perception of relevant conditions for the effectiveness was examined. All participants, although not to the same extent, considered the approach effective, as more in-depth conversations were held and new learning issues emerged earlier than in the usual mentoring conversations. Important conditions were related to (a) features of the approach (as the collaborative discussions and lesson enactment, the focus of student teachers’ learning needs and the valuation of mentor’s practical knowledge), (b) characteristics of the participants (as willingness to demonstrate and discuss actual teaching and a risk-taking attitude) and, (c) organisational circumstances such as time. Also a better preparation of mentors and student teachers was required.

Chapter 4 focuses on two teams that differed on their appreciation of the learning opportunities, offered by this approach. A contrasting case study (Yin, 2006) with a mixed methods approach (Maxwell, 2010), was used to analyse the lesson-based conversations of the teams in order to investigate whether the differences in appreciation between the teams could be explained by the extent to which and the ways in which practical knowledge was modelled by mentor teachers.

In the conversations of the team that had a greater appreciation of the learning opportunities provided by the approach, more practical knowledge was shared and more modelling actions were used. In addition, the more satisfied team paid more attention to student teachers’
learning needs. Although, the differences were significant the relationship with appreciation was weak.

Resulting from the qualitative analysis, differences could also be established. In the more satisfied team, the mentor had been less directive and discussions were more related to teaching connected to pupil’s learning instead of related to curriculum delivery by the mentor and the student teacher, as in the less satisfied team. Team one (less satisfied) mainly discussed ‘what’ the mentor and student teacher had been doing in order to realise at least some of the intended results. This is what, Gholami and Hussu (2010, p. 1526) named the ‘what works’ notion by which teachers can legitimise their activities. In the second team, the teaching behaviour was also discussed in terms of a commitment related to “professional responsibilities generally and care about pupils specifically, a justification which is placed at the heart of the professional moral ethos” (Gholami & Husu, 2010, p. 1525).

Chapter 5 explores the experiences of mentors and student teachers while engaging in co-teaching as a mentoring activity. Co-teaching provides opportunities for learning how to teach in a close cooperation with pupils and subject matter. Four teams (student teacher and mentor) each enacted two co-taught lessons. Whether and how mutual involvement (of student teacher and mentor) in the lessons was realised and whether and how mentors modelled teaching and scaffolded their student teachers’ teaching was analysed in a descriptive multiple case study (Stake, 2006).

Two teams did not succeed in realising mutual involvement in a productive way. In one team, the mentor was afraid pupils would not like two teachers actually teaching resulted in strictly divided accountability for specific lesson parts and hence, in team-teaching instead of co-teaching. In the other team the student teacher’s ideas on how to become a teacher (by individual experiences over the years) hindered their mutual involvement. The other teams succeeded in realising mutual involvement and co-teaching.

Modelling occurred on two levels. Implicit modelling was observable where the mentor had the lead. With (consciously) stepping in during student teachers’ teaching the mentor modelled explicitly his
or her practical knowledge, providing student teachers with opportunities to immediately adapt their teaching behaviour. Only one mentor succeeded in using scaffolding as a mentoring tool during the student teacher’s teaching. Guidance during actual teaching, demands switching by the mentor between a role as a teacher of pupils (during modelling, addressing pupils) and as a teacher educator while scaffolding (addressing the student teacher). These role transitions proved to be difficult for mentors. Nevertheless, co-teaching was seen as a promising mentoring activity by the participants.

Appendix F represents modelling and scaffolding actions during lesson preparation, enactment and evaluation.

In Chapter 6 general conclusions are drawn and discussed. In addition, practical implications are described.

Conclusions and suggestions for future research

In building a pedagogy of work-based teacher education, we focused on the aspects of structuring practice and providing guidance. Thematic sessions, enacted by the SBTE, could not be said to contribute to such a pedagogy. Improvements as involving more practitioners and attention for theorising practical knowledge (Tsui, 2009) may contribute to establish guidance in terms of a PWBTE. More research during sessions at school however, is required. In addition, these sessions ask for alignment with the programs of the TEIs. As a result, a new role related to ‘boundary crossing’ for SBTEs together with institute-based teacher educators (placed at school), may come up as described in the study on a partnership in primary education by Akkerman et al, (under review). Research on activities, communication and the development of special tools related to this role is scarce at the moment, but it is certainly needed for a further development of a PWBTE based on the affordance and guidance provided in partner schools.

The collaborative mentoring approach (CAM) can realise opportunities for student teachers to ‘integrate work and learning’. This integration is an important affordance of partner schools related to student teachers’ developing their teaching competences and the related
practical knowledge. Participants see the guidance that aims at sharing knowledge with the help of modelling and scaffolding as helpful in actual practice and, though implementing is not easy, it can be considered a promising contribution to a PWBTE.

Role transitions between acting as a teacher and as a teacher educator (as for instance during co-teaching) are not easily done. More research is needed on when and how to realise these transitions in actual practice. Also the preparation of student teachers’ work-based learning should be improved to optimise their participation and the guidance provided. Future (design) research on the preparation of both mentors and student teachers is therefore required.

Although practical teaching knowledge is seen as an important source for student teachers’ learning teaching, the actual knowledge of the mentors who participated was not examined in this thesis, neither was the effect on student teachers’ outcomes in terms of better teaching or becoming better teachers. Following student teachers involved in regular mentoring or in the collaborative mentoring approach will help us to better understand the effects of this approach of learning teaching.

**Practical implications**

This thesis has implications for (work-based) teacher education and, in particular, for the professional development of mentors. For (most) mentors modelling and scaffolding, aimed at sharing practical knowledge, are new tools. Mentors therefore, need support, both work-based and in formal arrangements, in order to become familiar with these tools. In addition, the school organisation must create conditions in which the mentoring approach can be realised.

At the institute, student teachers should be better prepared in order to discuss teaching behaviour and the related pedagogical thinking with their mentors more critically. In addition, they should become informed on differences in types of learning at the institute and at school and reflect on their convictions on ways how to become a teacher as an aspect of their agency.
Time is an important but scarce condition. Rethinking the role of the institute-based teacher educator (IBTE) (placed at school or occasionally visiting school) and altering their focus from the student teachers to becoming a role model for the mentors could be helpful. Mentor teachers becoming teacher educators next to SBTEs and IBTEs provide for opportunities for a better division of roles necessary for the education of teachers, making the best out the affordances of schools and TEIs in school-university partnerships.