Academic primary teacher education: a powerful learning environment for fostering meaning-oriented learning?

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Title
Academic primary teacher education: a powerful learning environment for fostering meaning-oriented learning?

Abstract
This study explores the ways meaning-oriented learning is enhanced in academic primary teacher education, a new route to the teaching profession in the Netherlands. Previous research shows that most prospective teachers possess application- and reproduction-oriented learning patterns, while a meaning-oriented learning pattern is a prerequisite for becoming a professional teacher. Dutch academic primary teacher education aims at developing a meaning-oriented learning pattern by integrating teaching and scientific competencies.

Student teachers (N= 32) and staff members (N= 18) were interviewed about the learning environments that have been created for this route. Interviewees outlined important ways of enhancing meaning-oriented learning, such as supporting students to structure and critically process input. Other essential aspects highlight the specific characteristics of academic primary teacher education. Examples of the latter are the interlinking of professional and scientific education, focusing students on their future professional roles, and sharing constructed knowledge with educational professionals. Realizing an acceptable study load, increasing coherence among curriculum parts (content and pedagogy) and promoting reflection by student teachers on both their teaching and scientific competence growth will further facilitate the development of a meaning-oriented learning pattern. In all, according to student teachers and their educators, enhancing meaning-oriented learning is facilitated in the learning environments designed for academic primary teacher education.

Extended summary
Aims In a fast changing society the teaching profession demands an ongoing professional development (Day, 1999). For this, a meaning-oriented learning pattern is a prerequisite (e.g. Vermunt & Endedijk, 2011). Research on learning patterns of prospective teachers revealed that only a small minority of student teachers possesses such a pattern. In general, most prospective teachers possess application- and reproduction-oriented learning patterns (e.g. Van Petegem, Donche, & Vanhoof, 2005). Previous studies showed that it is difficult to design learning environments which stimulate meaning-oriented learning, and findings are not consistent (e.g., Baeten, Struyven, & Dochy, 2013). To contribute to this point, we explored how in Dutch academic primary teacher education meaning-oriented learning is enhanced.

Typical of meaning-oriented learning is the use of deep processing strategies, well-developed self-regulation, studying out of personal interest and possessing a mental model of learning as the construction of knowledge (Vermunt, 2005). Against this background, we investigated the ways learning environments enhance deep learning and self-regulation.

The study is situated in Dutch academic primary teacher education. Dutch primary teacher education is traditionally a form of higher vocational education, and highly application-oriented. Due to the call to raise the quality of primary education, academic routes to the profession were introduced in 2008.
These trajectories are distinguished by the aim of enhancing meaning-oriented learning through integrating teaching and scientific competencies. Establishing meaning-oriented learning needs attention, since a previous study (Van der Wal-Maris, Geldens & Beijaard, 2012) showed that academic prospective primary teachers, like other prospective teachers, mainly have a vocational- and application-oriented view on learning.

The following research questions will be answered:
- How do first-year academic prospective primary teachers and their teacher educators perceive that the learning environment enhances deep learning?
- How do they perceive that the learning environment enhances self-regulation?
- Which contextual factors are seen by them as influencing?

Methodology
Both first-year prospective primary teachers (N=32) and their educators (N=18) participated in the study. Ten semi-structured group interviews were used for investigating the interviewees’ perceptions.

The analysing of the data started with an open coding of interview fragments, which resulted in a first category system. After discussing the category system in a few peer debriefing sessions, a final category system was defined. The inter-rater reliability of the complete category system was computed and resulted in a Cohen’s kappa of .80. Within enhancing meaning-oriented learning we distinguished 13 subcategories, summarized in Table 1.

Table 1

<table>
<thead>
<tr>
<th>Main categories and subcategories</th>
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<tbody>
<tr>
<td>Deep learning</td>
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<tr>
<td>1 Structuring input</td>
</tr>
<tr>
<td>2 Critical processing</td>
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<tr>
<td>3 Searching and exploring multiple types of sources</td>
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<tr>
<td>4 Cooperative learning</td>
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<td>5 Sharing knowledge with those other than peers and educators</td>
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<td>6 Constructing a professional identity</td>
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<td>Self-regulation</td>
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<td>7 Self-regulation in general</td>
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<td>8 Preparing the learning process</td>
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<td>1 Reflecting on the learning process</td>
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<td>Influencing contextual factors</td>
</tr>
<tr>
<td>1 Pedagogical coherency / discrepancy</td>
</tr>
<tr>
<td>1 Content coherency / discrepancy</td>
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<tr>
<td>1 Student study and workload</td>
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</tbody>
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Findings
Student teachers and their educators perceived the learning environment as stimulating meaning-oriented learning, and they were all able to explain how this takes place. Interviewees most frequently reported on the encouragement, support and demand of structuring learning content, and subsequently of enhancing the critical processing of theory and practice. Open, continuous assignments are often centered around a complex educational issue and incorporate the search for and structuring of reliable sources. These assignments frequently have to be carried out with peers. Concurrently, students have to perform research and design activities. Group discussions, arguing and negotiating about meaning enable students to have and bring in a personal vision. In enhancing meaning-oriented learning, there is regularly a focus on future professional roles and on sharing constructed knowledge with educational professionals such as primary teachers.

The regulation of learning is believed to be mainly the students’ own responsibility. The regulation is encouraged, scaffolded and backed by reflective discussions on competence growth and the subsequent formulation of follow-up steps. However, the reflecting is mostly on teaching competencies and only occasionally on scientific competencies. A lack of coherency in the learning environment and a perceived excessive study load might hinder the development of a meaning-oriented learning pattern.

In sum, interviewees feel that meaning-oriented learning is encouraged, and that it covers all important aspects of deep learning and self-regulation. If we are aware of both the opportunities and the threats, then Dutch academic primary teacher education seems a promising way to increase the amount of meaning-oriented primary teachers with a scientific attitude and ability.

Significance
The Dutch academic primary teacher education setting is not fully representative of other forms of academic teacher education. Nevertheless, we assume the outcomes of this study will be helpful for educational designers of academic teacher education. Though previous studies found similar results regarding the enhancement of meaning-oriented learning in general, this study implies that addressing the characteristics of students’ future roles in schools further stimulates meaning-oriented learning.

1. References