

Performance-based competency requirements for student teachers and how to assess them

Äli Leijen¹, Bert Slof², Edgar Krull¹, Liina Malva¹, Pihel Hunt¹, Jan van Tartwijk²
& Marieke van der Schaaf²

¹University of Tartu, Estonia

²Utrecht University, The Netherlands



Introduction

- Performance-based educational models
- Feedback on and assessment of activities
- Frequent and personalised feedback used insufficiently, its quality is often low, impact on learning is limited
- WATCHME Project - to improve learning in a workplace by means of **personalised and visualised feedback**
- The most crucial **professional activities** student teachers need to develop in their initial teacher training?

Theoretical framework

- The concept of **core practice** - the most crucial professional activities a teacher has to carry out (Grossman, Hammerness, & McDonald, 2009; Windschitl, Thompson, Braaten, & Stroupe, 2012; Zeichner, 2012).
- **Entrusted professional activity** (EPA) - identification of crucial professional activities in practice, these activities need to be practiced under supervision until the student is entrusted to carry them out independently (Ten Cate, 2013; Ten Cate & Scheele, 2007).
- **Rubrics**, i.e. descriptions of parts or aspects of work with associated performance level descriptions which can be used for supporting student teachers assessment and feedback (Brookhart & Chen, 2015; Dekker-Groen, Van der Schaaf, & Stokking, 2012).

Initial assessment rubric

- Theoretical framework and National teaching Standard



- **5 professional roles:** e.g. Designer, supervisor, and evaluator of learning activities
- Within each role one or more **professional activities.**
- **Associated performance levels** for all professional activities.

Associated performance levels

- **pre-scribed visions** and materials vs developing **own viewpoints** and materials
- adopting a **general approach** to teaching vs **individualized** teaching based on students' learning needs
- **random** vs **systematic** analysis of teaching events, student learning and own professional development.

Delphi study

- In order to increase the validity of the developed assessment rubric a **Delphi study** was carried out in the context of Dutch and Estonian teacher education.
- Research questions:
 - Are the **professional roles** and **associated professional activities** in line with experts' views on what student teachers should master during school internship?
 - Are the **performance levels** for the professional activities in line with experts' views on how well student teacher should carry out the professional activities?
 - What kind of **assessment forms** is suited for assessing the professional activities during school internship according to experts?

Delphi study: participants

Dutch panel: 4 experienced teacher educators (from whom two educators are also a member of the exam committee) and 1 head of the teacher education institute.

Estonia panel: 5 experienced teachers and 6 teacher educators.

Delphi study: procedure

- **Step 1** a first list of **professional activities** was developed by Dutch and Estonian researchers and presented to Dutch panel of experts.
- **Step 2**, an assessment rubric containing **four performance level** descriptions (i.e., beginning, sufficient, good and excellent) and suggested assessment instruments for each activity was composed by Dutch and Estonian researchers and Dutch panel of experts.
- **Step 3**, validation of the outcomes of step 1 and step 2 carried out by Estonian panel of experts. Three rounds. **Rate the relevance** of the rubric's components on a 5-point Likert scale and write comments. **75 % agreement** aimed.

Results (1)

- Are the 5 **professional roles** and 11 **associated professional activities** in line with experts' views on what student teachers should master during school internship?

Table 1: Professional roles and associated professional activities

Professional roles	Professional activities
Designer, supervisor and evaluator of learning activities	1. Sets learning goals for the whole curriculum and specific lessons.
	2. Designs learning activities (incl. materials and media) for the set learning goals.
	3. Plans the execution and supervision of learning activities.
	4. Supervises the execution of learning activities.
	5. Tests to which extend the set learning goals have been met.
Manager of the work environment	6. Engages in interpersonal relationships with (groups of) students.
	7. Directs the communication processes in the group.
Pedagogue	8. Supervises the development of the student as a person.
Member of the professional community (teacher in a broad context)	9. Carries out tasks that go beyond the lesson, class and subject.
	10. Collaborates with colleagues and, if necessary, parents and other stakeholders.
Manager of self professional development	11. Takes initiatives to improve his/her personal professional activities.
<i>Researcher</i>	<i>12. Carries out research on teaching and learning.</i>

Results (2)

- Are the **4 performance levels** for the professional activities in line with experts' views on how well student teacher should carry out the professional activities?

Table 2: Performance level descriptions professional role 1 for the Dutch context

Criteria	Proficiency levels			
	Beginning	Sufficient	Good	Excellent
<p>The teacher does/does not formulate (self formulated) learning goals in connection with specific subject content.</p>	<p>The teacher takes over the learning goals of others and the course book and occasionally stops to think about the cohesion between the set learning goals and the specific subject content.</p>	<p>The teacher takes over the learning goals of others and the course book and often checks to see whether the set learning goals match those of the specific subject content.</p>	<p>The teacher formulates his/her own learning goals, which partially match those of the specific subject content.</p>	<p>The teacher formulates his/her own learning goals, which match those of the specific subject content.</p>

Table 3: Performance level descriptions professional role 1 for the Estonian context

Level 0 (entry)	The teacher has difficulties to find and choose previously developed evaluation instruments and guides. He/she does not interpret the results and does not give supportive feedback to pupils.
Level 1 (starting)	The teacher chooses previously developed evaluation instruments and guides. He/she interprets the results seldom. He/she rarely gives pupils a supportive feedback.
Level 2 (sufficient)	The teacher chooses previously developed evaluation instruments and guides. He/she is critical about the instruments and guides, and if necessary, he/she adapts these. Most of the time the teacher interprets the results and gives pupils a supportive feedback.
Level 3 (good)	The teacher chooses previously developed evaluation instruments and guides. He/she is critical about the instruments and guides, and if necessary, the teacher adapts and varies these. He/she analyses and interprets the results regularly and gives pupils a supportive feedback.
Level 4 (excellent)	The teacher knows when the new evaluation instruments are necessary and in case of need, he/she develops new relevant instruments and guides in addition to the available ones. He/she checks the reliability and validity of the instruments. The teacher varies different types of evaluation, also analyses and interprets the results. He/she gives pupils a supportive feedback and guides them to acquire new studying strategies.

Results (3)

- Are the **4 proficiency levels** for the professional activities in line with experts' views on how well student teacher should carry out the professional activities?

Table 4**Assessment forms and required evidence**

Type of evidence	Frequency	Activity	Internship phase
Lesson plan	3	1, 2 & 3	1
Lesson series	2	1, 2 & 3	2
Lesson observation form (e.g., IcaIt-instrument)	4	4	1 (2 assessments) & 2 (2 assessments)
Test (incl. correction sheet)	2	5	1 (1 assessment ¹) & 2 (1 assessment)
Interpersonal behaviour questionnaire (e.g., QTI instrument)	4	6	1 (2 assessments) & 2 (2 assessments)
Transcripts and reports of video-recordings	4	7 & 8	1 (2 assessments) & 2 (2 assessments)
Transcripts and reports of meetings	4	9 & 10	1 (2 assessments) & 2 (2 assessments)
Reflection report	4	11	1 (2 assessments) & 2 (2 assessments)
Research plan (incl. lit. review) and research report	2	12	1 (1 assessment) & 2 (1 assessment)

Conclusions and future directions

- As a result of the Delphi study it is possible to present a new student teachers' **assessment rubric** for the teacher education in Estonia and The Netherlands.
- The professional roles, activities and performance levels **can guide and direct** the **workplace-based learning** of the student teachers during their internship.
- The activities and levels provide the **basis for the development of an electronic portfolio system** and the **application of learning analytics (LA)** in teacher training.
- The aim of the **LA** is to provide easily accessible, dynamic and visual overview of the student teachers' professional development to themselves and their supervisors.

Thank you!

<http://www.project-watchme.eu/>

This study was conducted within the framework of the “Workplace-based e-Assessment Technology for Competency-based Higher Multi-professional Education” (WATCHME) project supported by the European Commission 7th Framework Programme (grant agreement no 619349)

