Discourse models future physics teachers’ meet during teacher training

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Aim of my project

Explore aspects of how the professional identities of trainee physics teachers develop in response to and within disciplinary and professional discourses they encounter during their university studies.
Teacher education in Sweden

• Three environments
  – Education department
  – Physics department
  – School
• Short and long program
• Higher education institutions
Teacher education as a system of discourses

“[Discourse] allows (and requires) people to be (for a time and place) socioculturally distinctive who's and to accomplish socioculturally distinctive what's. These who's and what's are always defined, partially, in opposition to other sorts of who's and what's, and are always related to models of what count as "valuable" (and "normal") people, activities, and things.”

(Gee 2005)
Professional identity as stories

Many different ways of using and defining professional identity (see overview in Beijaard, Meijer, & Verloop, 2004)

Definition in this project: **Professional identity as consisting of the set of narratives teachers tell about being a teacher.**

(Connelly & Clandinin, 1999)

These narratives are made of and need to be related to the discourse models of the education
Research questions

1. What is signalled as valued (and not valued) by members of the three environments physics teachers meet during their training (school, education department, physics department)?

2. What discourse models can be identified from these value statements?

3. What is the potential consequence of these discourse models on the narratives trainee physics teachers can tell about themselves as professionals?
Data collection

Semi structured interviews with 9 teachers
(3 from each environment)

– What is important for students to learn?
– What is special about being a physics teacher?
– What should your part of the education contribute?
att man kan göra n?n slags skillnad eller att man kan göra det snarare än att man bara fokuserar p? sitt ämne.


Henrik: Ja precis, att h?lla p? med, jag hade inget s?nt där favoritomr?de som jag an kanske har n?n slags ide om att kunskap är viktigt i allmänhet och

Henrik: Jag tror det är den hära sociala aspekten, att man är mera, att är man den hära som kan grott, sitta och som
att här skulle jag vilja h?lla p?. Det hade jag inte utan, jag kände nog mer för det här lärar-läraryrket. Lockande. ’


Problem i väldigt l?ng tid eller vill man va en s?n hära social person

Jag: Du säger va bredd?


Men det m?r, men det m?r ju inte det, det är ju inte, inte att är ju inte eh, lärarna som, som egentligen eh, för eh, fr. för landet, ass? lika framtidsnationalsamband eller biskar p? det visat va. (Olle Lindqvist)

“What everyone really wants to, to work with is research. You want to do something that is new and creative. That’s got to be the goal for most people, right? To just repeat what others have done feels — that’s second order, it’s not the same thing. Then of course it can be important and useful but it’s still not like the teachers contribute to the country's GDP.”

Practical training supervisor
“And last, but not least of course, [a physics teacher] have to feel that you have the vision to make at least 80% of your students to want to become a physicist after taking your class.”

(Lecturer in the physics department)
Physics expert

Subject expert

Purpose/goal

University physics

School physics

focused

depth

exciting

interest, excitement

unexciting

fragmented

broad

interest, excitement

purpose
“That you learn to keep your eyes open to catch what might be important or interesting. Because then you can take something new and fun to the classroom even if you’re talking about batteries (laughing) and bulbs you can still: — ‘I saw this really cool thing in (a technical journal) the day before yesterday.’ Because then you can generate some enthusiasm for the subject “

Lecturer at the physics department
“A really good upper secondary teacher has an incredibly hard job to do to meet the learning goals and still be able to make the students feel that physics is really fun, something that they want to continue doing”

Lecturer at the physics department
Physics expert

Subject expert

- Purpose/goal
- deep
- focused
- exciting
- interest, excitement

University physics

- interest, excitement
- purpose

School physics

- unexciting
- fragmented
- broad
Critically reflective teacher

- School physics
- University physics
- School placement
- Pedagogical core courses

Purpose/goal: critically sees theoretical
Critically reflective teacher

“The danger of teaching practical skills is that it is all too easy to reproduce subject traditions. [...] And then you don’t want to teach practical things at all for fear of becoming unscientific”

Lecturer at the education department
Critically reflective teacher

- School physics
- University physics
- School placement
- Pedagogical core courses

Purpose/goal
- critically sees

Theoretical
Practically well equipped teacher

Purpose/goal

Practically well equipped teacher

practical

School placement

Pedagogical core courses
Practically well equipped teacher

“…how am I gonna plan my teaching? How do I know if I should do group-work or a small project? Or, how do you get kids to write decent lab-reports? To on an every-day basis discuss the choices a teacher need to make. We can never, we have way to few hours and it’s not our task anymore to teach the teacher students these things.”

Lecturer in the education department
Practically well equipped teacher

Purpose/goal

Practically well equipped teacher

practical

School placement

Pedagogical core courses
The system: tensions

Purpose/goal

Curriculum implementer

Pedagogical core courses

Teacher education physics

University physics

Subject expert

School physics

Pedagogical core courses

Practically well equipped teacher

Practical

School placement

Theoretical

School physics

University physics

Critically reflective teacher

Deeper

Unexciting

Interest, excitement

Breadth

Exciting

Focused

Deep
Stories about being a teacher
The fallen angel

“I never wanted to become a teacher. Because in contrast to other teachers I was a top student. I was one of the best in Sweden, in mathematics and physics.”

Practical training supervisor
The fallen angel

“In the beginning I made one of the other teachers angry with me when I said that I was the only physicist in the school, the others were physics teachers. Because it’s not until you’ve been the leader of a research group you can really call yourself a physicist.”

Practical training supervisor
The fallen angel

One of the things that surprised me when I started, because I was really the kind of person to do research, was that I really like the students. The social part of teaching. That part is hard to know about beforehand.

Practical training supervisor
“...to become a researcher, something I think I might become in the future, you never know. Instead of teaching, I guess research is more about the mysteries of the universe, into physics. To move the frontier a bit further. That is not really what you do as a teacher, I don't move the frontier every day. I’m more in a teaching bubble, to teach the students so that they themselves can take that step someday.”

Practical training supervisor
Questions – further work

How can these models be connected to teacher students own stories about being/becoming a teacher?
Thank you!

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References


