

„Analysis of the development processes of pre-service teachers during the practice phase concerning the technical language used in computer science education“

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Computer science pre-service teachers go through developmental processes during the practice phase of their studies. A study of these development processes is the core of my research. Here is of interest, the application of computer science specific technical knowledge, as well as the decisions on the planning and implementation of computer science education, as well as the perception and interpretation of pupil's ideas of the computer science pre-service teachers during the practice phase. Both the technical language of the teacher and the student is to investigate in this case because the technical language in computer science is used inconsistently and it is full of dead metaphors. This is just for beginners a major hurdle. The goal of my research is to gain fundamental insights into the developmental processes that are run by computer science pre-service teachers during a practice phase, as they have been poorly explored. I therefore go into the question of how students perceive, interpret and evaluate their own jargon and the students. I ask the students about specific events and situations which can change the used technical language of them and if they have themselves noticed a development. The Creation of an online blog as a learning diary by the students during the practice phase is the methodological core of my research. In this blog they write down every day what they noticed regarding technical language and its use in the classroom. The entries of the other students can be read and comment. Thus a communicative process of reflection is to establish. This is especially important for pre-service computer science teachers. Quite often as a computer science teacher you are alone or in pairs at a school. Thus, the technical exchange is severely limited. For some students, the blog is to be accompanied by a final interview. So there is the opportunity to ask specific questions and comprehension questions. Students can view older blog entries from a later perspective again as well. The blog entries and the transcribed interviews are then analyzed using the qualitative content analysis by Mayring. The design was tested during an internship. The lack of sufficient computer science students and sufficient computer science classes ensured that there was no communicative process of reflection. Existing students could not watch enough classes they may reflect. Therefore, at present more teachers from a wider environment are recruited.

References

Shulman, Lee S. (1987): Knowledge and Teaching: Foundations of the new reform. Harvard Educational Review 57.

Flick, U. (2006): Qualitative Sozialforschung. Eine Einführung. 4. Auflage Reinbek bei Hamburg : Rowohlt-Taschenbuch-Verl.

Gläser-Zikuda, M. (2007): Lernprozesse dokumentieren, reflektieren und beurteilen:

Lerntagebuch und Portfolio in Bildungsforschung und Bildungspraxis.

Meyer, H. (2008): Was ist guter Unterricht?. 5. Auflage Berlin: Cornelsen.

Mayring, P. (2010): Qualitative Inhaltsanalyse. Grundlagen und Techniken. 11. Auflage Weinheim und Basel: Beltz.

Terhart, E., Bennewitz, H., Rothland, M. (2011): Handbuch der Forschung zum Lehrerberuf. Münster, New York, München, Berlin : Waxmann