Towards a New Scholarship of German Science Education

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Abstract

The conception of Scholarship of Teaching and Learning (SoTL) *has become more and more important in Higher Education during the last years. As Prosser and Trigwell put it: 'The improvement of learning and teaching is dependent upon the development of scholarship and research in teaching'* [1].
SoTL activities can be divided into three levels: On the individual level, researchers from a variety of disciplinary backgrounds engage in systematic inquiry into and research on issues of teaching and/or learning in their fields. On the level of classroom interactions in tertiary education, groups of scholars (even across the disciplines) increasingly join together in their efforts of research-based educational problem solvings. On the institutional level, a growing number of institutions emerge that put SoTL in the heart of their mission statements.
In this article, I will present efforts taken at the University of Hamburg on all three levels that can be connected to the recent notions of SoTL in Germany [2, 3]. I will show the conceptual requirements and explain the decisions we took at this point of time to build up a digital scholarship community which joins educational researchers together with graduates and students of a Master's programme "Higher Education". As a result of our work, we hope to contribute to a broad, cross-disciplinary notion of reflective, research-oriented and critical considerations of teaching and learning issues in higher education.

Keywords: *Scholarship of Teaching and Learning, Scholarship of Academic Development, Higher Education, community building*

1. Context

The *Scholarship of Teaching and Learning* (SoTL) is a movement that has evolved to a principle in higher education in recent years. Its roots lead back to the1990s and a discourse on university teaching and learning issues in US-America: first, Boyers [4] and Shulman [5] pled for a new "Scholarship of Teaching" in higher education – the extension indicated by the term "Learning" followed later on (see e.g. Cambridge [6]).

Since the turn of the millennium, SoTL concepts have increasingly been brought into practice on an international level and the movement has consequently expanded to Universities' institutional layers. In parts, it even has effects on the *macro level of organizational development* in higher education (for instance, an increasing number of academic institutions chose the term as a motto or even as a guiding principle in their missions statements and self-descriptions; see e.g. 7). At the *micro-level of singular educational actions*, the term SoTL is commonly used today for researchers who engage in reflections upon teaching and/or learning in their own disciplinary contexts by means of inquiry entrenched in these disciplines and who therefore enter a (critical) discourse with others on educational issues involved [e.g. 8, 9]. At the *meso-level of educational interactions*, SoTL can be described as a "movement" that leads to an amalgamation and interconnectedness of research-led educational inquiry into one's own field of expertise (thus, Trigwell et. al. [10] identify the notion of *community building* as a key activity of SoTL: following their approach, SoTL is characterized by the effort "to establish a local culture of scholarly teaching"). In the field of German tertiary education, the notion of SoTL has become quite popular during the recent years. [2, 3, 8]

The Hamburg Centre for University Teaching and Learning (HUL) programmatically builds upon the conception of SoTL at all three levels. In the following section, I would like to describe which efforts we take to realize SoTL within a post-graduate Master's degree programme *Higher Education* at the University of Hamburg.

2. Development of an educational framework for SoTL

The study programme *Higher Education, M.A. (MHE)* is a research-oriented Master's degree programme at the University of Hamburg (for further information on the programme's conception see Reinmann & Schmohl [11] and Schmohl [12]).

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In the heart of the curriculum, there is a three-semester study project (module 2). Its conception follows the educational principle of *research-based learning* by following a Design-Based Research (DBR) agenda.

MHE's target group does not mainly consist of participants from educational sciences. Moreover, the programme explicitly addresses a broad scope of specialists from different disciplines (including the "third space" area).

The students' research tasks during their project studies are designed to foster both: specific disciplinary approaches and interdisciplinary exchange about issues, approaches and peculiarities of university teaching and learning.

Our main goal is to interlink SoTL activities on the micro-level and meso-level, which is why we encourage participants to collaborate with other students in the same semester or also in a different cohort. By doing so, we strive for establishing – by the time – a community of scholars in the SoTL sense.

To interlink this meso- and macro-level, we decided to define SoTL as part of our centre's core identity. So, the activities at the action- and interaction-levels are framed by a curricular and educational self-description in reference to the notion of SoTL.

From an educational perspective, a set of interventions has been introduced in order to promote the conceptual and research-based exchange of ideas (micro-level), as well as community-building (meso-level). These interventions are part of the exchange and discussion format that has already been installed:

    (1) *project conferences* scheduled on a half-year rhythm (part of the MHE curriculum);

    (2) a *lecture series* where national and international experts in the field of higher edcuation present their most recent research topics and findings;

    (3) a *research colloquium* which is used for cross-institutional exchange in the field of higher education.

These formats will be complemented with digital tools for semi-public exchange in the near future – making it possible for students and alumni of the MHE programme to participate and to engage in discourse at all three levels. Like this, these participants will stay part of the SoTL community even after their graduation at the HUL.

3. Conceptual and technical requirements

We plan to introduce a SoTL community platform which could become the focal point of all the project studies in the MHE (module 2).

It aims at fulfilling the following functions:

- *Scientific Mentorships* (micro-level): Graduates of the MHE could grow into the role of a mentor ("science coach") for students that enrol for the programme at a later point in time.
- *Community Building* (meso-level): Students should be enabled to stay part of the digital SoTL community after their graduation.
- *Project Partner Function* (macro-level): Institutional cooperations between the HUL and other centres or organizations will be established. Project partners will be given the opportunity to offer research projects for the MHE students.

The first technical requirement to reach the conceptual goals described is a community software which makes it possible for the participants to engage in a semi-public exchange of ideas. (This should be a system with a password-protected ("closed") area for students and graduates and a public ("open") area for all MHE teachers, students and graduates.)

Solutions based on a local learning management system technology are not an option, since all resources and tools should be accessible for people working at other institutions, including international partners. Instead, we are building upon the idea of a community weblog which merges the news-streams of distributed user weblogs. Both could be part of University of Hamburg's existing WordPress blogfarm. Alternatively, a private cloud or a SaaS-only workplace messaging service (with an open-source code) could be used. Further technical requirements for the IT infrastructure will be investigated in elicitation sessions together with the HUL-IT lab and in close consideration with all scientific personal at the HUL.

4. Conclusion

By setting up a digital environment in order to frame SoTL activities at all three levels, we hope to contribute to a broad, cross-disciplinary notion of reflective, research-oriented and critical considerations of teaching and learning issues in higher education.

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