Rebalancing teaching and research by boundary crossing action research in an institutional learning community (0087)

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Introduction

Saxion University of Applied Sciences (UAS) strives for a better integration of research in the curricula of its master and bachelor programs. Until 2013 different programs had been elaborating the integration on their own, with different interpretations of research and research abilities, and with different priority, success and progress. The integration often got stuck because of hesitance about the meaning of research in applied sciences. UASs mainly mirrored with academic settings (Healey, 2005; Van der Rijst, 2009; Visser-Wijnveen, 2009; Griffioen, 2013) and lacked an explicit connection with the rich professional contexts in which the students need to learn and perform as beginning professionals (Hattie and Marsh, 1996, 2004).
Recently the perspective of the professional context is being articulated more explicitly, because it supports a position and interpretation of research abilities that better suits the focus of UASs: research as a *means* to professional decision making and professional products (Andriessen, 2014; Bakker et al, 2016; Losse, 2016). We will describe how Saxion has conducted action research as a boundary crossing project to learn how 55 bachelor and master courses can tailor insights on the integration of research and teaching in a way that fits the vocational dimension of UASs.

Theoretical framework

Because all learning involves boundaries, an institutional learning community can be understood as a group of people engaged in boundary crossing. Boundaries are defined as socio-cultural, institutional or disciplinary differences leading to discontinuity in action or interaction (Akkermans & Bakker, 2011). With regard to the challenge to integrate research and teaching at Saxion, we distinguish three relevant boundaries: between courses (and teachers) of a singular program, between different programs and between programs and associated professional contexts.

In educational theory the concepts *boundary crossing* and *boundary objects* have been central in describing potential forms of learning across sites and communities of practice (Wenger, 1998; Akkermans & Bakker, 2011). Boundary crossing implies bringing information, knowledge and practices from one community to another (Konkola et al., 2007). Boundary objects refer to artefacts that bridge practices of different communities; they give enough room to "local needs" and problems of communities that use them, but are also robust enough to "maintain a common identity" across sites (Star & Griesemer, 1989).

Akkermans & Bakker (2011) find four learning mechanisms set in motion by boundary crossing and the employment of boundary objects: (a) identification: learning what a practice is about in light of another; (b) coordination: creating interactions and exchanges between practices; (c) reflection: developing or taking another perspective on practices; and, (d) transformation: collaboration and codevelopment of (in-between) practices. The framework of boundary crossing offers the concepts to specify our research question: *Which learning mechanisms have been mobilized by the boundary objects of the project and which lessons about integrating research and teaching can be drawn?*

Method

Saxion has established a project organization to stimulate taking part in several boundary crossing actions: an executive committee, an institutional platform with representatives of all academies (n=11), sub-platforms within the academies with representatives of educational programs (n=55). The latter work together with their team-colleagues, which illustrates the span of the community until work floor. In order to achieve boundary crossing learning outcome, action research has been designed to create a chain of activities according to figure 1.

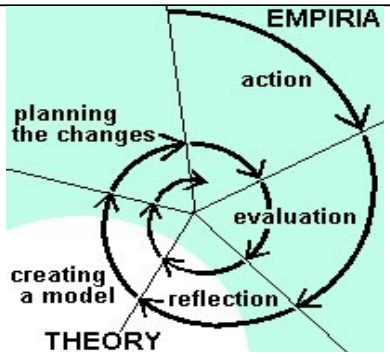

Figure 1. Action research as a chain of empirical and theoretical activities (Routio, 2005)

The chain of boundary crossing actions in 55 programs

Action: 1. Brainstorm sessions with members of institutional platform **Reflection on**: 2. Definition of research ability; 3. Educational profiles **Modeling**: 4. Operationalization of Research Abilities; 5. Typology of professional products **Change**: 6. Introduction of new definition **Action**: 7. Quick scan teacher perception of research abilities of students, teachers and curricula; 8. Curriculum scan on research abilities; 9. Inventarisation of professional products attended in the course; 10. Survey on cooperation with research teams 11. Wiki with excercises for research abilities **Reflection on**: 12-15. data (from actions 7-11); 16. Persona-reflection-tool on professional products; 17. Project evaluation **Modeling**: 18. Decomposition of professional products; 19. Integration model on professional products **Action**: 20. Curriculum redesign pilots in bachelor teams **Reflection:** 21. Project evaluation.

The first phase of the project (activities nr. 1-16) has been evaluated (activity nr. 17). The main topics of the questionnaire for members of the institutional platform were: the deliverables of the project so far in the individual academies; desires and needs the project should take into account; the focus on professional product in the educational courses; other developments that have taken place besides the project goals.

Results

The answers of 11 platform members were labeled for qualitative analysis in terms of the four learning mechanisms. Recurring examples of learning mechanisms on integration of research and teaching in the first phase are:

Learning mechanism	*Example*
Co-ordination:	Communicative connections are established for discussion about the position and meaning of research in teaching.
Identification	A broad definition of research abilities, also including knowledge application and inquisitive attitude, leads to increased awareness within teacher teams that research abilities can be stimulated in any part of the program.
Reflection:	Visions of education take the perspective of professional practice into account; research ability is increasingly reframed as instrumental to producing professional products.

Transformation:	Dialogues and reflections in teams on integration contribute to shared problem perceptions. These dialogues are supportive to prioritize integration issues on regular team meetings and in decision making contexts.

From the analysis it appears that all four learning mechanism are evenly mobilized with different degrees of implementation. When distinguishing between 'realized' and 'intended' boundary crossing, it appears that the emphasis in the first phase was on identification and coordination, whereas reflection (mostly vision development) and transformation are ongoing or intended. At the moment of evaluation boundary crossing was not yet routinized or crystallized.

Extending these preliminary results, we will evaluate curriculum change processes in all the educational teams from May-October 2016 (activity nr.21) and expect that transformation will be mobilized more often. These results will be included in a full paper.

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