Lecturers' general and contextualised research conceptions across disciplines

Verburgh An, Schouteden Wendy, Elen Jan, *University of Leuven, Bel*gium

Introduction

There is a strong movement in higher education to increase the research experiences of students (Healey, 2014) and to strengthen the link between teaching and research (Brew, 2006). Teaching that confronts students with research is considered as a quality indicator of higher education (Hu, 2014, Malcom, 2014).

The current literature pays much attention to ways to improve and understand the relationship between research and teaching (Malcom, 2014). One of the possible factors influencing lecturers' choices to integrate research in their teaching are lecturers' research conceptions (Brew, 2003; Visser-Wijnveen, 2009).

In a previous study we (Authors, 2014) investigated research conceptions of lecturers in soft sciences. A framework was elaborated to analyse the relationship between research conceptions and teaching practices building on the ideas of Norton, Richardson, Hartley, Newstead, and Mayes (2005) concerning the relationship between teaching conceptions and teaching practices. The framework distinguishes between lecturers' general research conceptions and contextualised research conceptions. General research conceptions concern a person's overall ideas about defining attributes of research. The interaction between general research conceptions and a specific teaching context results in contextualised research conceptions. These contextualised research conceptions reveal the perceived importance and the interpretation of the defining research attributes for lecturers' students.

Our study illuminated three categories of general research attributes: Research steps, qualities of research processes, and qualities of researchers, each consisting of different subcategories, such as different research steps. When lecturers considered their students and defined what their students had to be able to, they reinterpreted their general research conceptions by making two differentiations. First, they differentiated between the level of mastery of the research attributes. For example concerning the research step 'data analysis' some lecturers insisted students should be able to analyse data themselves, others considered evaluating the appropriateness of a reported data-analysis sufficient. A second differentiation concerned the target of research attributes. Lecturers made a distinction between scientific disciplines on the one hand and professional settings on the other.

However, in our study discipline remained out of sight because data were limited to lecturers from soft sciences. There are indications that research conceptions and research integration practices differ according disciplines but not all studies confirm disciplinary differences (e.g., Brew, 2001; Coate, et al., 2001; Colbeck, 1998; Griffioen, 2013; Trowler & Wareham, 2008). Therefore it is valuable to study whether the developed framework and retrieved categories also apply to hard sciences. The underlying study has three research questions.

1. Do lecturers in hard sciences specify the same general research attributes as lecturers in soft sciences?

2. Do lecturers in hard sciences make similar differentiations in their contextualized research conceptions as lecturers in soft sciences?

3. Are there disciplinary differences between the general and contextualized research conceptions?

Method

Data were collected by means of 14 focus groups, with 70 lecturers of six different programmes, equally distributed among hard and soft sciences. Focus groups consisted of lecturers from the same programme. Programmes were either of soft sciences or hard sciences (Biglan, 1972). Part of the data was also used in the first study.

The focus groups consisted of five phases (Authors, 2014). Each focus group started with introductory questions about participants' teaching and research experiences. Next, participants were asked to individually draw a person doing research. Afterwards they had to explain their drawing to the group. In the fourth phase the moderator identified, in cooperation with the participants, key topics in the explanations of the drawings and wrote them down on small cards. The words on the small cards are general research attributes, for example: 'collecting data'. In the fifth phase participants were asked to specify the importance and meaning of the words on the small cards for their teaching context. In this phase participants' contextualised research conceptions were discussed. They explained what they want their students to know or to be able to do after graduation.

All focus groups were audiotaped and transcribed verbatim. The dataset for this study also included 188 small cards (representing different general research attributes). For the analysis the previously developed coding scheme was used and a 'rest' category was added for the attributes that would not fit in one of the categories.

Results

Results indicate that all general research attributes from the hard sciences groups could be categorized with the developed scheme without the rest category (Table 1). The same differentiations between the level of mastery and the target of the research attributes were made.

Comparison between the different disciplines reveals that the quality of the research process is mentioned more frequently in the soft sciences in comparison to the hard sciences, which mention more frequently the qualities of the researcher (Table 1).

Table 1
Frequency of the categories of general research attributes (%)

Discipline	N	Research steps	Qualities of research processes	Qualities of researchers	Rest
Hard	62	50	3,2	46,8	0
Soft	126	58,7	9,5	31,7	0

Moreover, mastery of each research step is not considered necessary after graduation and there are disciplinary differences in the desired research steps. For lecturers from soft sciences the ability to translate the relevance of research results to their professional practices is most important in combination with the ability to pose relevant questions. In the hard sciences lecturers consider it very important that students are able to design a study for a problem that is directly related to the profession.

Discussion

The study indicates that lecturers from different disciplines identify similar general attributes of research and make comparable differentiations according to their context. Although the relative

frequency of the general research attributes as well as the desired mastery of students differs according disciplines, the professional relevance of research permeates in both disciplines. At the conference the possible influence of teaching context on this professional relevance will be discussed.

The study indicates the value of the framework to identify research conceptions within different disciplines. A major future research question concerns the specific relationship between research conceptions and teaching practices and whether disciplinary differences in the contextualised research conceptions can explain differences in the way students are confronted with research.

References

Authors, 2014

Biglan, A. (1973). The characteristics of subject matter in different academic areas. *Journal of Applied Psychology, 57,* 195-203. doi:10.1037/h0034701

Brew, A. (2001). Conceptions of research: A phenomenographic study. *Studies in Higher Education, 26,* 272-285. doi:10.1080/03075070120076255

Brew, A. (2003). Teaching and research: New relationships and their implications for inquiry-based teaching and learning in higher education. *Higher Education Research & Development, 22,* 3-18. doi:10.1080/0729436032000056571

Coate, K., Barnett, R., & Williams, G. (2001). Relationships between teaching and research in higher education in England. *Higher Education Quarterly, 55,* 158-174. doi:10.1111/1468-2273.00180

Colbeck, C. L. (1998). Merging in a seamless blend: How faculty integrate teaching and research. *Journal of Higher Education, 69,* 647-671.

Griffioen, D. M. E. (2013). *Research in higher professional education. A staff perspective.* Unpublished doctoral dissertation, University of Amsterdam, Amsterdam.

Healey, M., Jenkins, A., & Lea, J. (2014). Developing research-based curricula in college-based higher education. York: The Higher Education Academy.

Hu, Y. 2(014). *The role of research in university teaching. A comparison of Chinese and Dutch teachers.* Unpublished doctoral dissertation, University of Leiden, Leiden.

Malcom, M. (2014). A critical evaluation of resent progress in understanding the role of the research-teaching link in higher education. *Higher Education, 62*, 289-301. doi :10.1007/s10734-013-9650-8

Norton, L., J.T.E. Richardson, J. Hartley, S. Newstead, and J. Mayes. 2005. Teachers' beliefs and intentions concerning teaching in higher education. *Higher Education* 50, no. 4: 537-571. DOI:10.1007/s10734-004-6363-z

Trowler, P. & Wareham, T. (2008). *Tribes, territories, research and teaching. Enhancing the teaching-research nexus*. York: The higher education Academy.

Visser-Wijnveen, G. J. (2009). *The teaching-research nexus in the humanities. Variations among academics*. Unpublished doctoral dissertation. University of Leiden, Leiden.