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## **Bridging the gap. Research as a practice to link higher education research and educational development**

### **Abstract**

Research into higher education has gained momentum over the last two decades. Higher education research results, however, are often not sufficiently integrated in educational development processes. Also, vice versa, educational development's knowledge and experience tends to be not extensively considered in the design of new research projects. The following paper argues that the phenomenon of a mutual alienness between higher education research and educational development can be explained by three system-specific challenges: Firstly, higher education constitutes itself at multiple levels and across multiple academic disciplines and hence is researched by different academic disciplines; secondly, higher education research fluctuates between being either descriptive or activating and consequently suffers from either lack of practical relevance or methodological rigor; thirdly, higher education research and educational development belong to different organisational sub-systems, i. e. the knowledge-producing and the organisation developing system. As one possible way to overcome these challenges, research as a common practice between the systems is advocated.

### **Keywords**

Higher education research; educational development; incompatibility; research integration

## 1 Research into higher education—a servant to too many masters?

Research into teaching and learning in higher education has gained momentum over the last two decades. This is at least partly due to an increased demand for evidence-based decision-making in political initiatives such as the Bologna process (Curaj, Matei, Pricopie, Salmi & Scott, 2015). However, beyond their informational function, higher education teaching and learning research results are under the strain of often not finding their ways into educational development processes within institutions of higher education, and vice versa higher education teachers and developers struggle with finding research that answers the hands-on questions they encounter in their daily work.

The problem pointed out here, the mutual alienness between research and development in higher education is not new, and has been studied before. For example, it has been demonstrated, that, in institutions of higher education in the United Kingdom, research-informed teaching strategies only have minor impact on actual teaching practices of individual teachers (Cox, McIntosh, Reason & Terenzini, 2011). Vice versa, higher education developers have been shown to perceive themselves as absent in institutional development processes (Smith, 2008).

To overcome this gap, the underlying mechanisms that lead to mutual alienness between higher education research and development must be carefully elaborated. In the present paper I will discuss three causes for this alienness: The first is the constitution of higher education as a multi-levelled and multi-disciplinary field, both research- and development-wise. The second is that higher education research results can be either descriptive or activating in nature, which challenges the acceptance of these results on the research or the development side of higher education. Third and final, a systemic incompatibility between the knowledge producing and the knowledge applying system in higher education must be discussed. These three causes can also be seen as challenges that need to be addressed in order to bridge the gap between higher education research and development (for an overview see tab. 1.).

Table 1: Specific challenges for higher education research and development

<b>Challenge</b>
1. <i>Higher education as a multi-levelled and multi-disciplinary field</i>
2. <i>Descriptive vs. activating research</i>
3. <i>The research vs. the development system of higher education</i>

## 2 Specific challenges for higher education research and development

### 2.1 Higher education as a multi-levelled and multi-disciplinary field

The field of higher education has been described as being equally inhabited by teachers, researcher and educational developers (Merkt, 2014). In accordance with that, a distinction has been made between various foci that higher educational research and development can take, being “teachers' learning, teachers' behaviour, the institution, and the students” (Stes, Min-Leliveld, Gijbels & Van Petegem, 2010: 25). As one way to structure the diverse and multifaceted field of higher education it has become accepted to describe it at the organisational micro-, meso- and macro-level (e.g. Bundesministerium für Bildung und Forschung, 2013; Schaper, 2014).

In a model based on earlier authors (Flehsig & Haller, 1975; Wildt, 2002) higher education levels are distinguished with respect to affordances and tasks (fig. 1). Although this model doesn't propose something completely new, it is appealing because it allows for the taking of both a research as well as a development perspective on each of the levels. Moreover, it conceptualises higher education as a cultural, organizational and interactional space, which comprises intended and unintended learning opportunities at the same time, and which facilitates the acquisition of subject-specific and generic competencies as well as personal development and growth (Wildt, 2002). With that, higher education research and development are constituted as grounded in systemic affordances and hence should be treated holistically, rather than fragmented.

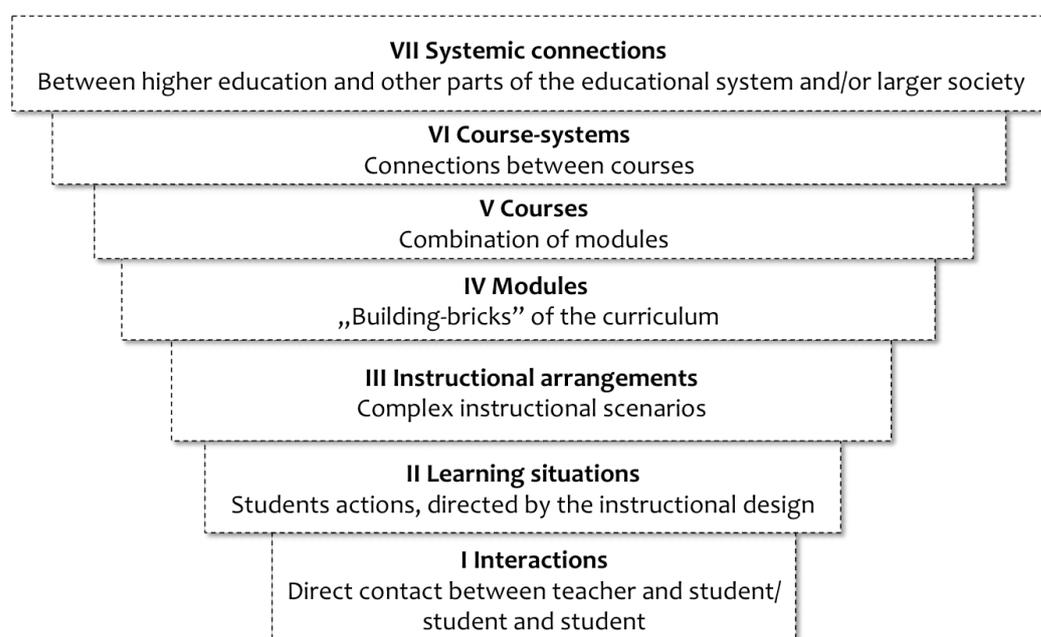


Figure 1: Higher education levels (after Flehsig & Haller, 1975; Wildt, 2002)

The various levels at which higher education takes place are strongly mirrored in various disciplinary-bound theoretical knowledge and resulting methodological approaches,

research-wise (Schaper, 2014). Amongst others, these are Educational Sciences, Political Sciences, Educational Psychology and Sociology (for an overview see Schneijderberg, Kloke & Braun, 2011). However, also other disciplines have been demonstrated to contribute to the research and development of higher education (e.g. Centeno Garcia, 2016; van den Berk, 2013). But not only in higher education research we see multiple disciplinary approaches, also in educational development there is a wide variety of functions that educational developers fulfil. Amongst others, educational developers fulfil tasks as diverse as training teachers (relating to the lower levels of the models) over consulting on course-design (medium levels) to organisational development and leadership tasks (top levels, D’Andrea & Gosling, 2001; Gibbs, 2013; Scholkmann, Sommer & Petersen, 2014). Recent empirical evidence from the German context has shown that the workforce performing the multitude of educational development tasks has a broad variety of disciplinary professional backgrounds (Stolz & Scholkmann, in prep.), thus substantiating the claim that educational development is truly a “family of strangers” (Harland & Staniforth, 2008, p. 669).

The multiple levels and multiple disciplinary approaches to higher education as a research and development field can be seen as a challenge in itself: Researchers and developers eventually tend to solely focus upon their respective area of interest and to be oblivious to perspectives and approaches taken at other levels or from other disciplinary perspectives.

## 2.2 Descriptive vs. activating research

Higher education tends to be researched with one of two different foci. One is shedding light on fundamental questions; the other is gaining scholarly insights for its improvement. This dichotomy can be described as “descriptive” vs. “activating” research (see below for references), and be attributed to divergent underlying epistemological rationales. For the German context it can be also argued that taking one of those two approaches is intertwined with different kinds of research funding (fig. 2).

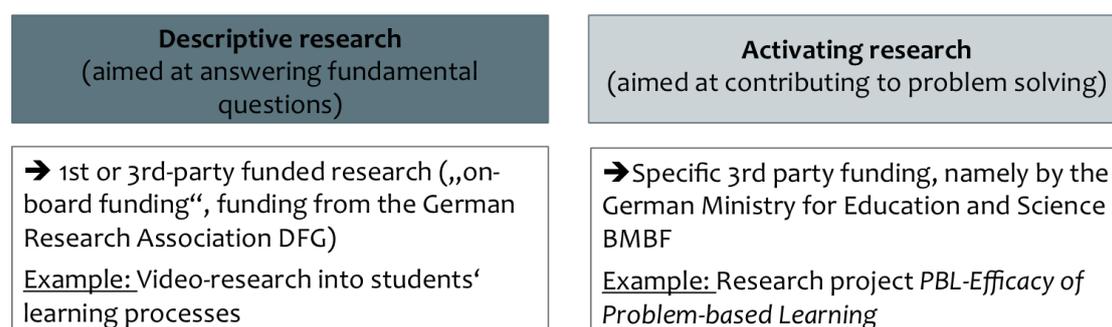


Figure 2. Descriptive vs. activating approaches in higher education research

### 2.1.1. Descriptive research

Research (in higher education and beyond) is traditionally tied to the academic disciplines, their underlying theories, epistemological beliefs and methodological approaches (Neumann, Parry & Becher, 2002). Within these boundaries, the predominant research interest is to extend the body of knowledge prevalent in a specific field rather than solv-

ing hands-on questions. This type of research, although varied in a wide array of methodological approaches, has been characterised overall as being “descriptive” (Tsang, 1997), amongst others, because it strives for the documentation and explanation of phenomena without claiming direct impact on development issues.

One example for this kind of educational research is the analysis of students’ learning processes conducted at the Institute for Business and Vocational Education at Universität Hamburg. An on-going research project here focuses on gaining a better understanding of the teaching and learning processes that take place in open, self-directed learning phases in postsecondary education. The specificity of this project lies in the combination of video- and audio-analyses of classroom material in its scientific analyses.

Video- and audio analysis has been used as a research tool in educational research before (e. g. Hugener et al., 2009; Seidel, Sturmer, Blomberg, Kobarg & Schwindt, 2011; van de Pol, Volman, Oort & Beishuizen, 2014). Methodologically it draws on the paradigm of behaviour observation, which often provides more valid data as for instance questionnaires (Scholkmann, 2009b). Although gathering data in a very hands-on and naturalistic situation (the classroom), video data yield the potential to contribute to a discipline’s theoretical or methodological advancement, because it allows for very fine-grained insights into learning processes, as was the case in the studies presented here.

In a study we analysed factors that influenced the effective use of the learning time in open, self-directed learning situations (Scholkmann, Siemon, Boom & Knigge, in print). Learning time, also referred to as “time on task” (van Gog, 2012) or “academic learning time” (Brodhagen & Gettinger, 2012, p. 33), is the time spent working actively, successfully and productively on a given assignment. In the mentioned video-based study, time on task was inferred from actual video material of a day-long game-based assignment which was completed by 3 groups within a total of 59 students. Approximately 24 hours of video material were time-sampled in 10-second intervals by two independent coders, with satisfactory intercoder-reliabilities around Kappa .70 or higher. Additionally, students were surveyed for their learning goal orientations, which theoretically and empirically are one of the most potent constructs to explain academic engagement and success in the classroom (e.g. Elliot, 1999; Pintrich, 2000).

Based on a two-stepped hierarchical regression model, the results of this study show that students’ time on task was influenced by learning goal orientations but not by other variables. Most outstandingly, it could be demonstrated that not a student’s own goal orientations had influence on his/her time on task, but also the goal orientations of the learning partner, with whom a student was working on the assignment. Moreover, specific patterns could be seen as to whether the motivation of the student itself or the motivation of the learning partner had a greater impact.

As we can see from this example, descriptive research is profoundly grounded in theoretical underpinnings and refers to well-established educational research constructs. However, practical implications for the development of teaching and learning are somewhat hard to infer. Confronted with the findings, colleagues from the educational development side will ask: “Would it be wise to test all students for their learning goal orientations before assigning them to teams working on open, self-directed tasks?” Or: “And if so, is it wise to allocate students to specific teams instead of letting them choose inde-

pendently whom they want to work with?” The discipline- and theory-relatedness of this research hence may hamper its reception and use in development processes, because it doesn't provide a solution to hands-on questions (Becker, 2008).

### 2.1.2. Activating research

Opposed to the above-mentioned descriptive approach, another type of educational research can be observed, which arises from questions about the expected impact of instructional and organisational interventions. This type of research has been called “activating” (Metz-Göckel, Kamphans & Scholkmann, 2012) because the research results are intended to feed back on effects of instructional interventions or organisational change and to activate teachers and administrators to adopt new approaches and concepts (Metz-Göckel, 2008).<sup>1</sup>

In the German context we have seen many examples of this research in the recent funding lines intended to feed back on improvement of higher education teaching and learning. One of them was the funding line *Hochschulforschung als Beitrag zur Qualität der Hochschullehre*” (engl: Higher education research as a contribution to the quality of teaching and learning).<sup>2</sup> Within this funding line, over 30 projects set out to shed light on various aspects of how learning, instruction and organisation in higher education could or should be developed (Berg et al., 2013; Ricken, Roters & Scholkmann, 2009).<sup>3</sup>

One example is the project *PBL-Wirksamkeit Problembasierten Lernens als hochschuldidaktische Methode* (engl: PBL-Efficacy of Problem-based Learning), which took place between 2009-2012. The overall objective of the project was to generate knowledge and expertise with respect to whether the instructional approach of Problem-based learning (PBL, e.g. Barrows, 1996; Loyens, Kirschner & Paas, 2012) should be recommended on a broader basis to institutions of higher education in the German context. In one of several studies within this project, samples in Sweden, the Netherlands and Germany were compared under the question whether PBL yields an advantage over more traditional forms of learning when it comes to the acquisition of deep understanding (Scholkmann, Loyens, et. al, 2014). Within this study, the SOLO-taxonomy (Biggs & Collis, 1982) was used as a framework for the depth of understanding gained by students when attending a PBL- vs. a traditional lecture-based course. In total N=219 students participated, with the results showing various levels of understanding for all participating students, but not for the PBL- vs. the lecture-based study groups.

In another study an evaluation was conducted together with Swiss colleagues (Scholkmann & Küng, 2016). The<sup>5</sup> main focus of this study were competences students experienced to gain through learning in a problem-based course in a discipline other than medicine (where PBL has been originally implemented and also researched to a great

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<sup>1</sup> The term „implementation research“ (e.g. Euler & Sloane, 1998) was not chosen here, because

<sup>2</sup> <http://www.hochschulforschung-bmbf.de/de/1312.php>

<sup>3</sup> Another example for this type of funding is the on-going line *Begleitforschung zum Qualitätspakt Hochschullehre*, <http://www.hochschulforschung-bmbf.de/de/1622.php>

deal, e. g. Loyens, Kirschner & Paas, 2012). Findings from medical education indicated that the main benefits of PBL were to foster communicative competences as well as problem-solving skills. However, the data from this study showed that, compared to average students in education-related programs, students learning in the program under survey were more likely to perceive high competence acquisitions in systematic and personal competences, i.e. research methods, personal motivation, and interest (for more details see Scholkmann & Küng, 2016, p. 71ff.).

As we see from this example activating research rooted in development-related informational questions may suffer from a lack of tight coupling to disciplinary-founded methodological standards. Hence this type of practically relevant research may struggle with finding recognition in disciplinary-bound research communities (Berg et al., 2013). This partly can be attributed to the fact that development questions are expected to be answered through field studies, which can lead to difficult research-designs (because no comparable research groups can be found) and incomplete measures or analyses (e. g. longitudinal data, because funding will run dry within a limited time). Also, the often interdisciplinary approach in this type of studies has been shown to be a challenge (Rafols, Leydesdorff, O'Hare, Nightingale & Stirling, 2012). However, the impact of activating research on educational development must be considered as high: it may increase awareness for new concepts and instructional approaches and nourish on-going discussions and joint developmental efforts amongst teachers, educational developers, and administrators.

### 2.3 The research vs. the development system of higher education

Besides the two challenges already discussed – the fact that higher education is a multi-levelled and multi-disciplinary field and that higher education research varies in the degree in which it is either descriptive or activating – a third challenge remains for bringing together educational research and development. This challenge is that higher education researchers and higher education developers follow different goals, use different methods and use different criteria for success. With that, one can claim that a systemic incompatibility exists between the knowledge producing and the knowledge applying system of higher education (tab. 2).

Higher education research, as the knowledge producing system, is committed towards generating and distributing scholarly knowledge and to disseminating this knowledge. However, the practices of generating and disseminating knowledge predominantly happen outside one's own institution. This phenomenon has been explained by the fact that institutions of higher education are expert organisations, in which the most important "currency" is reputation inferred from and indicated through collegial feedback and praise (Pellert, 1999). Mechanisms of feedback and praise, however, are normally rooted in the disciplinary networks outside one's own institution. This leads researchers to rely on these networks rather than on their individual institutions of higher education and show less commitment to the latter (Scholkmann, 2009a) and also to researchers' reluctance to engage in intra-institutional development activities (Hanft, 2000).

Educational development, as the other system, wants to improve teaching and learning at a specific institution, and uses whatever resource it can to serve this goal. Doing so,

it is topic-centred (rather than discipline-centred) and hence oriented towards success criteria within the specific institution (rather than on cross-institutional collegial praise), which is especially the satisfaction of the “customers” (teachers and academic staff) with the service provided (e.g. Sutherland, 2015).

Table 2: Research vs. development system in higher education

	<b>Research system</b>	<b>Development system</b>
Orientation	<i>Discipline-oriented</i>	<i>Topic-oriented</i>
Success criteria defined by...	<i>Professional networks</i>	<i>Institutional goals</i>
Performance criterion	<i>Collegial feedback</i>	<i>“Customer” satisfaction</i>
Workforce is recruited from...	<i>Discipline-specific backgrounds and networks</i>	<i>Various disciplinary backgrounds</i>

The challenge that lies in these systemic differences between higher education researchers and developers is that it endangers mutual understanding and cooperation. For example, educational developers, when asking about hands-on solutions might run the risk of being perceived as uninformed disturbing intruders because they act contradictory to the research-immanent collegial systemic logic. Vice versa, educational developers may perceive their efforts to generate impact within a specific institution as fragmented and not well-implemented because they have to comply to unpredictable external (research-)demands rather than to coherent institutional strategies (Hughes, 2009).

Of course, with the emergence of educational development as a third space between administration and research and educational developers as a „new tribe“ (D’Andrea & Gosling, 2001, p. 70), we see some flux in this straight dichotomy (e.g. Holt, Palmer & Challis, 2011; Urban & Meister, 2010). However, as other authors before have pointed out, we have to face the fact that disparities and tensions between higher education researchers and developers are and will be part of this emergent field (e. g. Abbas & Mclean, 2003; Harland & Staniforth, 2008).

### **3 Bridging the gap: Research as a practice to link higher education research and educational development**

As a possible way to overcome the gap between research and development in general, research itself can be advocated. This argument is based on the idea that to engage, on various levels, into research today is part of professional academic practice and should be integrated into any academic curriculum (e.g. Griffioen & de Jong, 2014). Many instructional concepts such as inquiry-based learning or the German ‘Forschendes Lernen’ embrace the idea that learning from research not only serves the aim of knowledge creation, but also develops an individual’s competence to reflect critically upon complex societal questions (e. g. Brew, 2003).

Conceptually, research integration has been broadly advocated for university teaching by other authors before (e.g. Healey, 2005; Reinmann, 2016). However, the idea of research integration into educational development is relatively new – and should not be put aside hastily. We know of other academic fields in which, similar to higher education, both research and development are integral, and for which research integration has been actively advocated over the last decade (e.g. Alde, Cheek & Ballantyne, 2009; Garnham, Cheek & Alde, 2009; Gautam, 2008; Rütten, Wolff & Streber, 2015; Tucker & Lowe, 2014; Tucker & Parker, 2014; de Weert, 2009).

Also in higher education research-integrated educational development strategies have been advocated (Macfarlane & Hughes, 2009; Roxå & Mårtensson, 2008), as has been a notion that educational development is based on academic procedures and values and hence should act on the basis of “academic professionalism” (Brew, 2002, p. 118). Given its specific challenges, I argue that research integration in the higher education field needs to be elaborated from at least three different perspectives: The first is the rigours integration of research into academic development practice and training; the second and equally important is the integration of research into the professional profiles and qualifications of educational developers and the third the integration of research practices in the institutionalisation of educational development.

From the perspective of research integration into academic development and training we can see that higher education teaching certificates strive to base themselves more and more on empirical and scholarly basis, and integrate research findings and activities into their curricula (e.g. Brahm, Jenert & Euler, 2016; van den Berk et al., 2015). Especially the latter, the actual execution of educational research, has also an epistemological underpinning in the writings of the Scholarship of Teaching and Learning-movement (SoTL, e.g. Shulman, 2000), which has found its way into the German context as well in the last decade (Huber, 2014; Kordts-Freudinger, Schulte & Velibyoglu, 2016). Activities and results within and from SoTL-projects thereby serve as a promising interface between research and development because beyond providing scholarly insights for the participants they can serve as “(...) a means of development oriented towards more local levels of practice.” (Geertsema, 2016, p. 122).

However, as has been elaborated above, educational developers work at multiple levels and in multiple functions, and in each of their functional roles they need to be able to deal with complex non-trivial problems and to navigate the challenges of this new and emergent field (Shay, 2012). Hence, from a second perspective, academic professionalism is not only needed for university teachers to develop in students, but also for educational developers to develop and cultivate within themselves. This entails being aware of research findings and hold the ability to integrate them into ones own work. Moreover, research as a practice amongst educational developers must be cultivated to strengthen them as credible change agents towards both their clients and their institutions (Brew, 2002). In order to meet those demands, structured programs are needed to professionalize (new) educational developers, which integrate research on higher education both as a knowledge resource and as methodological approach.

From a third perspective, finally, research should also become an indispensable factor in the institutionalization of educational development, i.e. the structures and policies that

make educational development happen. This is the biggest and certainly most challenging task, because the fragmented nature of educational development mirrors also in the fragmented and diverse organisational structures that support and develop learning and instruction in higher education (Gibbs, 2013; Macfarlane & Hughes, 2009; Gosling, 2009). At the one hand, educational development is expected to facilitate institutional change and, as mentioned above, only research-based activities yield rich enough information for critical and non-trivial insights. But educational development units tend to be badly equipped to create those insights. Reasons are (amongst others) their lack of a coherent pedagogical vision, their service orientation (also expected by the customers) and overall an “instrumental approach to professional development” (van Hattum-Janssen, Morgado & Vieira, 2012, p. 41).

In order to integrate research into educational development at the institutional level two points should be highlighted: The first is that organisational structures are needed that support educational developers in conducting own research and apply for individual funding. This question is pivotal, since educational development and its staff need to be recognised by the research system at a collegial basis. Vice versa, the research questions and practices of educational development as a valid, autonomous, and growing research strand within higher education research should be recognized. As has been argued, the added value of educational development-inspired research might lie not (only) in its direct usefulness for improvement of teaching and learning processes (Peseta, 2007), but serve as a looking-glass function on ambiguities and challenges of the educational developer’s roles and functions (Hanson, 2013).

## 4 Conclusion

In the present paper I have argued that higher education research and development experience alienness, and that this alienness can be attributed to specifics in the field, the approaches and the system of higher education. With that I have followed the intention to show that higher education research’s and development’s struggle to find common grounds should be treated not as a fate but a challenge, which can be addressed by respective measures. A practice of research integration into educational development can be a way to bridge the gap, because it presents as the common ground of academic professionalism shared by both the research and the development community, and because research as academic practice yields the means to address the complex, non-trivial and challenging problems that shaping institutions of higher education pose on a daily basis.

„Unless [academic development units] integrate and promote educational inquiry, they will hardly play a critical role in debating and (re)shaping pedagogy in higher education. Instead, they will tend to reinforce whatever quality discourses and practices are dominant in a particular time and place.“ (van Hattum-Janssen, Morgado & Vieira, 2012, p. 42).

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### Author's note

An earlier version of this manuscript has been presented at The Higher Education Conference (HEC) 2016 in Amsterdam in a Keynote sponsored by the German Association for Academic Development (*Deutsche Gesellschaft für Hochschuldidaktik dghd*); parts of the text have since been substantially revised.

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**Zitiervorschlag:** Scholkmann, A. (2017). Bridging the gap. Research as a practice to link higher education research and educational development. *die hochschullehre*, Jahrgang 3/2017, online unter: [www.hochschullehre.org](http://www.hochschullehre.org)