



# HOW DO EDUCATIONAL RESEARCHERS CONSTRUCT PRACTICAL RELEVANCE?

(EĞİTİM ARAŞTIRMACILARI UYGULAMALI İLİNTİYİ NASIL  
YAPILANDIRIR)

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## ABSTRACT

This paper analyzes the research-practice gap from an empirical as well as theoretical perspective. First, it explores empirically if and how academic peer review articles construct practical relevance in their contributions. The results suggest that researchers already apply a wide range of strategies in order to be relevant for practical audiences. Second, the findings are interpreted using Luhmann's theory of self-referential systems. In addition, the potential of intermediary agencies as mediator between the two systems is explored.

**Keywords:** research-practice gap, practical relevance, self-referential systems, evidence-based practice.

## ÖZ

Bu çalışma, araştırma-uygulama boşluğunu kuramsal bakış açısından olduğu kadar deneysel açıdan da incelemektedir. Öncelikle deneysel olarak, akran inceleme makalelerinin katılımlarında uygulamalı ilintiyi nasıl yapılandığı incelenmektedir. Sonuçlar, araştırmacıların, uygulamalı dinleyiciler için ilintili olması açısından çok sayıda stratejiler kullandıklarını göstermiştir. İkinci olarak, bulgular, Luhmann'ın öz-veri sistemleri teorisi kullanılarak tartışılmıştır. Buna ek olarak, iki sistem arasında aracı olarak, arabulucu mercilerin potansiyeli ortaya çıkarılmıştır.

**Anahtar Sözcükler:** Araştırma-uygulama boşluğu, uygulamalı ilinti, öz-veri sistemleri, kanıt-temelli uygulama

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## INTRODUCTION

Educational research is widely treated as an “applied science” (Mortimore/Sammons 1997, 175; Bassey 1995, 22) that should be geared to improving educational practice (Hammersley 2003, 3). However, the practical irrelevance of educational research has long been bemoaned – across countries, educational institutions (Scott 1999, 318), and subdisciplines (Oancea 2005, 159). Criticisms of the lack of practical relevance of educational research are manifold (Oancea 2005, 160), and are targeted particularly at publications in academic peer review journals. Some fourteen years ago, for example, Hargreaves (1996b) contended that most educational research is not in touch with the concrete reality of education. He called for an end to “second rate educational research which does not make a serious contribution to fundamental theory [...], which is irrelevant to practice [...], and which clutters up academic journals that virtually nobody reads” (Hargreaves 1996a, 7). In recent years – along with the rise of the evidence-based practice debate – the desire to produce empirically concrete, directly applicable knowledge for practitioners has become even greater (Rogers 2003, 66).

There are a number of criticisms regarding the lack of relevance in educational research. One recurring topic is the selection of research problems and topics, which is criticized for ignoring practitioners’ needs. Especially the peer review system favours internally-driven research topics that are not based on strong user demand (Scott 1999, 318; Davies 2000, 366). Another reason for the present gulf between educational researchers on the one hand and policy-makers and practitioners on the other is academic jargon. Often the language of educational research is criticized for being over-theoretical, imprecise or too emotional (Oancea 2005, 162). The next criticism concerns the definition of implications for practitioners. From the practitioner viewpoint, educational research does not adequately address this question: the discussion section is often criticized for being entirely directed at the research community, while concrete suggestions for practitioners are simply absent (Edwards 2000, 301). Another critique concerns dissemination channels. Educational research is criticized in terms of presentation style, refereeing procedure, and lack of user involvement, all of which frequently lead to publications that are inaccessible to audiences outside academia (Scott 1999, 319).

In order to overcome the perceived research-practice gap academics are often recommended to derive their research topics from the “real world” (Carnine 1997, 516), to simplify their language and write crisp summaries in plain English (Hemsley-Brown/Sharp 2003, 453), to clearly point out practical

implications, to address specific target groups, and to increase their methodological rigour – e.g. through quantitative, experimental design (Hargreaves 1996b, 106; Hemsley-Brown/Sharp 2003, 451). The underlying assumption is that research on a broad empirical basis, integrating real-world context factors, will provide robust results across a wide range of implementations (Bauer/Fischer 2007, 222). Another prominent recommendation for bridging the research-practice gap has recently emerged in the evidence-based practice debate: the establishment of brokerage agencies (OECD 2007, 5). In order to improve knowledge transfer between educational science and practice, a number of brokerage agencies and programmes have been created whose main purpose is to translate and process scientific results on specific educational topics with a view to enhancing informed decision making in educational practice. These agencies also seek to transfer knowledge requirements from the world of practice into processable research problems and projects in order to stimulate relevant educational research (Specht 2007, 1).

Interestingly, most of the problems and recommendations are not new – some of them were brought forward in the relevance debate more than a century ago (Shulman 1998, 518; Korthagen 2007, 306). This poses the question why complaints about practical irrelevance are still being made, despite all the efforts and appeals to increase the relevance of educational research. It seems reasonable to suggest that the gap is not only attributable to language or methodological problems, but also to more deeply seated differences between the logics of the system of academic science and the system of practice. Biesta (2007, 298) touches on this point when he talks about education as a “recursive system” that cannot simply be understood in a technological sense.

Up to now, the research-relevance gap has seldom been investigated on the basis of an appropriate theoretical model. Nor has it been substantiated with empirical data that would pinpoint causes and consequences. Critics of educational research often claim that scholarly journals in education publish papers remote from practical educational issues, but they provide no empirical evidence for this claim. As a matter of fact, most contributions to the debate lack the theoretical as well as empirical basis for offering an appropriate analysis of either causes or recommendations.

This paper seeks to contribute to the current relevance debate in two ways: first, it wants to investigate empirically if and how educational researchers construct practical relevance in their publications. In contrast to earlier research, which often concentrated on the needs of the recipient of educational knowledge (Carnine 1997, Hargreaves 1996b), we will focus on the perspective of the researcher. Despite the centrality of scientific publications in education, and the evident importance of this type of contribution in the knowledge transfer process, no empirical research has yet

examined how academics in education inscribe practical relevance in their written texts. Specifically, we will ask the following four questions:

1. How do educational researchers construct their research problems?
2. Do educational researchers explicate practical implications?
3. What forms of practical relevance can be distinguished?
4. Do educational researchers address specific target groups?

In a second step, the findings will be discussed on theoretical grounds. Special attention will be given to the question whether the establishment of brokerage agencies can help overcome the gap between educational research and practice. The theoretical basis of our discussion is Luhmann's (1984) theory of self-referential systems, which has gained prominence in recent years in educational settings (Vanderstraeten 2004). However, before we begin the empirical study, some methodological considerations must be presented.

## METHODOLOGY

Since most criticism is targeted at scholarly publications, the present paper will focus on a leading peer-reviewed journal in educational research whose declared aim is to publish research relevant to educational practitioners: the American Educational Research Journal (for a similar methodology see Nicolai/Seidl 2010). According to the Social Science Citation Index, this journal is consistently ranked among the most prestigious academic publications in its field. In its mission statement the journal writes that it strives for "clear and significant contributions to the understanding and/or improvement of educational processes and outcomes"<sup>3</sup>.

Selecting only empirical research articles for analysis, we have included all such articles published in the American Educational Research Journal in 2000, 2002, 2004, 2006, and 2008 in our dataset. We have started with the most recent volumes, on the assumption that particularly in recent years – along with the rise of evidence-based discourse – empirical research in education will have gained in popularity (Rogers 2003, Edwards 2000, Elliot 2001). The final dataset contains 111 articles, which reflect much of the variety in epistemological and methodological orientation that can still be considered empirical research, ranging in orientation from positivism to postmodernism and in subject matter from ethnography to experimental design.

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<sup>3</sup> For more information see [www.aera.net/publications](http://www.aera.net/publications). Accessed 03 January 2011.

It is important to note that the selected journal is based in the United States of America and mainly publishes articles that reflect research problems from the US American educational context. In terms of validity of the data this selection entails the risk of a certain bias. However, since academic reputation was an important criterion for the journal selection, it was decided to take the risk of the possible bias. It can be assumed that the education problems in the US are at least as diverse as in the European context so that most forms of practical relevance should be captured in this analysis.

Seeking indications that would establish how educational researchers construct practical relevance, we have relied, in terms of specific analytic technique, on Miles and Huberman's (1984) categorization and theme analysis. The challenge here is to construct thematic issues that capture a recurring pattern in "the preponderance" of the data (Taylor/Bogdan 1984, 139). In academic articles, practical relevance is often constructed in the introductory paragraphs and pages (Locke/Golden-Bridle 1997, 1027), as well as in the discussion section at the end of the contribution, so the introductory and concluding sections were first read carefully and relevant sequences highlighted. In a second step, the highlighted sequences were assigned descriptive categories to represent their main ideas and significant framing factors. Thus we began with a list of such categories as publication year, number of authors, author status, grant status, and methodological orientation. The construction of practical relevance was analyzed by pinpointing different thematic issues derived from the relevance debate (e.g. problem selection, form of relevance, explication of relevance). However, the emergence of new ideas and concepts in the dataset required further differentiation of the thematic issues, and this has led to the development of four analytic categories:

1. Explication of practical relevance. Did the article use rhetorical devices for pointing out practical relevance of the research results?
2. Problem selection. We distinguish between practical and scientific problem selection. Researchers are considered to derive a problem from practice if they either evaluate a certain practice (e.g. a certain reform or a current project), if they contribute to a much discussed topic (e.g. e-learning), if they test a practical theory (e.g. classroom size, kindergarten entry age), or if they test a specific practice with the help of a theoretical framework (e.g. analyzing cooperations among teachers with the help of the concept of organizational culture). We categorize problem selection as scientific if researchers derive their topic from a scientific theory or construct with its own vocabulary and scientific assumptions (e.g. Bandura's concept of self-efficacy).
3. Forms of practical relevance. What forms of practical relevance do authors suggest? Following the classical distinction in the knowledge

utilization debate we differentiate between instrumental relevance and conceptual relevance. The instrumental mode is based on the “engineering model” of research, in which authors attempt to provide technical knowledge of “what works”. Such knowledge can consist of schemes, tools, or generalizations about effective practice that aim to guide decision situations and can sometimes be formulated as algorithmic rules such as: “If you want to achieve X in situation Y you have to perform Z.” Rather than providing specific tools and techniques for practitioners, educational research may, however, offer general concepts and ideas that provide practitioners with a symbolic language (Korthagen 2007, 307). This type of relevance does not supply concrete solutions, but emphasizes the role of perception and awareness in learning situations. We categorize this kind of knowledge as conceptual relevance.

4. Target groups. Finally, we ask whether the article addresses a specific target group, and what the main target groups are.

In order to ensure the reliability of our categories, four academic colleagues were asked to analyze the dataset. In a first step, we discussed the meaning and listed examples of each category in common. In a second step, we categorized a test sample consisting of 10 articles. We calculated 92 % agreement on the content of articles, which gave us confidence with respect to the inter-rater reliability of our categories. Based on this agreement the final dataset of 111 articles was then categorized by the same four researchers.

## RESULTS

Table 1 summarizes the findings of the descriptive analysis, which will be discussed below.

**Table 1. Descriptive Categories**

Category	Specification	No.	Percent
<b>Year of Publication</b>	2000	26	23.4
	2002	20	18.0
	2004	16	14.4
	2006	18	16.2
	2008	31	27.9
<b>Number of Authors</b>	1	38	34.2
	2	33	29.7
	3	24	21.6
	4 or more	16	14.5

<b>Author Status</b>	only researchers	101	91.9
	only practitioners	0	0
	researchers and	9	8.1
<b>Methodological orientation</b>	quantitative	48	43.2
	qualitative	51	45.9
	mixed	10	9.0
	other	2	1.8
<b>Grant Status</b>	grant support	49	55.9
	no grant support	62	44.1

### Do Educational Researchers Explicate Practical Implications?

The majority of articles clearly pointed out the practical implications of their argument (see figure 1). Typical expressions we found in the articles were “our research has theoretical and practical implications for practitioners who are attempting to enhance achievement and self-concept” (Marsh et al. 2002, 757). Other examples explicate relevance for specific educational settings: “[...] our findings might inform instruction: They suggest the value of helping students not only to develop understandings of key concepts but to appreciate the relevance of their learning to their current and future decision making” (Brophy/Alleman 2002, 465). In another section the authors point out: “[...] teachers might incorporate some of the interview methods or questions used in this study into their plans for assessment components of a shelter unit” (Brophy/Alleman 2002, 466).

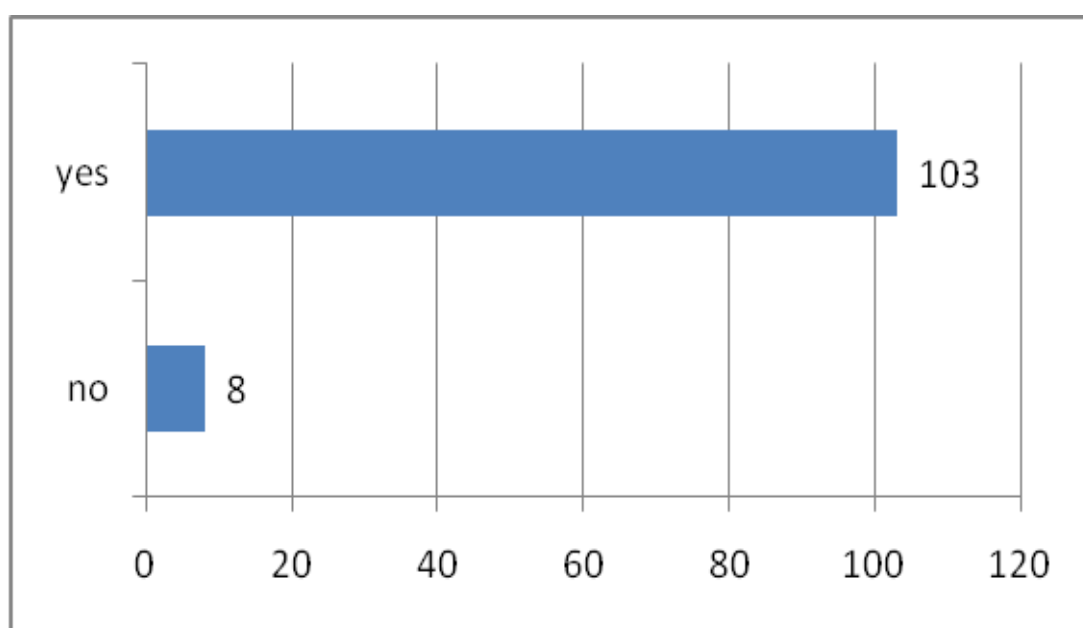


Figure 1. Explication of Practical Relevance

## **How Do Educational Researchers Construct Their Research Problems?**

The majority of problems analyzed in the articles were selected from a practical context (89.3 %). In 18 % of the scrutinized articles the outcomes of certain practices or specific projects were analyzed, such as a specific school development programme or a self-developed course in a case-study school, or the effects of a certain instructional model for improving the writing, knowledge and motivation of struggling pupils.

Fifteen articles (13.5 %) contributed to a current debate in educational practice, such as teaching with the internet, reading problems in class, or school segregation: the “debate on segregated and desegregated schools generally has been framed as an either-or matter, and in fact, legally, this has been the case” (Weis/Centrie 2002, 7).

Another example explicates the currency of the topic in the introduction: “Research and debate on class size differences has focused on relations with achievement, and there is little relevant research on what mediating classroom processes might be involved” (Blatchfords et al. 2002, 101).

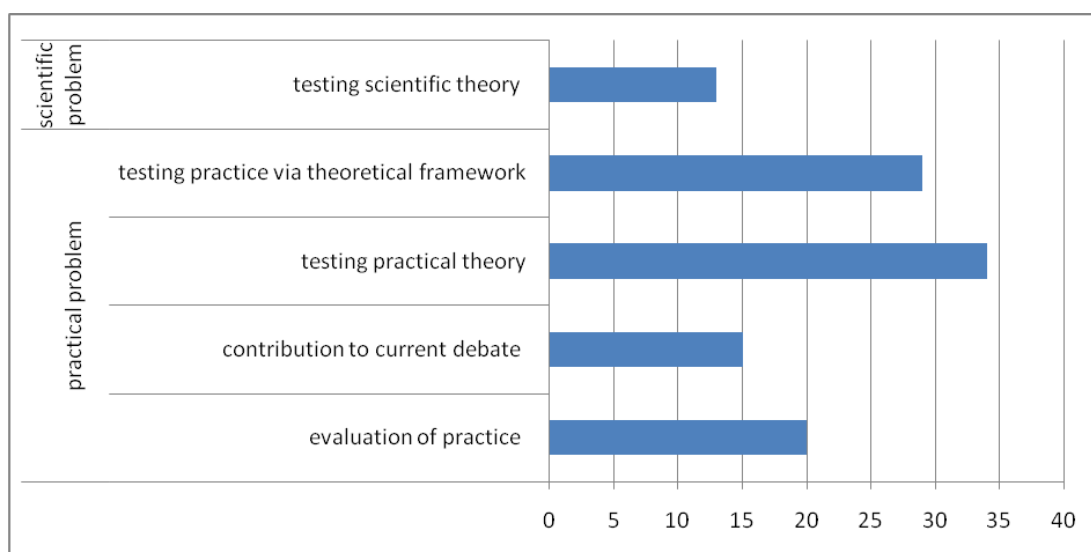
Articles that tested a practical theory made up 30.6 %. Common examples for this category were the determination of optimal school size, the role of textbooks in teaching, or exploring the practice of teaching spelling. In other cases the authors analyzed the impact of student employment on their learning, or how the working conditions of low-income parents affected their opportunities to help school-age children at risk.

The next category was testing practice with the help of a theoretically developed framework. The following expression provides an example for this category: “As a researcher-practitioner, the author [...] operated from a theoretical framework based on how he believed historical thinking and understanding occur for such novice learners” (VanSledright 2002, 4). Another article applied Bourdieu’s theory of cultural capital in order to assess parent involvement and achievement gaps among elementary school children: “I used two frameworks – cultural capital theory and social structural theory – to create a theoretical perspective” (Pearce 2006, 77). In one study Latino and African American students’ perspectives on teaching were explored with different theoretical concepts: “The theoretical framework included ethnic identity development, stereotype, threat, cultural continuity/discontinuity, and bias in standardized testing [...]; these areas of literature provided a guiding lens for our research” (Bennett et al. 2006, 531).

Only in 11.7 % of the articles did a scientific theory serve as springboard for the empirical study. In these cases the authors clearly explicated a certain theory in order to improve educational practice, for example: “This study demonstrates that reading methods based on a specific scientific theory can be implemented on a large scale with practical success” (Sadoski/Willson 2006, 151). In another section they continue: “An advantage of the present study was



its use of methods and materials that were consistent with a specific theory of cognition in reading” (Sadoski/Willson 2006, 153).



**Figure 2. Problem Selection**

### **What Forms Of Practical Relevance Can Be Distinguished?**

In analyzing the different forms of relevance we only used articles that clearly pointed out practical implications. Of the 97 articles, 50.5 % explicated an instrumental relevance that stressed application-oriented knowledge for improving or changing various educational contexts. Some studies, for example, sought to provide a solution for improving mathematical problem solving, for changing the school curriculum in certain ways, or for choosing a certain leadership style for school principals. One study typical of this category investigated the effects of group composition on outcomes for high-ability-students completing science performance assessments. The authors suggested that their study would help “to devise strategies for maximizing the group functioning of all groups so that the potential of each group’s intellectual resources can be realized” (Webb et al. 2002, 983).

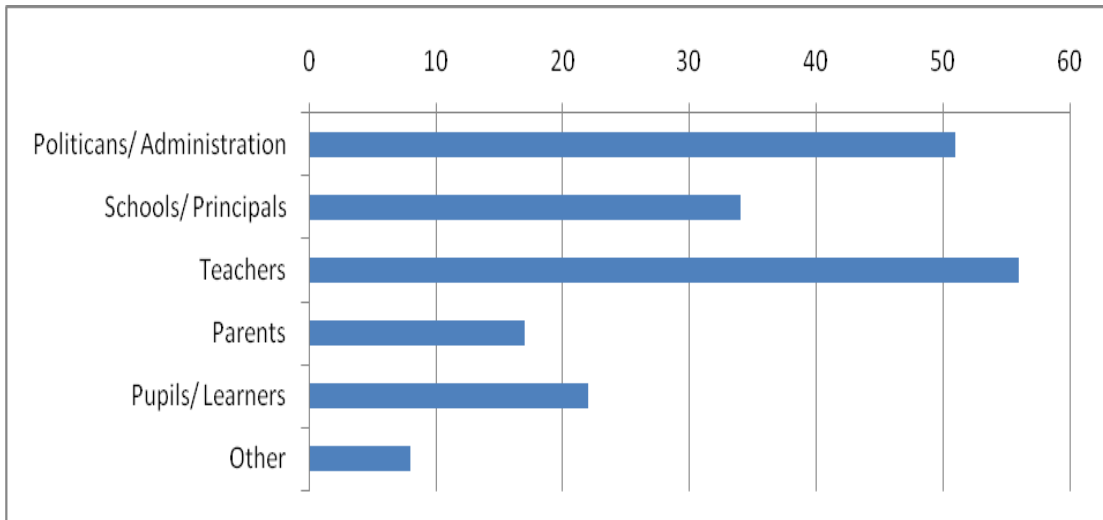
The other half (49.5 %) of the articles claiming practical relevance followed a conceptual orientation that aimed at providing illustrations, new or alternative views or new meanings in educational settings. Expressions such as “might uncover some dilemmas”, “provide a different way of thinking”, “understanding the structures and processes that influence student engagement” or “the complexities add to our understanding of student engagement” were categorized as conceptual relevance. In a study on writing the author pointed out: “This research has added layers of complexity [...] perhaps, therein lies the value” (Chubbuck 2004, 329). In another article on an inclusion classroom the author explicates that the goal of the study is “to

illuminate the processes of creating learning communities” (Wiebe Berry 2006, 498).

There was no correlation between methodological orientation and forms of relevance. The data revealed that quantitative, qualitative, and mixed approaches construct both types of relevance, instrumental and conceptual, to the same extent. Neither was there an indication that teams consisting of both practitioners and researchers produce more instrumental (i.e. applicable, technological) knowledge than teams consisting only of academics. When we compared the forms of relevance on a time scale we found that especially in the last two volumes (2006 and 2008) the number of articles pursuing instrumental relevance was higher than in earlier years; the differences were not, however, significant ( $p=.177$ ).

### **Do Educational Researchers Address Specific Target Groups?**

Finally, we analyzed how many and what type of target groups were addressed in the articles. 87.6 % of the 97 articles clearly addressed at least one target group; on average, each article was written for 1.7 target groups (s.d. 1.35). The target groups most often addressed were politicians (52.6 %) and teachers (35.1 %).



**Figure 3. Target Groups**

## **DISCUSSION**

Comparing the results of the empirical analysis with the current relevance debate brings to light some interesting findings. Even in a highly ranked research journal there are empirical indications that educational

research attempts to be practically relevant. The majority of research topics were derived from practical problems. Most articles clearly explicated the practical relevance of the research and pointed out practical implications for at least one target group. At first sight, criticisms that educational research ignores educational practice seem overstated. Furthermore, it seems that at least some of the conventional suggestions for overcoming the research-practice gap need to be reconsidered. On the one hand this pertains to the common suggestion to integrate more practitioners in the research process. Our findings could not confirm that research teams consisting of practitioners as well as researchers were able to construct more practically useful results in terms of clear solutions – at least not on the rhetorical level. Neither were quantitative designs better able to produce instrumental knowledge than other research approaches, which could be used to derive clear principles for action in educational practice.

**Table 2. Contrast between Empirical Findings and the Current Relevance Debate**

<b>Conventional View</b>	<b>Findings of the Study</b>
Educational research is not sufficiently problem driven.	88.3 % of articles address a problem from educational practice.
Researchers do not point out practical implications.	92.8 % of articles clearly point out practical implications.
Researchers should address target groups more specifically.	87.6 % of articles address at least one target group.
If researchers were to collaborate with practitioners, educational research would become more relevant.	8.1 % of articles are written in cooperation with practitioners. These articles do not explicate relevance more than articles just from researchers.
Greater academic rigour (e.g. through quantitative design) leads to more directly applicable (instrumental) knowledge.	Quantitative studies do not produce more directly applicable instrumental knowledge than other approaches.

As with any empirical study, our analyses and results have some limitations. It has to be kept in mind that only 111 empirical articles from only one academic journal were included in the sample. Furthermore, communicated relevance – either instrumental or conceptual – does not necessarily imply that knowledge can be directly applied to educational practice from a practitioners' point of view. What it seems to suggest is that educational researchers have an understanding of relevance, which may be

different from the understanding of practical relevance held by practitioners. This idea has already been brought forward by Astley and Zammuto (1992), who themselves refer to Wittgenstein's concept of language games. Astley and Zammuto (1992) argue that different rules and conventions govern the research and practical contexts. Depending on the particular language game that is used, practitioners and researchers in education are likely to experience the world differently (Seidl 2007, 200).

Another theoretical approach takes this line of reasoning a step further: Luhmann's theory of self-referential systems (1984). In this view, educational science and educational practice constitute two different social systems, each following its own code of communication. While educational scientists strive for precision, truth, and the advancement of knowledge through the ongoing development of theories and methodologies, educational practitioners prefer concrete solutions, recipes, tools, and instruments that may help reduce the complexities of educational decision situations (Korthagen 2007, 306). The different communication codes of the two systems make it difficult, if not impossible to directly communicate with each other. The reason is the self-referential *modus operandi* of social systems. With the development of new theories and methodologies, the complexities of educational science constantly increase over the course of time. Authors criticize former publications and add new ideas to the existing body of knowledge. Due to the fragmented state of educational studies, the growing body of knowledge is also likely to create inconsistent, ambiguous and contradictory results, which adds even greater complexity. Such complexity, however, lies in the very nature of research (Kieser/Leinen 2009, 528).

Educational practitioners, on the other hand, try to avoid contingencies and ambiguities, as this may hinder them in their quest for clear solutions. Practitioners look for clear, context-specific knowledge that will contribute to their professional culture (Fullan 1981, 218, Hargreaves 1996b, 109), and in practical terms the selection of solutions is based on causality assumptions. For example, difficulties in language learning are identified, and their causes sought, in order to decide on suitable teaching strategies. Faced with many pupils in a class, teachers would be unable to operate on a knowledge basis that consisted of too many contingencies or ambiguities. They have to keep their picture of the (classroom) world – their assumptions concerning cause and effect, means and end – simple (which might explain their complaints about the contingencies of scientific knowledge and their preference for schemes, recipes, and clear solutions). Considering the two very different system logics in educational science and practice, it would seem better to assume that with the ongoing development of educational science the gap between research and user needs will become even larger.

One recommendation that recently emerged in the evidence-based practice debate is the establishment of intermediary agencies, such as

government departments, research institutes, charitable foundations, or consultancy organizations. It has been mooted that these institutions should play key roles in supporting knowledge transfer between science and practice. One function of such intermediary organizations could be to prepare, maintain and disseminate systematic reviews of the effects of interventions in education, and to provide databases of best evidence for educational policy and practice (Davies 2000, 366).

However, from a systems theory perspective, it is not possible to merge two different communication systems, i. e. the system of educational science and the system of educational practice – either through intermediary agencies or through collaboration between researchers and practitioners. The intermediary would constitute a communication system of its own with its own logic, and agencies would be unable to directly translate scientific knowledge into practice without a change of meaning. What agencies can do, however, is to (re)interpret the findings of academia. This is likely to result (generally in an implicit and unnoticed manner) in a new type of knowledge. Teubner describes this phenomenon as “productive misunderstanding”:

“In a precise sense, interdiscursive translation is impossible [...]; between the discourses, the continuation of meaning is impossible and at the same time necessary. The way out of this paradox is *misunderstanding*. One discourse cannot but reconstruct the meaning of the other in its own terms and context and at the same time can make use of the meaning material of the other discourse as an external provocation to create internally something new” (Teubner 2000, 408).

From a self-referential systems perspective, intermediary agencies cannot receive input from educational science; the agencies can only reconstruct elements of scholarly discourse according to their own logic. It is very likely that this internal reconstruction will be different from the original discourse (Seidl 2007, 207), and one can only hope that the new meaning, the “misunderstanding”, will be productive for the interplay between science and practice. Conversely – and despite the fact that (in this view) a direct translation of educational science into educational practice is unlikely to occur – there is another important function that the intermediaries might serve. They could relieve the system of educational science from having to (or from thinking that it has to) directly communicate practical relevance to the practitioner audience. For it is significant that the constructions of practical relevance in the articles investigated here have been created within a scientific discourse that has little or no value for practitioners. These have their own understanding of relevance. In this way, the agencies might help to build up a new, and more productive, division of work between science and practice.

The theoretical framework applied in our analysis sees the benefit of emphasizing differences between practical and scientific knowledge constructs rather than neglecting them. These differences can be utilized better when the two systems engage in an interactive, creative dialogue, which may well produce new opportunities for action (Beck/Bonß 1989). A central role in this interactive knowledge process, and one that respects the self-referential nature of educational science and practice, might be performed by intermediary agencies. Whether these institutions will actually help bridge the gap and create a greater body of useful knowledge for practitioners remains to be seen, and can only be answered on the basis of further research.

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