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DO TEACHERS HAVE A RELATIONSHIP WITH THEIR SUBJECT? A REVIEW OF THE LITERATURE ON THE TEACHER-SUBJECT MATTER RELATION

¿Tienen los profesores una relación con su asignatura? Revisión de la literatura sobre la relación asignatura-profesor

Quelle relation les enseignants etablissent-ils avec la discipline qu'ils enseignent? Une revue de la litterature sur la relation enseignant-sujet-matière

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SUMMARY

The particular relationship between a teacher and his/her subject is the focus of this article. It reports on an analysis of the way in which this relationship is conceptualized in educational research. Four thematic fields emerged from the review,

i.e., teachers' beliefs on, knowledge of, emotions on, and commitment to the subject. Within each thematic field we described major findings regarding the way in which the relation between the teacher and the subject taught is described in educational research. Based on the review, we stress the need for research that takes not only seriously the cognitive, but also the affective relationship of the teacher with its subject.

Key words: teacher, subject, beliefs, knowledge, emotions, commitment.

RESUMEN

Este artículo se centra en la particular relación que existe entre un profesor y su asignatura, y en él se analiza la forma en la que esta relación se conceptualiza en la investigación educativa. Cuatro campos temáticos se desprenden de este análisis: las creencias de los profesores sobre su asignatura, su conocimiento de la asignatura, los sentimientos hacia su asignatura y su dedicación a la asignatura. En cada campo temático hemos descrito las principales conclusiones sobre la relación entre el profesor y/o su asignatura en la investigación educativa. Basándonos en este análisis, acentuamos la necesidad de la investigación no sólo de la relación cognoscitiva, sino también emocional, entre el profesor y su asignatura.

Palabras clave: profesor, asignatura, creencias, conocimiento, emociones, dedicación.

SOMMAIRE

Cet article porte sur la relation qu'établit un enseignant avec la discipline qu'il enseigne. Il rend compte des diverses façons dont cette relation est conceptualisée dans la recherche en éducation. Une revue de la littérature a permis de dégager quatre champs thématiques: les croyances des enseignants à propos de leur discipline, la connaissance qu'ils ont de celle-ci, les émotions qu'elle suscite et leur engagement pour leur discipline. Dans chaque champs thématique nous avons décrit les principales résultats au sujet de la relation entre l'enseignant et leur discipline dans la recherche en éducation. Basé sur cette revue, nous insistons sur la nécessité de la recherche qui prend non seulement sérieusement la relation cognitive, mais aussi affective, de l'enseignant avec la discipline.

Mots clés: enseignant, sujet-matière, discipline, croyances, connaissance, émotions, engagement.

1. INTRODUCTION

The traditional didactic triangle in which teacher, student, and content form the vertices of the triangle is a representation that is often used to conceptualize

teaching and learning (Kansanen, 2003). Even though the figure of a triangle may seem to simplify the complexity of teaching and learning, it can help to interpret and discuss each element in relation to the others. Traditionally research has primarily focused on the relation between the teacher and the student (e.g., instructional techniques and their effects on student outcomes) as well as on the relation of the student with the content (e.g., students» (mis)conceptions regarding particular subject matter).

The relationship between the teacher and the content, however, seems to have been less studied (Grossman & Stodolsky, 1994; Kansanen, 2003), although it is an essential one (see e.g., Darling-Hammond & Baratz-Snowden, 2005; Good & Brophy, 2003) simply because teaching is to a certain extent intentional and therefore teaching is always the teaching of *something.* In other words, it is hard to think about a classroom without a link between a teacher and «what should be taught». However, the way(s) teachers engage with the content they teach seems to be pushed into the background in studies of teaching and learning.

Clearly, it is a central issue of course in research on subject matter didactics, but most investigations in this field are single ended: identifying the appropriate (often conceived as «effective») ways to teach a particular subject (e.g., Ball, Lubienski & Mewborn, 2001).

The issue of the effective didactics is only one –rather technical– way to think of the relationship between the teacher and the content. Next to subject matter didactics, the relation between teachers and «their subject» is also discussed in the (rather broad) field of philosophy of education and educational theory (e.g., Hansen, 1995; Meirieu, 2008, Simons & Masschelein, 2011). Here, the focus is on the specific ethical/moral, epistemological, and normative dimensions of teaching and teachers, and often in critical discussion with the more instrumental approaches adopted in subject matter didactics. In what follows, it is however not our aim to develop a position regarding the research on the subject matter didactics (in the form of a critique), nor to engage with or embrace a more theoretical or philosophical understanding and approach. Instead, our interest is to explore in detail the literature «in between» both fields of research that addresses the topic teacher-subject, and that, because of its position «in between», is often not discussed in the other two fields of research. The specific objective hence is to explore the distinct ways in which this often empirically oriented research literature conceptualizes the relationship between the vertices teacher and content of the didactic triangle, and to assess to what extent the findings of this kind of literature actually allow for further research on this topic. Since content in school contexts is usually divided into various subjects (e.g., mathematics, foreign languages, history, physical education), and the research to be reviewed mainly addresses school context, we have framed the content dimension in the didactic triangle in terms of the subject.

2. METHOD

Since the relationship between the teacher and the subject is not a common «keyword» or a particular research domain, we started the literature review by developing guiding descriptors that could be used to identify the relevant literature. We did this by a systematic screening of a limited number of leading international journals and handbooks of the last decade that explicitly focus on teaching practice and classroom research, i.c. *Educational Studies* (2000-2011), *Teachers and Teaching: Theory and Practice* (2000-2011), *Teaching and Teacher Education* (2000-2011), *Journal of Teacher Education* (2000-2011), *Handbook of Research on Teaching* (Richardson, 2001), *Handbook of Research on Teacher Education* (Houston & Haberman, 1990), and *The New International Handbook of Research on Teachers and Teaching* (Saha & Dworking, 2009). This first search helped us to identify relevant descriptors for the research on the teacher-subject dimension: content knowledge, pedagogical content knowledge, beliefs, attitudes, values, emotions, motivation, enthusiasm, interest, identity, and authenticity.

As a next step in our methodology we used these descriptors, in combination with the broad search terms (i.e., teacher and subject) to search three educational electronic databases ERIC, PsycInfo, and Web of Science, which together assemble most international educational research. We restricted this electronic search to English contributions in peer-reviewed journals. Only articles where the teacher-subject relationship was a central topic were included in the selection. Finally we also explored the literature section in each article for possible further relevant work (journal articles and book chapters) on the teacher-subject relationship.

The particular goal of our review was to make an inventory of the *thematic fields* (i.e., a research field within an established research domain or area that specifically addresses the teacher-subject relationship) and the *key issues* (i.e., major findings regarding the kind of relationship between the teacher and the subject taught) within each thematic field. A detailed overview of fields and issues will allow to arrive at a conceptualization of the distinct ways in which the relation between the teacher and the subject taught is described in mainly empirically oriented educational research.

3. RESULTS

Through a systematic content analysis of the selected articles, we identified four important thematic fields in the research on the teacher-subject relationship: teachers' knowledge of the subject, teachers' beliefs on the subject, teachers' emotions on the subject, and teachers' commitment to the subject. In what follows, we will present the results of our review along these four thematic fields. Research examples will illustrate the main key issues within each thematic field.

3.1. *Teachers' knowledge of the subject*

The nature of teachers' knowledge that is considered essential for good teaching is a theme that has been widely studied, as becomes apparent from several reviews (e.g., Calderhead, 1996; Carter, 1990; Fenstermacher, 1994; Richardson, 1996). Much of this research has been inspired by Shulman's critique on the absence of the role of the subject in research on teaching and teacher education (Shulman 1986, 1987), which he labeled as a «missing paradigm» (Shulman, 1986). Shulman identified seven categories in teachers' professional knowledge, three of which are related to the subject: content knowledge, pedagogical content knowledge, and curriculum knowledge. Content knowledge refers to «the amount and organization of knowledge per se in the mind of the teacher» (Shulman, 1986, 9). Pedagogical content knowledge includes

> for the most regularly taught topics in one's subject area, the most useful forms of representation of those ideas, the most powerful analogies, illustrations, examples, explanations, and demonstrations […] [*it*] also includes an understanding of what makes the learning of specific topics easy or difficult: the conceptions and preconceptions that students of different ages and backgrounds bring with them to the learning of the most frequently taught topics and lessons (Shulman, 1986, 9).

Finally, curriculum knowledge particularly relates to the knowledge of «the materials and programs that serve as "tools of the trade" for teachers» (Shulman, 1987, 8). Of the three content-related categories pedagogical content knowledge (PCK) was the one that got most resonance in educational research (Ball, Thames & Phelps, 2008; Van Driel & Berry, 2012). Although research on PCK is closely connected an older, European research tradition on «subject matter didactics» (e.g., «Fachdidaktik» in German), the latter did not grain into the Anglo-Saxon research literature, partly due to the negative connotation of «didactics»[1] (Kansanen, 2009).

The following key issues make up the thematic field of PCK. First, our review reveals that most of the PCK-related research has been done in science and mathematics education (e.g., Ball *et al*., 2008; Kinach, 2002; Llinares, 2000; Niess, 2005). Less research has been conducted in other, more alpha-oriented school subjects, such as social studies (e.g., Waring, 2010), sex education (e.g., Timmerman, 2009), history (Wilson & Wineburg, 1993), and language education (e.g., Grossman, 1990; Love, 2009). Second, the majority of the studies focuses on the development and content of teachers' PCK with respect to a specific content topic (e.g., fractions,

1. In the Anglo-American research literature the concept «didactic» is often associated with a traditional teacher-led approach and even moralizing form of lecturing. The Oxford Dictionary (10th Edition) explains the term «didactic» as: «intended to teach, in particular having moral instruction as an ulterior motive. In the manner of a teacher; patronizing or hectoring».

chemical equilibrium, scientific concept of function) (e.g., Hashweh, 1987; Leinhardt & Smith, 1985; Llinares, 2000); this is in contrast with research on teachers' beliefs on the subject, where the subject is more addressed as a whole. Third, there is a lot of disagreement among scholars regarding the conceptualization of PCK. Researchers include or exclude aspects such as curriculum knowledge, general pedagogical knowledge, or content knowledge (e.g., Van Dijk & Kathmann, 2007; Segall, 2004). Adherents of a more cognitive perspercitve, in which PCK is conceived as a category of teacher's knowledge base typically define a limited number of components to be part of PCK and distinguish PCK from other categories of teachers' knowledge base, such as content knowledge and general pedagogical knowledge. By contrast, proponents of a situated perspective on PCK as knowing-to-act within a particular classroom context, typically acknowledge that the act of teaching is multi-dimensional in nature and that teachers' choices simultaneously reflect mathematical and pedagogical deliberations, and consequently, adhere to a broader conceptualization of PCK (Depaepe, Verschaffel & Kelchtermans. Finally, a lot of studies even do take the concept for granted without explicitly defining it (e.g., Barnett, 1991; Dalgarno & Colgan, 2007).

3.2. *Teachers' beliefs on the subject*

A segment of the research on teachers' beliefs explicitly focuses on teachers' beliefs regarding the subject taught: their personal ideas about what teachers think is true about the subject and about themselves in relation to the subject (Pederson & Liu, 2003). Within the thematic field of teachers' beliefs on the subject, two key issues became apparent. The first is the nature of teachers' beliefs on the subject, the second focuses on the effect of these beliefs on their teaching.

3.2.1. The nature of teachers' beliefs on the subject

The research on teachers' beliefs on the subject splits in two main directions. On the one hand, subject specific beliefs, such as beliefs about the nature of mathematics (e.g., Kynigos & Argyris, 2007; Schmidt & Kennedy, 1990; Schuck, 1997; Stipek, Givvin, Salmon & MacGyvers, 2001), or the nature of science (e.g., Keys, 2005; Smith, 2005; Stipek *et al*., 2001), are being studied at the personal level, that is, the beliefs of the individual teacher towards a subject. On the other hand, some researchers examine whether teachers teaching a specific subject (e.g., mathematics, science, history) share certain beliefs on the subject (e.g., Ball, 1981; Ball & Lacey, 1984; Grossman & Stodolsky, 1995; Rousseau, 2004; Siskin, 1991).

Research on individual teachers' beliefs concentrate on «the uniqueness of each teacher's beliefs» (Andrews, 2003, 353). In these studies it is assumed that

every teacher holds a personal understanding about the subject that he accepts as true (Nespor, 1987). For instance, for one teacher mathematics is all about memorizing a vast number of rules and formulas whereas for another teacher the core of the subject consists of problem solving (Boaler, 1998). Factors that directly shape teachers' beliefs about the subject, it is argued, include previous and personal experience (e.g., Clandinin, 1986; Smith, 2005), accumulated expertise (e.g., Andrews, 2003; Keys, 2005), and interaction with subject related «knowledge» (for instance, a discussion with colleagues, or reading a new textbook) (e.g., Shaw, Barry & Mahlios, 2008). In this first research direction, the teacher acts as a mediator, making educational decisions based on personal beliefs about the subject taught.

Parallel to the research that takes an idiosyncratic approach on beliefs, other researchers argue that teachers teaching the same subject share a number of beliefs and that these shared beliefs differentiate them from colleagues who teach other subject areas. Grossman and Stodolsky (1995) propose that research on teachers' beliefs on subject matter should focus on the differences between school subject teachers, since the nature of school subjects, as well as teachers' beliefs regarding the subject they teach, could «help explain curricular and instructional patterns in high schools and responses to reform efforts» (Grossman & Stodolsky, 1995, 5). In line with this, Ball and Lacey (1984) speak of «subject subcultures» –i.e., the shared beliefs of teachers who teach the same school subject. School subjects, Grossman and Stodolsky (1995) argue, differ on many levels. For instance, their status within the school influences teachers' perceptions of a subject and therefore teachers' beliefs and actions. The latter research direction indicates that teachers are bound together by shared beliefs about the subject.

3.2.2. Impact of teachers' subject beliefs on teaching

A second key issue relates to the explanatory value of teachers' subject-specific beliefs in view of their actual teaching behavior (e.g., McDiarmid, Ball & Anderson, 1989; O'Loughlin & Campbell, 1988; Smith, 2005; Stodolsky, 1988). The research indicates that teachers' beliefs play a crucial role in the decisions on the selection of the content that will actually be taught, on how to approach that content, and on their reaction to subject-specific reforms (März, Vanhoof, Kelchtermans & Onghena, 2010; Roulet, 1996). For instance, März *et al.* (2010) revealed that secondary teachers' beliefs about the place and value of statistics in mathematics education influence their approaches to the (obligatory) statistics content in their mathematics classes. In sum, researchers generally acknowledge that teachers' beliefs tend to shape their subject-specific teaching approaches and their responses to subject-specific reforms.

3.3. *Teachers' emotions on the subject*

The next thematic field that articulates the teacher-subject relationship is teachers' emotions. Sutton and Wheatley (2003, 343) summarize clearly what is at stake in this field: «Subject matter is another important context for considering teachers' emotions. For example, do strong emotions and strong expression of emotions "work" differently when teaching drama, dance, and physical education than when teaching calculus, word processing, or civics?». This raises the question whether there is something like an «emotional understanding» (Denzin, 1984) of the subject matter, or an emotional involvement with the subject. In this thematic field, two key issues are discussed. On the one hand, we find research that examines how past and present emotions influence teachers' attitudes towards the subject. On the other hand, we find research that examines how teaching a subject provokes specific feelings.

A research example that illustrates the first key issue is Zembylas and Barker's (2002) study on the way previous emotional experiences of pre-service teachers colored their perspectives on science pedagogy. The researchers challenged participants to revisit how their previous emotional experiences had shaped the way they thought about the subject and taught it to children. The aim was to initiate an attitudinal transformation –i.e., through understanding their emotional involvement with the subject matter, the teachers themselves could revisit that engagement and cultivate new –possibly more appropriate– emotional affiliations with it.

A second key issue relates to the emotional impact of teaching particular subject matter. For instance, the phenomenological study of Dreon and McDonald (2011) demonstrates the influence that emotions have on beginning teachers' ability to enact inquiry science pedagogy, that is, teaching science as inquiry rather than through the drill and practice of taken-for-granted «truths». The two participants describe their anxiety and uncertainty when enacting inquiry pedagogy. Emotions arise from being comfortable teaching the subject or –to the contrary– from the discomfort associated with the unpredictability when teaching new content using inquiry pedagogy. Dreon and McDonald speak of emotional «hot spots» (i.e., strong feelings teachers experience when teaching) that influence content and didactical choices.

To conclude, teachers' (previous) emotional experiences influence the way they handle the subject, but teaching a subject also provokes different emotions.

3.4. *Teachers' commitment to the subject*

The fourth thematic field is teachers' commitment to the subject. In their seminal review Firestone and Pennell (1993) point out that the common theme in the numerous definitions of teachers' commitment is «a psychological bond or identification of the individual with an object that takes on a special meaning and importance» (Firestone & Pennell, 1993, 491). So, what teachers are committed to (e.g.,

the school, the students, the colleagues, the subject) can make a difference. The researchers use the term «mix of commitments» (Firestone & Pennell, 1993, 493) to indicate that there are different components or foci of teacher commitment that may be either dependent or independent from each other (e.g., Razak, Darmawan & Keeves, 2009). We limit ourselves here to teachers' commitment to the subject, the psychological ties of teachers with their subject area. Two key issues are discussed. First, it seems that several scholars use different terms to address teachers' commitment to the subject, such as identity, authenticity, love or passion, enthusiasm, and interest. Second, in comparison with previous thematic fields, there is only few empirical work on teachers' commitment to the subject.

The first term of teachers' commitment relates to the sense of *identity* teachers acquire from teaching a specific school subject (e.g., Beijaard 1995; Day, Stobart, Sammons & Kington, 2006; Drake, Spillane & Huffered-Ackles, 2001; Helms, 1998; Little, 1993; Siskin, 1994; Tyree, 1996). Most studies focus on teacher communities within subject departments and use the notion of a professional identity to refer to a sense of belonging and identifying with the community responsible for teaching the subject. Helms (1998) extends the meaning of identity to touch ona personal identification with the subject, that is, how teachers obtain a sense of personal and professional identity from their subject. In his research on teachers' understanding of the nature of science, Helms noticed that teachers' subject taught figured «conspicuously» in the teachers' descriptions of themselves. The subject, he argues, plays a role in teacher thinking about who they are and hope to become. Helms suggests that the self comes not just from what a person does, but also from what a person believes in, values, and affiliates with.

The latter is closely connected with the second term, that is *authenticity* (e.g., Cranton, 2001; Kreber, Klampfleitner, McCune, Bayne & Knottenbelt, 2007; Palmer, 1998). Palmer (1998) argues that teachers' personal life is inextricably linked to their school life and that teachers partially define themselves by their subject. By this he means that the subject *matters* to teachers beyond the walls of the school, and when they teach it, they share parts of themselves: «No matter how technical my subject may be, the things I teach are things I care about –and what I care about helps define my selfhood» (Palmer, 1998, 17). In other words, teachers must acknowledge that «neutrality» –i.e., not recognizing that they bring their background, culture, experience, and other aspects that constitute the self into teaching– is unattainable, and by seeking it they are only doing a disservice to the profession. Kreber *et al.* (2007) connect Palmer's idea with Taylor's (1991) concept of external «horizons of significance», that is, a background of ideas that matter, not only for our self but for society as a whole. Hence, the teachers develop a sense of themselves through the subject taught and particularly how that subject matters within the larger context of the society. By doing so, Kreber *et al.* (2007) argue that authenticity has a personal as well as a generic dimension.

The third term of teachers' commitment has to do with *love or passion*. We acknowledge that these concepts are closely related to the thematic field of

teachers' emotions toward their subject, but they also express a sense of teachers' commitment to the subject. A salient research on «love for the subject» is done by Cohen who studied the traits of expert teachers (Cohen 1991, 2009). Love or passion –both words are used interchangeably– for the subject, in Cohen's perspective, is a kind of immunizing booster against the harder aspects of the profession (e.g., uninterested students, meddlesome parents). Passion or love for the subject has to do with strategies of self-preservation; when teachers are confronted with difficulties, it acts as an antidote. He identified an all-consuming love for the subject as a sustaining force for staying a committed and enthusiastic teacher. In addition, Tyree's (1996) research reveals that committed teachers show their passion by doing something «extra», that is, an investment outside of what is being expected, for instance, put more effort into lesson preparation or attend conferences and workshops and read up on related topics.

The last term of teachers' commitment we like to address relates to subject *enthusiasm.* In their research, Kunter, Frenzel, Nagy, Baumert and Pekrun (2011) examined subject enthusiasm (i.e., topic-related enthusiasm) and the authors argue that enthusiasm for the subject varied independently of the characteristics of the class taught. Their view on subject-specific enthusiasm is conceptually close to the component of individual interest in the subject –i.e., an experiential component of joy during engagement with the subject (Kunter *et al*., 2011). Other researchers as well coincide teacher interest with teacher enthusiasm for a subject (e.g., Krapp, Hidi & Renninger, 1992).

4. Conclusion and discussion

In sum, the focus of this review was on a conceptualization of the relationship between the teacher and the subject taught in empirically oriented educational research. We were able to distinguish four different thematic fields in the research on the teacher-subject relationship: teachers' *knowledge* of the subject, teachers' *beliefs* on the subject, teachers' *emotions* on the subject, and teachers' *commitment* to the subject. Most research on the teacher-subject relationship is situated within the first thematic field of teachers' knowledge of the subject. This research is typically rather technically oriented and aims to contribute to effective didactics. Although more broadly oriented, in this sense it is rather close to subject-matter didactics. A notion that is frequently used in this sort of educational literature to describe the knowledge that teachers particularly need to teach their subject is «pedagogical content knowledge» (Shulman 1986, 1987). It refers to the knowledge of a teacher to translate particular subject matter taking into account specific conceptions and learning difficulties of students. Scholars agree that a good teacher «knows» his subject, and as a consequence, this kind of research seeks to contribute directly or indirectly to the knowledge base of (pre-service) teachers. Describing the relationship of a teacher with his subject in cognitive, or more broadly, knowledge-mediated, terms is of course a very specific, and rather technical, way of looking

at this relationship as well as at teaching and (often also) teacher training. In this respect, there is a kind of complementary line of research that explicitly claims and attempts to verify empirically that teaching is more than a cognitive endeavor; it is also highly charged with «feeling». The second, third, and fourth thematic fields hence refer to how and to what extent the relationship between the teacher and the subject taught is also «affective-mediated». Research within these thematic fields makes use of notions such as «beliefs», «emotions», «commitment», «identity, «authenticity», «love», «passion», «enthusiasm», and «interest» to describe empirically the teacher-subject relationship. Clearly, it could be argued that this kind of research relates in a different way to possible contributions to teaching and teacher training. One could argue it is more about raising awareness and reflection then knowledge development. Furthermore, within this affective-oriented literature, a large body of research is devoted to teachers' beliefs about their subject (i.e., the second thematic field), whereas research on teachers' emotions towards the subject (i.e., the third thematic field) and on teachers' commitment to the subject (i.e., the fourth thematic field) is rather scarce. Perhaps, it is not surprisingly that most research with an orientation towards affective issues is related to teachers' beliefs about their subject. One reason could be that beliefs are probably most closely related to teachers' cognitions (McLeod, 1992). Secondly, beliefs, more than emotions and commitment, can be more easily captured, for instance, by means of questionnaires that are often used in the empirically oriented research that is reviewed in this article. The latter of course should be evaluated more as a limitation of the methodology as well as an orientation of the research then as actually a statement about what is and what is not important in the teacher-subject relationship. A final reason could be that issues related to emotions, but foremost the issues related to «commitment», belong to a more ethical (inter)subjective-related and partly normative register and hence are very difficult to conceptualize on (rather overt) empirical grounds as well as to translate to the field of practices (for instance, teacher education) (Geerinck, Masschelein & Simons, 2010).

In line with these rather general findings, we want to conclude with three issues that are in our view important for further research. First, the lines of empirical educational research «in between» subject matter didactics and educational philosophy are relevant to explore and conceptualize in more detail the relationship between the teacher and the subject taught, however, it is important to take into account their rather cognitive and instrumental orientation even when addressing affective issues. Second, it could be important not just to focus on the main theoretical orientation of the research (that is, cognitive or affective), but to take into account as well its practical orientation, that is, its (direct or indirect) contribution to the field of practice (e. g. teacher training). Although further exploration is needed, it is possible that the «expected» or «societal appreciated» contribution actually orients the research, and today foremost stimulates research on knowledge-based development of future (effective) teachers. Third, in the conceptualization based on our review we made a somewhat rudimentary, analytical distinction between

teachers' knowledge of, beliefs of, emotions on, and commitment to the subject. It is obvious of course that these distinct dimensions closely interact in the act of teaching (as an illustration, see Zembylas, 2007). And only rarely has research paid attention to the relation between these distinct dimension. At this point, we however do not just argue for a kind of (popular) holistic or mixed research design that simultaneously addresses the four distinguished thematic fields. Although worthwhile in the long run, it is our contention that first it is important to elaborate on each of the theoretical ánd practical assumptions of the various thematic fields, and to confront it at once with research lines –both «classic» subject matter didactics and «speculative» philosophy of education– that claim similar thematic field but on different grounds.

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