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A photograph of three young women in a chemistry laboratory. They are gathered around a Bunsen burner and test tubes. The woman on the left is holding a test tube with a red liquid. The woman in the middle is holding a test tube with a red liquid. The woman on the right is holding a test tube with a red liquid. They are all looking at the test tubes. In the background, there are posters on the wall, one of which says "Bessere Aufnahme des neuen Farbstoffes!" and another says "Bessere Ergebnisse...".

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The structure of teacher knowledge in religious education: a qualitative reconstruction of the knowledge teachers refer to in planning religious education

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Abstract

Professional knowledge is a prominent topic of research in subject specific didactics that originated from mathematics education. In the discourse on religious education, however, there are no empirical studies to reconstruct such knowledge bottom-up from religion teachers' practice. This paper addresses that desideratum and investigates the suitability of the concept of professional knowledge for religious education. Theoretically based on Baumert and Kunter's structural model of teacher knowledge (2006) and empirically conducted through Problem-Centered Interviews (Witzel 2000) with three religion teachers after planning an instructional sequence on Jesus Christ it elaborates a tentative structural model of religion teacher knowledge. According to the empirical results reconstructed by Qualitative Content Analysis (Mayring 2000), the concept of CK has to be amended by an epistemological dimension. PCK in the domain of religious education is more about instructional principles than instructional strategies and includes the teachers' perspective on the instructed topic. In consequence, the tentative structural model of religions teacher knowledge supports the assumption that such knowledge is domain specific.

Keywords

religious education, teacher knowledge, content knowledge, pedagogical content knowledge, qualitative content analysis method

1 Introduction

One consequence of the PISA-studies has been a discussion on what teachers have to know to plan instruction on a professional level. Although there is vivid research on the structure of such knowledge in both educational sciences and subject specific didactics, the corresponding research in religious education, however, is still in its infancy. In this chapter, we will outline the current educational discourse on teacher knowledge and on religion teacher knowledge to formulate our research question.

1.1 Teacher knowledge

In 1986, Shulman elaborates a new perspective on teacher knowledge by conceptualizing the two categories subject matter content knowledge and pedagogical content knowledge (1986 p. 9–14)¹. Subject matter content knowledge (CK) "refers to the amount and organization of knowledge per se in the mind of the teacher" (Shulman, 1986 p. 9). Pedagogical content knowledge (PCK) is about strategies to introduce,

¹ Shulman also defined a third category: curriculum knowledge. We do not refer to this category because our paper is not about curriculum knowledge.

represent and explain the subject matter. It also includes the knowledge about the perceptions and preconceptions of students. According to Shulman, such pedagogical knowledge partly depends on the subject matter it refers to.

From theoretical perspective, some scholars contest Shulman's distinction by arguing that CK is part of PCK (Fernández-Balboa, 1995; Hashweh, 2005; Hill, 2004; Lindmeier, 2011). According to this position, teacher knowledge always is related to instructional issues rather than of pure scientific character. Empirical support of this perspective comes from research that indicates that PCK is positively correlated to CK and the level of CK is a suitable indicator for the learning outcomes of the students. To focus exclusively on CK, however, does not explain good instruction comprehensively (Abell, 2007; Baumert et al., 2010; Turnuklu, 2007). Even more, empirical research proves that both of Shulman's concepts can be traced down in the teachers' minds (Baumert & Kunter, 2006; Blömeke et al., 2008). Although there is some positive correlation between CK and PCK, relevant studies end up in two solid factors each of them representing one of Shulman's categories.

Baumert and Kunter (2006) developed a structural model of teacher knowledge, based on five facets: (i) CK refers to the understanding of the subject matter how it is taught in the relevant type of school; (ii) PCK forms a separate category, made of the aspects of students' perceptions of the subject matter, knowledge on strategies how to explain such content, and knowledge about suitable tasks to solve the problems relevant to the scientific discipline; (iii) pedagogical knowledge is structured according to knowledge of student assessment, knowledge of learning processes, and knowledge of effective classroom management, (iv) organizational knowledge and (v) counseling knowledge haven't been conceptualized more in detail.

This model has been adopted by a lot of German scholars (e.g. Blömeke et al., 2008; Krauss et al., 2017; Riese, 2009). Other scholars, especially the researchers on didactics of biology (e.g. Breuker, 2013; Schmelzing, 2008; Oelgeklaus, 2012), discussed the Baumert-Kunter-Model to reconstruct the category of PCK. They extended the meaning of the third aspect from "knowledge about tasks" to "knowledge of topic". Being acquainted with suitable tasks to foster the students in solving domain specific problems is important but not comprehensive. Additionally, teachers have to be familiar with the potential of the topic the instruction is about. Expert teachers know how to structure a theme that students are able to deal with it properly. Then, Oelgeklaus (2012) added a new dimension to PCK. In her thesis about climate change, she found that the biology teachers' individual perspective on that topic explained much of the way how they teach that topic. In consequence, the teacher's perspective on the theme could be a fourth dimension of pedagogical knowledge. These variations of the Baumert-Kunter-Model show that the particular structure of teacher knowledge may depend on the subject instruction refers to.

1.2 Research on teacher knowledge in religious education

In religious education research on teacher knowledge is scarce (Fricke, 2017, pp 300–302; Pirner, Scheunpflug & Kröner, 2016). The few relevant empirical studies vary in both their research questions and their conceptual models (Fricke, 2017; Heil, 2006; Hofmann, 2008; Klose, 2014; Riegel, 2013). There is, however, a theoretical discourse on

religion teachers' competencies. For instance, Tzscheetzsch (1999, p. 4) argues, that competent teachers have to be fit in theology, be able to structure and coordinate learning processes and to be a suitable role-model as believer. Doedens and Fischer (2004) claim that professional teachers are competent in theology, didactics, methods, diagnostics, collaboration with colleagues of other subjects, and offer a personality that helps the students to find their individual perspective on faith and belief. Englert (2005) formulates eight dimensions of teachers' professionalism: personal ethos, structuring the process of learning, theological knowledge, pedagogical ethos, communicative competence, a repertoire of instructional strategies, diagnostic competence, and the ability to reflect instruction critically. Hoffmann (2008) conceptualizes the competence to teach religious education on professional level according to the dimensions of theological competence, didactic competence, competence in methods and competence in media. Ziebertz (2010) distinguishes between pedagogical-didactic competence, theological-didactic competence, and personal competence. Recently, six German scholars of religious education summarized the relevant discourse in the comprehensive volume *Teaching Religion on a Professional Level* (Burrichter et al., 2012). The chapters of this volume address the following competencies: theological-didactic competence, theological competence, spiritual competence, didactic competence, pedagogical competence, diagnostic competence, evaluative competence, communicative competence, organizational competence, and innovational competence.

A scan through these conceptualizations of professional competence reveals that there is no shared model of religion teachers' professional competence, yet. However, there are some features of this competence each conceptualization refers to somehow. First, each conceptualization includes a decent knowledge of theological facts, concepts, theories and methods. This aspect could be labeled theological competence. Second, all conceptualizations mention the competence in organizing and structuring religious learning. This aspect could be labeled didactic competence. Third, the conceptualizations refer to the educational quality of religious education, which could be labeled pedagogical competence. Finally, every conceptualization takes into account that religious education in Germany is denominational. Therefore, the personality of the teacher is an important factor in religious education because it is the teachers' credibility in religious affairs which authorizes the relevance of the taught content. This aspect could be labeled personal competence or spiritual competence.

Some similarities between this list and the model of Baumert and Kunter (2006) are obvious. In the realm of professional knowledge, theological competence resembles CK, didactic competence could be seen as a form of PCK, pedagogical competence could include the same features than pedagogical knowledge. However, no contribution of the comprehensive volume from 2012 refers to the model of Baumert and Kunter (2006). This is of particular interest because in 2009 Scheunpflug, a scholar from educational sciences, offered a first sketch on how the Baumert-Kunter-Model could be used by the discourse of religious education to conceptualize teacher knowledge on a professional level. Even more, all the contributions of *Teaching Religion on a Professional Level* do not even mention relevant literature from educational sciences or relevant studies from other subject specific didactics, except Manfred Pirner's contribution. He gives a review of the relevant discourse. This contribution, however, is not incorporated by the other contributions of this volume.

1.3 Research question

Summing up, professional knowledge is a prominent topic of research in subject specific didactics. There is consensus that CK and PCK are important features of the teacher's professionalism. In this regard, most studies incorporate the conceptual distinction of Shulman (1986). In Germany, the model of Baumert and Kunter (2006) is of particular importance. It stimulated both empirical research and conceptual designing of professional knowledge. Given this picture, the discourse of religious education is exceptional. It discusses the issue of the teacher's professionalism, too, but hardly refers to relevant models from both discourses that of educational science and that of subject specific didactics. In consequence, some theoretical reflections loosely refer to CK and PCK. Few empirical studies offer a deductive concept of both categories in the realm of religious education. Although these three studies could affirm their concepts on exploratory samples, there is no empirical evidence whether these concepts cover the entire spectrum of CK and PCK used by religion teachers to plan and instruct their teaching. There are no empirical studies to reconstruct CK and PCK of religion teachers in a bottom-up process. Inductive research building upon the practice of teachers is missing. This desideratum of research in religious education is addressed by this contribution. It answers the following research question:

Which are the fundamental dimensions of CK and PCK which religion teachers use to plan their instruction?

The answer to this question is of particular interest because it reveals whether and to what extent religious education is alike other subject specific didactics. For instance, according to Baumert (2002) religious education addresses a different approach to reality than sciences, literature, etc. It is characterized by a rationality of its own kind. In consequence, it could be expected that both CK and PCK in religious education include particular dimensions of its own kind.

2 Empirical design

In this section, we describe the design of the study, its heuristic model, the method of data analysis, and the sample.

2.1 Design of the study

Since there is hardly any empirical data about the structure of religion teachers' professional knowledge we opted for a qualitative design gathering the data by interview. We applied Problem-Centered Interview (PCI), a semi-structured type developed by Witzel (2000). It is known for uncovering the individual perspective of the interviewees while focusing on the research problem (Mayring, 1996). Thus, the PCI is convenient for our survey because we have access to a quite clear concept of teacher knowledge, but have no information about the domain-specific aspects of religious education.

We conduct the PCI with religion teachers right after having planned an instructional sequence. Planning refers strongly to the teacher's knowledge. Moreover, in planning the teacher is free to choose the aspects of subject matter to be presented, to highlight particular aspects of that matter, to deploy a distinct teaching choreography, etc. An

instructional sequence is comprehensive in regard of a particular topic. The teacher has to justify why s/he is highlighting a particular aspect of the subject matter and skipping another. By interviewing teachers right after having planned an instructional sequence, we are able to reconstruct the structure of teacher knowledge at the moment when it should be reactivated at its best by the teachers.

We asked our interviewees to plan an instructional sequence on Jesus Christ. This topic needs to be instructed according to constitutive rationality. Besides informative tasks the theme of Jesus Christ refers to the question why Christians take this man as Son of God. Moreover, in denominational religious education the students are invited to clarify their individual perception of this key figure in Christian doctrine. Therefore, the theme of Jesus Christ offers perfect access to the various dimensions of CK and PCK that is required to plan religious education.

2.2 Heuristic model

Although there is hardly any empirical data about teacher knowledge in religious education our study can build on evidence from research in other subject related didactics. As described in the previous paragraph, the structure of teacher knowledge has been conceptualized already (c.f. Fig. 1). The core of teacher knowledge is CK and PCK. Both dimensions can be structured according to particular aspects. If CK is regarded, most scholars distinguish substantive aspects from syntactic ones (Shulman, 1986, p. 9). Substantive aspects refer to the facts, concepts and theories that constitute the scientific discourse. Syntactic aspects refer to the principles and methods how knowledge is produced and how the relevance of facts within the scientific field is determined. PCK normally is structured according to three aspects, namely instructional strategies, the students' (pre-)perception of the subject matter, and the tasks' difficulty.

Sometimes the dimension of tasks' difficulty is replaced by the topic's potential. This change is of particular relevance in subjects from the humanities because there the learning effect depends on which aspects of the theme are highlighted by the teachers. Since religious education depends on such highlighting our heuristic model will use the label of *topic's potential* (Fig. 1). The italics indicate that this label may be contested.

Finally, Oelgeklaus (2012) added the aspect of *teachers' perspective on the content taught* to the category of PCK. Since in religious education it is said that the teacher's individual belief is an important factor we add this dimension to our heuristic model, too (Fig. 1). Again, the italics indicate the exploratory character of this dimension. It could be verified by the data or not.

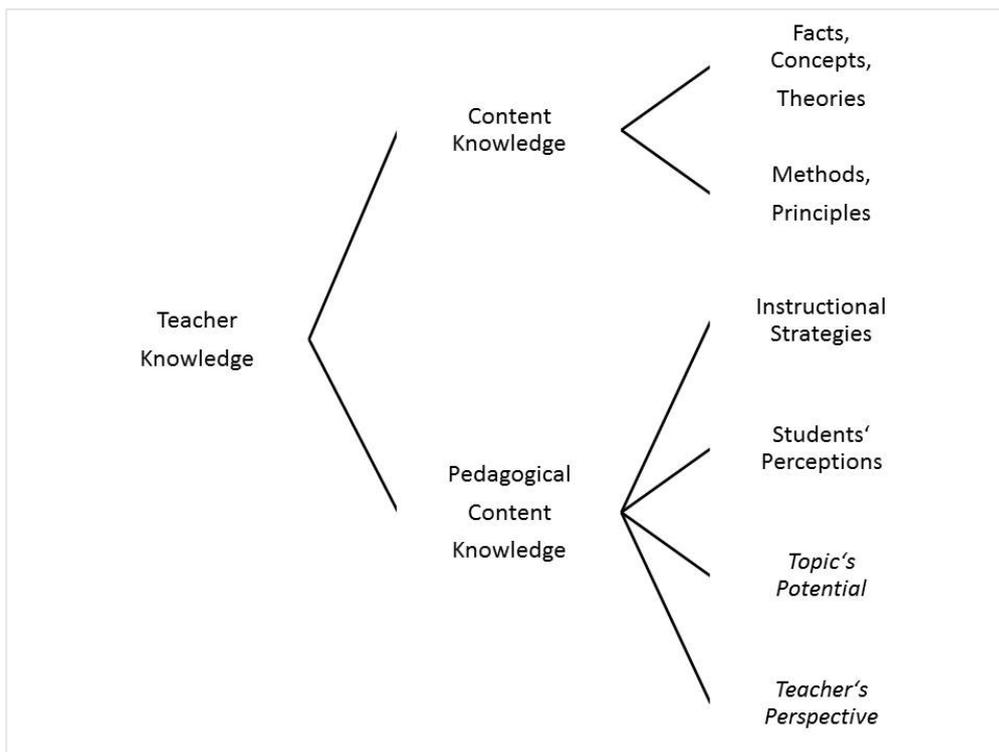


Fig. 1: Heuristic model

Our study uses this model in two respects. On the one hand, we construct the interview guideline for PCI according to this model. On the other hand, the heuristic model forms the frame of reference in data analysis because it informs the construction of categories.

2.3 Data analysis

The analysis of the interview transcripts has been conducted according to qualitative content analysis (Mayring, 2000). This method provides three steps to create categories of the verbal material on a reliable level. These steps are (1) summary, (2) explication, and (3) structuring.

(1) In the summary (cf. example in Tab. 1) the verbal data is reduced to its main topics. First the interviews are structured according to segments. A segment represents an entity of meaning. These segments can range from some words to whole stories which include several sentences. Then, these segments are paraphrased. The goal of paraphrasing is to work out the core information of the original quote and to get rid of unimportant information. However, the wording of the paraphrase still is oriented at the wording of the transcript. Afterwards, the paraphrases are brought into a more abstract form by generalisation. The generalisation turns the paraphrase into a label that uses domain-specific language and terminology. In consequence, the generalisation marks the step from in-vivo wording to conceptually informed wording. Finally, generalisations are turned into codes by focussing on the conceptual core of the generalisation. Normally, such codes are represented by few terms and refer to more than one generalisation. They are the first step to reduce the complexity of the data by labelling similar generalisations with one code.

Tab. 1: summary – step 1 of qualitative content analysis

Segment	Paraphrase	Generalisation	Code
<p><i>“Jesus wasn’t existing, Jesus isn’t the son of God, resurrection is only accepted when, only spherical, the corporal resurrection, what does that actually mean, this would be again a point to discuss, okay Jesus walks over water, Jesus ascended into the sky, these things, this whole rubbish, what classically is said, Jesus had an affair with Mary Magdalene, yes, that’s what comes up very often”</i></p>	<p>When students talk about Jesus they say, that he wasn’t existing, he isn’t the son of God, that his resurrection was spherical, not corporal, that he was able to walk over water, ascended into the sky and had an affair with Mary Magdalene. I think some of the students’ interpretations are rubbish.</p>	<p>Natural interpretation of miracles (resurrection)</p>	<p>students’ perceptions</p>
		<p>Literal interpretation of miracles (walk over water, ascension)</p>	
		<p>Pop-cultural image (affair with Mary Magdalene)</p>	
		<p>Refuse traditional truth claims (Son of God, historical Jesus)</p>	<p>students’ attitudes</p>
		<p>Refuses student interpretations about Jesus</p>	<p>teacher’s attitude</p>

Legend: the segment is from the interview with teacher 2.

(2) In the analytical step of explication, the context of the codes is analysed. This means that the researcher describes where in the interviews the code can be found and how this context adds to the meaning of the code. The aim is to understand in which circumstances the interviewees talk about the relevant topic.

(3) The last step of qualitative content analysis compares similar codes and allocates them according to categories (cf. example in Tab 2). Therefore, codes that refer to a shared topic are assigned to a common label which forms the overarching category. In this process a structure evolves with the categories as basic entity and the codes as sub-categories.

Tab. 2: structuring – step 3 of qualitative content analysis

In the interviews various codes refer to the students’ perspective on Jesus Christ. Going through these codes five aspects can be distinguished: (i) the students’ perceptions of Jesus Christ, that is the students’ prior knowledge about Jesus, (ii) the students’ attitude towards this person, (iii) the students’ developmental ability to deal with Jesus as a figure of belief, (iv) the students’ motivation to deal with Jesus Christ as subject matter of religious education, and (v) the diagnostic tasks the teachers mention to get access to the mentioned aspects of the students perspective on Jesus Christ. These five categories represent finally what the teachers expressed about students in the context of teaching religious education. Comparing these aspects they share the common theme that they all refer to the *students’ perspective on the subject matter*. Therefore the category is labelled accordingly.

In the heuristic model of our study this perspective is represented by the *dimension PCK 4*. In the reconstruction of the model it was an open question whether this dimension is predominantly cognitive like conceptualized by Baumert and Kunter (2006) or whether there are further aspects like identified by Oelgeklaus (2012). According to our finding the structure of PCK 4 is more complex than just about cognitive issues if the domain of religious education is regarded.

2.4 Sample

The sample of our explorative study comprises three teachers of religious education.² The two female teachers got a regular teacher education at university, passed a two years internship and show a teaching expertise of more than 15 years. The male teacher holds a university diploma in Catholic Theology and got an education in pastoral care. Recently he is employed by the Catholic church and teaching religion is part of his job. All three teachers planned a sequence on Jesus Christ addressing students of 10th grade (15 to 17 years) in Realschule. All students come from comparable social contexts representing life in small to medium sized municipalities. The interviews have been conducted in 2013/14.

3 Results

In this chapter, the findings of the analysis will be described. We could reconstruct 19 codes by Qualitative Content Analysis, six of them representing categories of CK and twelve categories of PCK.

3.1 Content knowledge

According to the heuristic model CK includes the two categories *facts, concepts & theories* and *methods & principles* (Fig. 1). On the one hand, our results support this structure, because four of the codes represent these categories. On the other hand, we have to extend the concept of CK because two further codes didn't fit into the given categories. We therefore establish a third category: *epistemology*.

Facts, concepts & theories: three codes match perfectly into the threefold structure of this category. First, our teachers mention many facts about the life of Jesus, the biblical references of this life, etc. These findings make up the code *facts*. Then our interviewees are well informed about theological concepts on Jesus, on the relevance of biblical stories, on Christological labels, etc. These results clearly represent the code *concepts*. Finally, the teachers refer to theological theories that connect particular concepts and offer a unique perspective on Jesus of Nazareth. Such findings establish the code *theories*.

Methods & principles: regarding the second category of the heuristic model, we could allocate just one code. In terms of method, our interviewees mention that the exegetical methods of historical critique are an important tool to shed light on the biography of Jesus of Nazareth. Therefore, a code *exegetical methods* could be formulated. However, there are no findings in the interviews that refer to alternative methods or to principles of theological reasoning. In consequence, the category *methods & principles* can be

² The paper uses data from a bigger project that analyzes the entire pedagogical action of planning, instructing and reflecting religious education. The sample of this project had to be restricted to three teachers to be able to manage the manifold data. Since the character of this paper is exploratory, we regard the small size of the sample as satisfactory to give first insight into the structure of religion teachers' CK and PCK.

found in the teacher knowledge of our interviewees, but is not elaborated at a complex level.

Epistemology: two further codes, however, indicate a third category of CK to be basic in regard of teacher knowledge in the domain of religious education. First, our interviewees reflect the particular character of religious expressions and terms. They mention the problem that on the one hand believers claim such expressions and terms to be true, on the other hand the truth of such expressions and terms cannot be proofed according to scientific standards. This poses a dilemma in religious education. Such findings made us formulate a code *truth claim* reflecting the particular character of religious expressions. Second, our interviewees express their respect of the students' religious freedom. They are convinced that religious education must not impose religious truth on the students. Religious education has to respect the students' personal belief because belief by nature is individual. The relevant code is labeled *religious freedom*. Both codes *truth claims* and *religious freedom* share an epistemological perspective. In the relevant findings, the teachers do not stress the instructional consequences of both categories. They express the particular character of religion which determines a basic condition of religious education. Therefore, both codes refer to CK and resemble an epistemological category.

3.2 Pedagogical content knowledge

Theoretically PCK can be structured according to the four categories *instructional strategies*, *students' perceptions*, *topics' potential* and *teachers' perspective* (Fig. 1). Our empirical results support this four-dimensional structure. Moreover, our findings indicate to expand the meaning of the first category and to label it *instructional principles & strategies*.

Instructional principles & strategies: our teachers talked exhaustively about instructional strategies, as could be expected according to the context in which we interviewed them. The relevant code has been labeled *instructional strategies*. However, the teachers did not restrict themselves on strategies only. They also mentioned basic principles regarding religious education. For example, they report – in quite high conformity – that they plan to correlate the learning content to the students' all-day life and to help the students to develop a good life perspective. All such reflections go beyond the level of distinct strategies. They express a level of seminal reasoning which refers to principles rather than strategies. Therefore, we labeled the relevant code *instructional principles*. Both codes make up the relevant category of the heuristic model if religious education is regarded. We therefore opted for relabeling this category accordingly.

Students' perspectives: in the heuristic model, this category is of predominantly cognitive character. It includes the students' prior knowledge and their perceptions in regard of the content taught. Our analysis produced five codes referring to this dimension. There is one code about *students' perceptions* indicating that religion teachers bear in mind the students' prior knowledge when planning a sequence. This code, however, does not represent the whole spectrum of aspects our interviewees refer to in planning. They also reflect the *students' attitudes* to the subject matter because they are convinced that effective religious education has to be sensitive to the students' opinion about such matter. Then the interviewees mention the *students' religious development* as

crucial factor in planning an instructional sequence. Finally, the teachers address the issue of the *students' motivation* or situational interest respectively. They are convinced that some topics are easier to instruct because they arouse the students' interest. All in all, the described codes have in common that they deal with the students' approach to the subject matter. Religion teachers provide a holistic view on the students' perspectives. In consequence, we change the label of that category from *students' perceptions* to *students' perspectives* to express this broader view.

Topics' potential: from a theoretical perspective, the teachers' knowledge about the attractiveness and the potential of single aspects of the topic taught interferes with planning instruction. This assumption is represented in our survey by four codes: *main aspects*, *thematic structure of sequence*, *tasks' potential* and *thematic context of RE*. The teachers explain in the interview which aspects of the learning content are that important that they will be part of the sequence (*main aspects*). Besides this, they talk about the order of such main aspects and how the lessons itself are shaped. The arc of suspense in the learning arrangement is discussed and how this is realised in the single lessons (*thematic structure of sequence*). Another aspect of the teacher's planning is the *tasks' potential* like it was conceptualized by Baumert and Kunter (2006). Typical references for such evaluations are the tasks offered by text books and further didactic material. Finally, the teachers think about how the topic is connected to other topics specific to religious education. They justify their selection of thematic aspects and the particular approach towards this theme in reference to such topics (*thematic context of RE*). The four codes support previous findings that indicate that the relevant category of PCK has a more holistic profile in some subject-specific didactics than just focussing on typical tasks.

Teachers' perspective: originally, this category wasn't part of the Baumert-Kunter-Model, but was added by a survey with biology teachers about climate change. We assumed in our heuristic model that this could be verified by our data, too. And so it is: we had two codes left which fit perfectly into this category. The first code *theological preferences* contains the teachers' theological attitude about the topic. The teachers report that these attitudes influence their decisions in the instructional planning phase. For example, some interpretations about Jesus Christ were excluded from instruction because they don't match the teachers' personal belief. The second code refers to the participants' *theological unease*. The teachers are aware that they deal with particular content which may cause conflict in religious terms according to both the students' (and their parents') individual belief and the Catholic church's doctrine. They mention that they avoid some aspects of the content taught because they do not feel fit to defend themselves by theological reasoning if such conflicts occur. Both codes define the category of *teachers' perspective*.

Discussion

This paper raises the question of the structure of teacher knowledge. Baumert and Kunter (2006) developed a relevant model which had great impact on subject specific research. However, this model has been elaborated in the context of mathematics and the question is whether the particular rationality of this scientific domain is

representative of other domains. If religious education is regarded, our findings indicate some extensions of this model.

First, our findings reproduce the basic distinction between CK and PCK. This does not include that the distinction between CK and PCK is comprehensive in regard of religious teacher knowledge. Like research on religion teachers' competencies indicates, one may find pedagogical knowledge, organizational knowledge, diagnostic knowledge etc., too (Doedens & Fischer, 2004; Englert, 2005; Klose, 2014). However, our exploratory study supports prior findings that the theoretical concepts of CK and PCK represent real dimensions of religion teacher knowledge (Fricke, 2017; Hofmann, 2008; Riegel, 2013).

Regarding CK, teachers of religious education show a complex structure of professional knowledge. Religion teachers have in common with their colleagues of other domains that knowledge on facts, concepts and theories is important as well as knowledge about domain specific methods and principles. However, at least the teachers of our sample additionally raise the issue of epistemology. They are aware of the particular character of religious knowledge. The prominence of the reflection on this character justifies a third dimension of CK. It refers to the particular character of religious rationality. This rationality is based on subjective credibility insofar its metaphysical grounds cannot be assessed within the framework of natural sciences (Kropac, 2012). The axiomatic grounds of religious rationality are life experiences that induce the conviction that there is something more than the immanent world. Theology is the discourse to reflect such convictions according to a rational logic (Schärftl, 2009). However, the epistemology of religious arguments does not follow the rationale of natural sciences. Since recent times are secular (Taylor, 2007), religious reasoning has to be justified because it does not match the rational requirements of secularity. According to our findings teachers of religious education are aware of this particular societal constellation and reflect the specific character of theological concepts and arguments. The epistemological dimension seems to be an essential part of their CK. From a pedagogical perspective, it is this epistemological specialness of religious education that induces its constitutive character and offers a particular approach to reality that cannot be substituted by other scholastic domains (Baumert, 2002).

In regard of PCK our findings lead to two remarkable extensions of the Baumert-Kunter-Model. First, the dimension of instructional strategies has been expanded by instructional principles. Such principles are more abstract and more generic than strategies. Our interviews indicate that it is not enough for religion teachers to be well informed about instructional strategies. Moreover, they adopt basic approaches to teach religion by planning such instruction. On the one hand, this finding corresponds with recent handbooks of religious education which elaborate many of such educational principles (c.f. Hilger, Leimgruber & Ziebertz 2012, pp. 331–484). The holistic approach of our interviewees to the instruction of religion therefore may indicate an effect of teacher training and advanced teacher education. On the other hand this finding may again reflect the particular character of religious education. If the credibility of religious arguments depends on subjective rationality the choreography of religious education is a sensitive issue. In this regard it is straightforward that our interviewees are concerned with instructional principles additionally to instructional strategies.

The second extension of PCK refers to the teachers' perspective in regard of the instructional theme. Oelgeklaus (2012) added this dimension to PCK because the biology teachers in her sample did teach climate change according to their individual perspective on this theme. In religious education, there are many topics which fundamentally depend on an individual perspective. And our participants clearly expressed that their individual theology influences their planning and instruction of religious education. Therefore, there is empirical evidence of such a dimension. The question is whether the relevant empirical category represents a dimension of PCK or of basic educational beliefs. According to Baumert and Kunter (2006) professional knowledge is an aspect of professional competence as well as educational beliefs. By educational beliefs they conceptualize the teachers' attitudes regarding education and instruction. They form an important factor in regard of their teaching. And there is much empirical research on such beliefs in the discourse of religious education (c.f. Feige & Tzscheetzsch, 2005; Rothgangel, Lück & Klutz, 2017). Such beliefs, however, are independent from the theme which has to be instructed. They express general attitudes towards teaching and the subject that is taught. Our findings that make up the relevant dimension are clearly related to the theme of Jesus Christ. The interviewees express how their individual Christology interferes with their teaching and they are concerned about the irritations specific aspects on Jesus Christ may cause within the students. These findings are not of generic character but clearly related to the content taught. They do not represent general beliefs that may affect the typical approach towards religious education. The findings refer to perspectives and irritations caused by the topic of the sequence. In consequence, we allocated these findings to PCK. If so, the findings justify the amendment of this knowledge by one more dimension.

To sum up, our study indicates the dimensions of CK and PCK to be an appropriate heuristic distinction also in research in religious education. Adopting the conceptualization according to Baumert and Kunter (2006) by the discourse of religious education would enhance its inter-disciplinary character because relevant projects could refer to joint concepts. However, to grasp the particular character of religious education the conceptualization of both dimensions should be amended. In religious education CK is not only on *facts, concepts & theories* and *methods & principles* but also on *epistemology*. PCK additionally has to reflect the *teachers' perspective* on the theme and address instruction and tasks in a more holistic approach. All these amendments reflect the specialness of religious rationality. In this regard, our findings support the thesis that teacher knowledge is domain specific (Berliner, 2001; Bromme, 2001).

Do our findings indicate that religion teacher knowledge is a kind of its own? We do not think so. It was Oelgeklaus (2012) to suggest amending PCK by the dimension of teachers' perspective. Oelgeklaus' domain is biology or science respectively. The common feature between her theme (climate change) and the theme of our study (Jesus Christ) is that both discourses are characterized by various approaches to the topic and by conflicting theories to explain the subject matter. In consequence, it is likely that the particular structure of teacher knowledge depends on the degree of hermeneutical freedom in both the domain and the theme of the instructional sequence. Mathematics – at least at school level – seems to be a domain of restricted hermeneutical freedom. The curriculum is consecutive and the mathematical routines to be instructed are clearly described. Religious education, instead, does not have a consecutive curriculum and there is much variety within the topics to be instructed. The degree of hermeneutical

freedom in religious education should be greater than in mathematics. However, with the degree of hermeneutical freedom also the need to justify the selection of topics and line of reasoning rises. According to our assumption, this causes the amendments in our model of teacher knowledge. Whether this assumption is true further research has to be done.

Further research on the structure of teacher knowledge is needed also in the domain of religious education. Our study is explorative and therefore of limited significance. We interviewed only three teachers that teach Catholic religious education in one particular type of German school. In consequence, our structural model of religion teacher knowledge is a tentative model that has to be approved or falsified by further research on bigger and representative samples. Our study is just a first step into this direction.

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