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GENERAL PEDAGOGICAL KNOWLEDGE OF AUSTRIAN TEACHERS

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Abstract

General pedagogical knowledge (GPK), as teachers' basic professional knowledge, has a significant influence on sustainable learning and teaching. Rapidly accelerated processes of change encourage teachers to reflect on their GPK. The aim of this paper is to discuss the current understanding of Austrian teachers' GPK in their everyday school practices and point out the challenges they experience. The study is based on a qualitative reconstructive approach that involves interviews and observations. Previous findings have shown that a reconstructive approach provides an understanding that complements existing studies and conceptualizations of GPK. The study also presents further outcomes in terms of the central meaning of interactional processes, a student orientation, and factors and challenges that influence GPK. The challenges involve in particular the requirements raised by current transformation processes and emphasize the necessity of a continuous process of professional learning.

Keywords

general pedagogical knowledge, Austria, qualitative reconstructive study, school practice, professional learning

Introduction

General pedagogical knowledge (GPK) is the basic professional knowledge used by teachers for dealing professionally with diverse pedagogical tasks and requirements in the classroom (Darling-Hammond, 2000). Studies have demonstrated the significance of this particular form of knowledge and attested to the effects that teaching quality and sustainable learning have on student performance (Guerrero, 2017). Rapidly accelerated processes of change encourage teachers to reflect on their GPK. As a mirror of society, the Austrian school system has to reflect situations of transformation (Eriksen, 2001; European Commission, 2018). The OECD (2005), Terhart (2013), and the UNESCO Teacher Task Force (2018) have described several socio-cultural processes of change that affect the formal level of education and teachers' GPK and that pose new challenges. These socio-cultural processes relate to increased geographical, social, and cultural mobility; the challenge of creating a self-determined active life; the increasing importance of acquiring key inter- and intrapersonal skills, problem-solving skills, and social and communicative skills in the workplace and in private life; dealing with cultural heterogeneity and diversity; an openness to lifelong learning; the diminished importance of care services; developments in technology; and dealing with the knowledge society. Socio-cultural transformation processes generate new tasks and requirements that influence teachers' understanding of education and count on their GPK remaining at a professional standard. In this context, teachers must reflect on the GPK that they can employ in their school environment to fulfil both the current and prospective requirements of their mission as educators.

According to Terhart (2013) and the UNESCO Teacher Task Force (2018), professional teachers must implement these new requirements to ensure sustainable education. Conway et al. (2009), Guerrero (2017), and Terhart (2013) have provided an overview of the current needs of teachers who should use their GPK to successfully implement new requirements in everyday school life. For example, they need to make the shift from teaching to learning, ensure school development and sustainable education, focus on the acquisition of soft skills, and promote individual learning or dealing with different cultures and heterogeneity. Kraler and Schratz (2012) demanded not only the further development of the profession, but also the adoption of innovative patterns so as to react professionally to changes and challenges by shifting from "best practice to next practice." The focus of teachers should be not merely on "good teaching," but on "effective teaching" (Terhart, 2013).

The current understanding of GPK is influenced mainly by standardized quantitative studies such as COACTIV and TEDS-M (König & Blömeke, 2010; Voss et al., 2011), which present different dimensions and constructs of GPK (Kunter et al., 2013; Voss et al., 2015). The timeliness of the constructs must be questioned regularly in view of the constantly changing requirements of transformation processes. Kraler et al. (2017) argued that existing normative studies do not adequately represent the complexity and central components of GPK or take into account current transformation processes and school practices. Hence, the current study aims to reconstruct the GPK of teachers teaching at different types of schools in Austria. Based on a qualitative reconstructive approach, this study offers a complementary understanding of the term GPK taken directly from everyday practice. It takes into account current requirements and points out the challenges that teachers have to overcome in order to guarantee successful teaching and learning, in the context of both current and potential developments.

Theoretical framework

GPK is considered to be the basic professional knowledge (Darling-Hammond, 2000; Shavelson, 2010; Shulman, 1987) and professional competence of teachers (Kunter et al., 2013). It is positively associated with the quality of instruction offered by a teacher and correlates with the learning success of students (Gitomer & Bell, 2016; Guerriero, 2017). In addition to the demands made on them as subject specialists, teachers are faced with many situations and challenges (as described in the introduction) where they have to act and react appropriately. In order to deal with these situations, professional GPK is required (Shulman, 1987; Voss et al., 2014). The concept of GPK has different definitions. Shulman (1987), who was one of the first to establish a comprehensive professional knowledge model for teachers, divided their professional knowledge into subject knowledge, pedagogical content knowledge, and GPK. He defined the latter (GPK) as one of three essential forms of teacher knowledge, comprising knowledge of classroom management, teaching, learning, and organization (Shulman, 1987). Shulman's understanding was expanded through further definitions, for instance those by Wilson et al. (1987), Grossmann and Richert (1988), Fennema and Franke (1992), and Morine-Deshimer and Kent (1999). Similarities in their approaches can be seen in the fact that they all defined GPK as generic knowledge and emphasized features such as learning, teaching, and classroom management. This understanding was further expanded by adding factors such as motivation and communication. Around 2000, this resulted in empirical studies such as

COACTIV,¹ TEDS-M,² and I-TEL TKS,³ which focused primarily on (pre-service) mathematics teachers and was developed to conceptualize and assess their GPK (Guerrero, 2017; König & Blömeke, 2010; Voss et al., 2011). The latest understanding is based on different conceptualizations and operationalizations that have increasingly been implemented in the context of competence orientation. Normative studies regard GPK as a multidimensional construct based mainly on dimensions such as classroom management, adaptivity, assessment, motivation, structure, and communication. In the context of competence orientation, Kunter et al. (2013) and Voss et al. (2015) drew up an expanded definition and formulated four different areas of GPK: (1) learning (motivation, emotional and psychology knowledge, heterogeneity, developmental psychology knowledge), (2) the class as a complex social structure (management, communication, social conflicts), (3) methods for teaching and learning (evaluation and diagnosis), and (4) the design of learning environments (spatial, material, media design).

The present study

The aim of the study reported on in this paper was to reconstruct the GPK of Austrian teachers in everyday schools and in the context of current transformation processes by adopting a qualitative reconstructive approach. Given the use of practice-oriented research, the current knowledge of teachers and a diverse and complex understanding of GPK had to be determined. In view of the above discussion, the research question addressed in this paper was: How do practising teachers define their GPK and what challenges do they face?

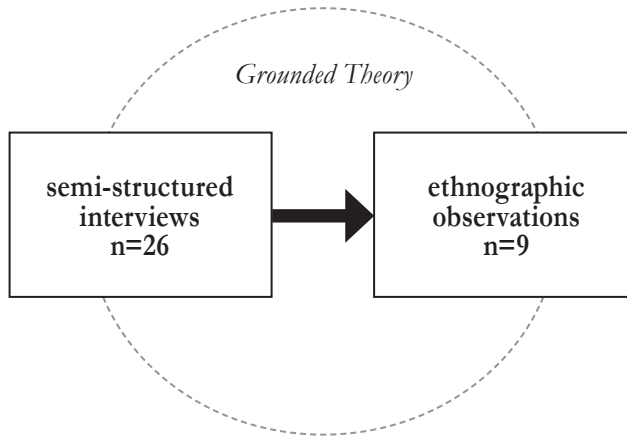
Methodology and sample

The study used a qualitative reconstructive theory-building process to present everyday school practices and to reconstruct the understanding and challenges of the GPK of Austrian teachers. The methodological approach was based on the theory-generating process of grounded theory (Glaser & Strauss, 1967), and data were collected through interviews and observations (see Figure 1).

¹ Professional Competence of Teachers, Cognitively Activating Instruction, and Development of Students' Mathematical Literacy.

² Teacher Education and Development Study in Mathematics.

³ Innovative Teaching for Effective Learning – Teacher Knowledge Survey.

Figure 1*Qualitative instruments and analysis*

The approach involved 45-minute semi-structured interviews with 26 teachers and ethnographic observations of 9 teachers. In total, each teacher was observed for six days. The six days were divided into two segments of three consecutive days, with a pause of several months between the two segments. The number of teachers was based on the principle of theoretical saturation (Strauss & Corbin, 1996). New teachers were interviewed and observed until no further findings could be gained for the study. The data collection included teachers from different types of schools in Austria (i.e., primary schools [n = 9]; lower-secondary schools [n = 9]; and upper-secondary schools [n = 8]), different work experience (between 1 and 40 years), and different gender groups and subjects (science, humanities, and arts).

In the semi-structured interviews, teachers were asked about their understanding of GPK in terms of current developments and social, political, and economic transformations. The interviews were used to collect the teachers' individual understandings of GPK, and the focus was on the thoughts and concepts of the individual teachers. The observations illustrated the complex social reality and provided direct insight into everyday school practices so as to understand the teachers' actions.

The data collected from the qualitative reconstructive study were evaluated using grounded theory. The qualitative-reconstructive research method and the grounded-theory evaluation method complement one another ideally due to their common goal of hypothesis-generating procedures followed in the research process. Using grounded theory, this study focused on

developing a model, while the reconstruction of the teachers' GPK made it possible to reconstruct social processes from school practices. According to Glaser (2007), the collection of data, the generation of codes, the formation of categories, and the development of a model are part of a cyclical process. According to Glaser and Strauss (1967), the evaluation process is finished when the data present theoretical saturation in the development of new theories and no new content can be generated.

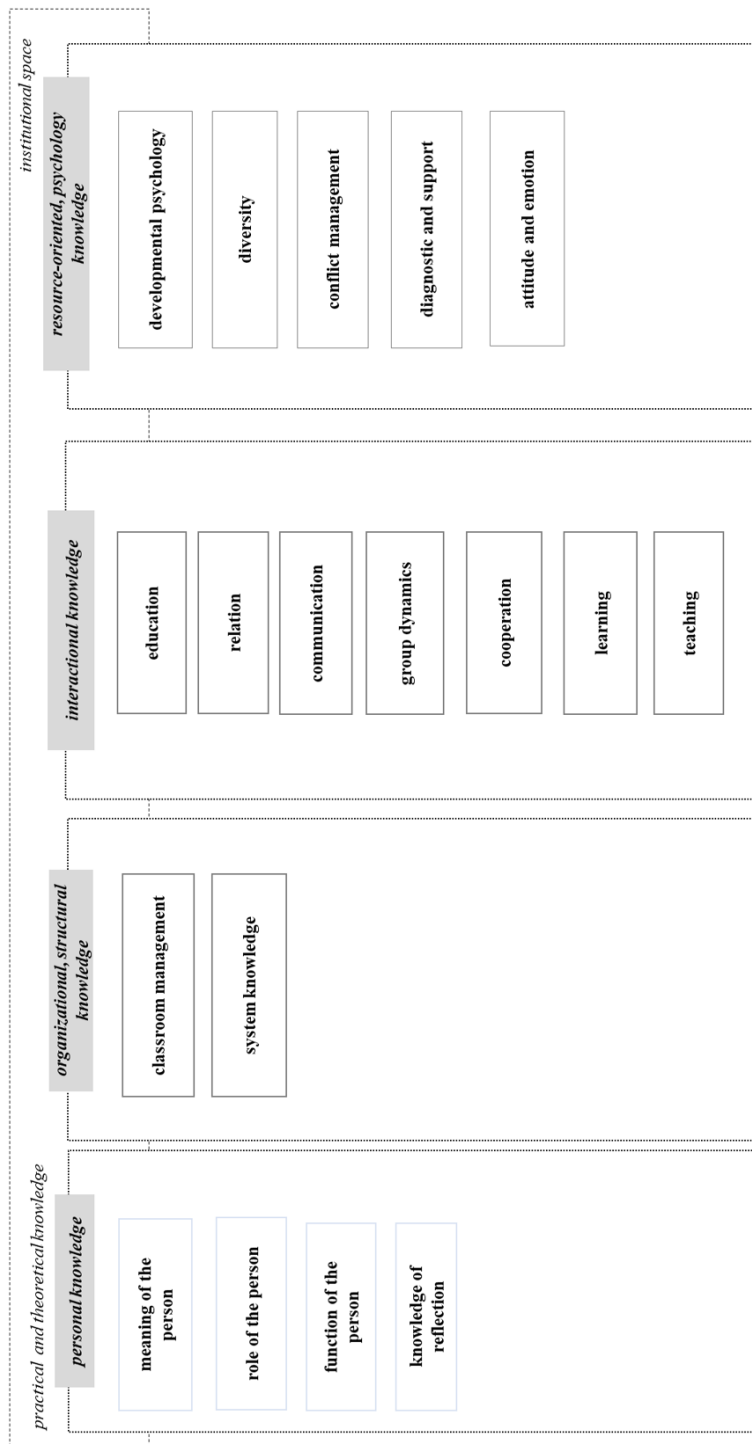
Findings

The findings obtained in this study were divided into two themes: understanding of GPK and the challenges of GPK. (Where relevant, the teachers' verbatim remarks about these themes are provided below.)

Understanding of GPK

The results demonstrated a complementary multi-perspective understanding of GPK. Compared to the criteria that emerged from previous studies such as COACTIV and TEDS-M (König & Blömeke, 2010; Voss et al., 2011) and from different conceptualizations (Kunter et al., 2013; Voss et al., 2015), this qualitative study presented an extended understanding of GPK (see Figure 2). In agreement with the available research, the interviewed teachers described GPK as multidimensional and subject-independent knowledge. A crucial finding of the study was that all teachers presented a different understanding. They defined GPK in accordance with their own experiences, theoretical knowledge, and reflective processes. Figure 2 presents the common reconstructive understanding of the term GPK as indicated by the interviewed teachers.

Figure 2
Reconstructed understanding of GPK



As is shown in Figure 2, the teachers argued that three of the knowledge fields—*theoretical knowledge*, *practical knowledge*, and *knowledge of the institutional space*—are fundamental to the other forms and create the basis for the fields *personal knowledge*, *organizational-structural knowledge*, *interactional knowledge*, and *resource-oriented psychology knowledge*. “My professionalization means that I always combine new theoretical knowledge with my knowledge of experience” (Interview 18). GPK “depends on each type of school and its structure, rules, and educational policy” (Interview 3).

The teachers argued that unless the basic knowledge fields had been mastered, GPK could not be developed and applied satisfactorily. The field institutional space referred to internal structures in primary and lower (intermediate) and upper (senior) secondary schools as well as to educational policy requirements at the macro level. The findings indicated that all reconstructed forms were important in each school type, but they differed in terms of their focus and requirements. Practical knowledge was based on experience-related pedagogical knowledge areas gained from professional experience, while theoretical knowledge was gathered from empirical theories about learning and teaching.

The multidimensional domains of all four categories are presented in a matrix (see Figure 2). Personal knowledge is subdivided into the knowledge subcategories *meaning*, *role*, and *function* of the teacher and *reflective knowledge*. Organizational-structural knowledge consisted of the knowledge areas *classroom management* and *system knowledge*. Interactional knowledge featured the most knowledge categories and its main contents were *education*, *relationships*, *communication*, *group dynamics*, *cooperation*, *learning*, and *teaching*. Resource-oriented psychology knowledge comprised the components *developmental psychology*, *diversity*, *conflict management*, *diagnostic and support knowledge* and knowledge of *attitude and emotion*.

The teachers in our study pointed out that focusing on the key factors of GPK involved not only them and their own behaviour, but also their students: “GPK should be oriented towards the students. Of course, this is the pedagogical knowledge of educators, but without a focus on the students, this knowledge is worthless in today’s society and in the understanding of current learning and teaching theories” (Interview 25).

As the above teacher argued, GPK could only be accomplished when students’ learning and education were considered. Taking account of the student perspective can be described as an essential finding for the sustainable realization of GPK. Another important factor in the realization of GPK that the teachers mentioned in the interviews was an interactive relationship between teachers and students:

The realization of GPK is based on different interaction processes between me as a teacher and the students. Without the students, GPK can't be implemented. The application always proceeds from the situation with the students and the situation that is needed to support the best possible learning process. (Interview 26)

The observations also indicated how GPK evolved from the interactions among the actors involved. The development of GPK was influenced by each of the participants in the class. Together, they shaped their own identity and structure, depending on the situation, to support a sustainable learning process and further the students' education.

Interactional processes were described as an essential factor that enhanced the teachers' professional learning. The participants suggested that student performance can be seen as a mirror of a teacher's GPK: "With their behaviour and interactions with their teacher and classmates, students demonstrate the GPK of the teacher" (Interview 15).

The GPK of teachers was clearly reflected in their students' behaviour and the ways in which they interacted with other people in the classroom. Examples of reconstructed forms of reflected GPK included the nature of communication in the classroom, the roles and attitudes of the people involved, and the teacher's classroom management. By reflecting, teachers were able to carry out the perspective takeover, get shown their knowledge through the students, and further develop their own professional behaviour and their GPK.

Challenges of GPK

In the interviews, teachers mentioned different challenges of GPK, involving *the role of the teacher, learning/teaching, technology, system knowledge, psychology, and diversity*. Diversity was described as a major challenge that teachers faced in all types of schools. In the interviews, teachers referred to the growth of a "colourful society:" "It is becoming more and more colourful and mixed" (Interview 3). They also mentioned the increasing heterogeneous nature of class structures as a result of the students' diverse backgrounds, language, learning levels, and personal development. In particular, they admitted to a lack of knowledge of didactic concepts and how to adequately deal with the heterogeneous structures in order to support learning in the best way possible: "What is important to us is multiculturalism, plurality. How do I deal with it? We are now experiencing diversity quite differently than before. It takes a lot of knowledge and the willingness to make cultural diversity be normal" (Interview 6).

The challenges in the category teaching and learning related to the pragmatic shift from teaching to learning. Teaching was no longer the primary focus as it had been replaced by self-directed, individual, and application-

oriented learning. The teachers mentioned that they found it difficult to eliminate old traditional teacher roles and cognitive patterns: “Children’s learning does not mean that, as a teacher, I know what a child needs to learn. Only the child knows, which, in my view, is a great challenge. I prepare lessons, and I don’t know what’s good, but you have to find out together what’s good and what students need” (Interview 5).

The teachers indicated that they needed extensive knowledge of how to support learning, to make their lessons effective and to support essential interactional processes between students and the teacher. They also suggested that new didactic constructs and methods must be introduced into the classroom. Frontal teaching with textbooks is not acceptable anymore. Instead, open formats that promote individual learning and independent learning have become the preferred forms of teaching. To this end, teachers were asking for more support on how to implement new didactic techniques and create an atmosphere that is conducive to learning in the classroom.

The interviewed teachers also mentioned challenges in respect to system knowledge. They mentioned that the educational landscape was changing and that developments affected teachers’ possibilities for action. They referred to the difficulty of adequately integrating the laws and reforms prescribed by educational policy into the classroom – for instance, regulations regarding all-day schools, new grading systems, and didactic concepts such as team teaching. In addition, the teachers complained about insufficient government support: “We are often left alone with new requirements and receive too little support” (Interview 20). The interviewed teachers often felt neglected and complained that they did not receive the necessary specific knowledge to cope with new requirements and changes.

Current social and economic transformation processes call for a professional approach towards technologies and their integration into everyday school life. The teachers indicated that they were faced with rapid technological developments and the constant use of media, all of which were generating new tasks: “The challenge is, because children are very involved with technology, how can I use it in school? Constructive” (Interview 17). Dealing with these challenges would require a media-savvy professional. The interviewed teachers themselves stressed their duty to contribute to the meaningful use of media. However, they admitted that they did not know enough about the operation and effective implementation of technologies in the classroom.

Teachers further stated that improving their personal knowledge, that is, knowledge about their own role and function, was a challenge. The interviewees referred to the difficulty of keeping up their own professional development. When discussing continuing education, the teachers complained about inadequate internal training programmes and training opportunities: “There are no further training courses at our school” (Interview 3).

In terms of attitudes, the respondents mentioned an insufficient level of reflectiveness among teachers and remarked that they often neglected to question situations. As one interviewee stated, “You need open and creative thinking” (Interview 5). Current developments require continuous personal and professional development in order to deal with new conditions professionally. The teachers also confessed that they struggled to find the perfect balance in their well-being: “It’s difficult as a teacher to find the perfect balance of well-being and also to place my own needs in the classroom” (Interview 17). In the interviews, the teachers described how difficult it sometimes was to separate their teaching job from their own needs and to identify their own needs.

The last challenge that teachers mentioned related to psychology knowledge. On the one hand, the interviewees reported that they were missing action strategies that could be used to help children to deal with problems and difficulties, and on the other hand, they addressed deficits in theoretical psychology knowledge: “I think it’s important that teachers be trained much more in theoretical psychology. Above all, action strategies are key, so I know how to deal with students in certain situations” (Interview 25).

The teachers also discussed the increase in mental health problems experienced by students. Students were increasingly bringing family and personal stories and problems into the classroom. They often lacked motivation and interest in their schoolwork or experienced violence and conflicts with their teachers and classmates. The teachers who were interviewed mentioned the difficulties they had in appropriately responding to and solving students’ problems.

Discussion

This paper discusses the understanding of the GPK of Austrian teachers based on everyday school practices. The research project used a reconstructive strategy to present a complementary approach towards everyday school practices as suggested in existing studies such as COACTIV or TEDS-M (König & Blömeke, 2010; Voss et al., 2011). The study supports the argument that GPK contributes significantly to teachers’ professional and sustainable teaching and learning (Guerrero, 2017). The collected data showed that a reconstructive perspective and understanding of GPK in professional practice would extend existing conceptualizations. Taking into consideration transformation processes in the twenty-first century, Figure 2 presents significant topics and forms of GPK in Austria—as described by Conway et al. (2009), Guerrero (2017), and Terhart (2013)—that have been insufficiently reflected in existing studies. Although the current study is a study with Austrian teachers, the results can be discussed at a European level when the applicable requirements and processes in each country are taken into account.

The fact that interviews and observations were combined contributes to the value of the study. If cognitive patterns can be reconstructed through interviews, the observations identify further practical knowledge that often cannot be named by the teachers. In the context of the existing study, it must be noted that all GPK principles (Kunter et al., 2013; Voss et al., 2015) were mentioned by the teachers. New findings from the study comprise the fundamental forms of GPK, i.e., practical knowledge, theoretical knowledge, and knowledge of the institutional space, which provide the basis for the realization of teachers' GPK. The new reconstructed fields are personal knowledge (including the constructs of the function, role, and meaning of teachers and their reflective competences), resource-oriented psychology knowledge (with constructs such as psychology, conflict management, diagnostic skills, and attitude and emotion), interactional knowledge (with the categories education, relationships, group dynamics, and cooperation), and organizational-structural knowledge (involving the area of system knowledge).

This study also presents further outcomes in terms of a student orientation and the underlying interactional process between teachers and students, both of which had not previously been discussed in relation to GPK. These outcomes can only be realized through an interactive process between the teacher and the students, and they highlight the significance of student-oriented knowledge (Conway et al., 2009). A key finding of the current study is that students mirror the GPK of teachers through their actions and behaviour.

This study demonstrates that the teachers all had their own individual understanding of the term GPK, depending on their own attitudes and understanding of teaching and learning. A professional attitude towards GPK was found to play a central role in educational knowledge and action; other factors that influenced GPK were structural conditions such as school type and political requirements (i.e., situation and person-related knowledge). In addition, the teachers highlighted challenges posed by GPK constructs with regard to transformation processes. They found it difficult to rapidly develop their knowledge to keep up with changing processes and new requirements. The teachers also complained that they had insufficient support and were subjected to social pressure. They mentioned a lack of further education, a professional self-concept, and balance in their well-being. To deal with these challenges, further education, cooperation with colleagues, and professional reflection on competence were necessary. According to Kraler and Schratz (2012), teachers should be encouraged to make individual contributions to current and future-oriented teaching, in order to move "from good practice to next practice." Ultimately, the professional development of (Austrian) teachers to enhance their GPK, attitude, and reflection competences was found to be necessary for sustainable learning and teaching.

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