Beginning Teachers' Appraisal of Professional Requirements and Implications for Teacher Induction in Switzerland

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Abstract
Beginning teachers are challenged by a new complexity of requirements they have to meet by entering their career as a newly graduated and fully responsible teacher. Despite of experiences in pre-service teaching and the focus on combining theory and practice during teacher education in Switzerland, further professionalization is needed to master the whole complexity of demands. Based on the Lazarus transactional theory of stress and coping, professional requirements are perceived individually different. Developmental tasks for beginning teachers were identified, but teachers perceive and solve them in different ways. Depending on individual resources of the teachers, such as knowledge, beliefs, motives and goals, personality traits, coping strategies, health and emotions, teachers experience professional requirements differently. An induction program for beginning teachers after their final graduation as a teacher must be designed according to individual teachers' needs, allowing a flexible use of several offers, based on different didactical settings.
The purpose of the article is to investigate beginning teachers' appraisals of professional requirements. The questions are, which professional requirements are challenging, how competent beginning teachers feel to master them and how relevant they are for them. In addition, based on the wide spread of challenge appraisal, different types are identified and analyzed, to determine whether they differ in their appraisals of competence and relevance.
The main methods used are statistical analyzes (confirmatory factor analyzes, descriptive statistics, cluster analyzes with subsequent discriminant analyzes, variance analyzes and T-Test) on teachers data, collected by a questionnaire.
The article shows how teachers appraise the relevance of professional requirements, how competent they feel dealing with them and how challenging they perceive the experience. In addition, different types of challenge were identified to investigate, whether they differ in their competence and in the relevance of these professional requirements.
Based on the results of this study it is obvious, that teachers are challenged by requirements and that they need phase-specific opportunities to foster their further professionalization. Derived from the types of perceived challenges, it is significant that such programs should be used on demand and with a focus on the concerns of the individual teacher, including metacognitive strategies. For further professionalization it is crucial that the elements of an induction program do not focus only on *mastering* professional requirements, but on *reflection on strategies* to master them in a professionalization- and health-supportive way.
Keywords: beginning teachers; appraisal of professional requirements; challenge; teacher induction.

Причины Перемен в Процессах Профессиональной Адаптации Учителей в Швейцарии

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Аннотация
Новые квалификационные требования, предъявляемые молодому учителю, нередко вызывают у него проблемы. Несмотря на полученный в вузе педагогический опыт (в соответствии с принципом закрепления теории практикой), выпускникам в Швейцарии требуется дальнейшая профессионализация. Как гласит Транзакционная теория стресса Лазаруса, профессиональные требования различны для каждого индивидуума. Задачи педагогического развития могут быть схожими, но их понимание каждым педагогом и пути их решения существенно различаются. Индивидуальные ресурсы педагога (знания, убеждения, мотивация, цели, состояние здоровья, эмоции) существенно влияют на то, как учитель воспринимает педагогические требования. Программы профессиональной адаптации для молодых педагогов должны быть построены в соответствии с индивидуальными потребностями каждого учителя – это обеспечит гибкость программы в различных дидактических условиях.
Цель данной работы – изучить, как педагоги оценивают профессиональные требования, предъявляемые к ним. Нами было сформулировано несколько исследовательских вопросов: какие из профессиональных требований учителя считают наиболее сложными? чувствуют ли учителя себя достаточно компетентными, чтобы им соответствовать? релевантны ли эти требования кругу обязанностей учителя? Мы определили и проанализировали различные типы профессиональных затруднений на основе того, как учителя их воспринимают.
Полученные результаты показывают: новые квалификационные требования проблематичны для молодых учителей, и необходимо создавать специальные условия, способствующие дальнейшей профессионализации начинающего педагога. Программы адаптации с разными уровнями сложности запускаются при необходимости и с учетом индивидуальных потребностей педагога. Важно, чтобы адаптация не ограничивалась процессом освоения профессиональных требований, а включала также поиск стратегий их достижения.
Ключевые слова: молодые учителя, восприятие профессиональных требований, вызов, профессиональная адаптация учителей.

Introduction

The profession of teachers is a very challenging one, especially at the beginning of the career. From their first day as an in-service teacher, they have to cope with an increasing complexity of requirements (Keller-Schneider & Hericks, 2014). Despite of the pre-service teaching during their education (Hascher, 2012), the growth of knowledge (Blömeke, Kaiser & Döhrmann, 2011; König & Pflanzl, 2016) and competence (Blömeke et al. 2008; Gröschner, Schmitt & Seidel, 2013; Keller-Schneider, 2016a) as well as the increasing experience (Berliner, 2001), they cannot anticipate the entire complexity of a school day. During pre-serviece-teaching the responsibilities are limited, and student teachers experience a protected learning environment. Further professionalization is indicated by entering the career as a fully responsible teacher (Keller-Schneider & Hericks, 2014).

Teacher education in Switzerland focuses on combining theory and practice. Courses at University are linked with experiences in the field, not only during pre-service teaching periods but as well in specific problem- and case-oriented courses (Krause, Stark & Herzmann, 2011; Keller-Schneider, 2018a). *Primary* teachers are educated to teach seven subjects (all four subjects of group 1 (German, Mathematics, Sciences, French or English); in addition, they choose three subjects out of group 2 (Sports, Music, Arts, Handicraft), *secondary I* teachers choose four (two from each group). Teachers on *secondary II* level are educated in one or two subjects. They do their master's degree at another university, not at the university for teacher education; in addition, they take a course to get their teacher degree. After graduation, teacher education continues with an induction program and a variety of further education and specification. At the end of their education future teachers have to search for a job as a teacher. Applying for a job on the labor market in Switzerland is an individual task. After graduation as a teacher and success in job-finding, beginning teachers start to work as a fully responsible teacher. In this new role they are confronted with a complexity of requirements they have not experienced before. In Switzerland, several models of programs for beginning teachers exist (Vögeli-Mantovani, 2011), to acknowledge the specific needs of this phase (Keller-Schneider, 2019). But these needs are perceived individually different, based on individual and contextual resources. The individually shaped appraisal of requirements is crucial for mastering them (Keller-Schneider, 2010).

Appraisal of requirements

Following the Lazarus theory of the transactional model of stress and coping (Lazarus & Folkman, 1984), requirements are perceived in terms of their *relevance* for the specific person (according to a primary appraisal). A secondary appraisal evaluates the manageability, based on available resources as their *competence* to perform (Ryan & Deci, 2017). Based on these appraisals, a specific requirement is perceived as a *challenge* or leads to avoidance (see Figure 1). Balancing the available and necessary resources to master requirements (Hobfoll, 1989) is essential to maintain the energy for the daily work. Entering the career as a fully responsible teacher, they are challenged to master multiple requirements. Dealing with challenging requirements leads to insights, supports further professionalization and leads into a next phase of their career. But keeping the balance is essential for their satisfaction and wellbeing (Buchwald & Hobfoll, 2004; Skaalvik & Skaalvik, 2011). Self-regulation is relevant (Rice, 2012).
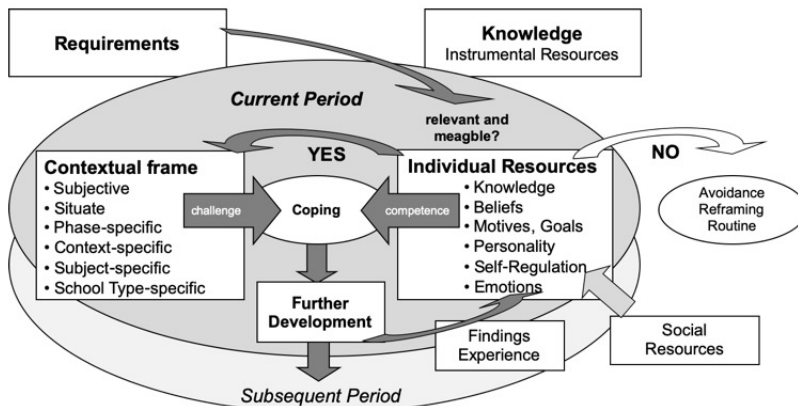

Figure 1: Appraisal focused model of further professionalization

Professionalization and the significance of requirement appraisal

Following Keller-Schneider's (2010) model of professionalization, individuals' appraisal of emerging requirements effects how they deal with them (Figure 1). Based on the theory of transactional model of stress and coping (Lazarus & Folkman, 1984) requirements, assessed as relevant and manageable, lead to a challenging coping process. *Individual resources*, such as knowledge, beliefs, motives and goals, personality, self-regulation and emotions, as well as *contextual frames* shape the coping process and the emerging insights. If a requirement is not relevant or the individual does not feel competent to manage it, they will avoid dealing with it. But, if the requirement is seen as relevant and manageable, a challenging coping process will emerge. Dealing with challenging requirements leads to new experiences and insights that transforms the individual resources (Berliner, 2001). Requirements, handled with routine, contribute to stabilization, but not to further professionalization. Following the biographic approach of teacher education as a lifelong learning process (Hericks, Keller-Schneider & Bonnet, 2018), professional developmental tasks must be solved to manage the next period of the teacher career. Challenging requirements, perceived as relevant and manageable, are crucial for further professionalization, while keeping a balance of challenge and experienced competence is essential for health and wellbeing (Hobfoll, 1989; Buchwald & Hobfoll, 2004; Skaalvik & Skaalvik, 2011; Rice, 2012). For professional development, challenging requirements are crucial (Keller-Schneider, 2016b). Transformed resources, based on experience and insights, change the reference framework for upcoming requirements in a subsequent period (Keller-Schneider, 2010). Perceiving requirements as challenges is essential for further professionalization.

It is essential to know more about teachers' appraisal of requirements, as shaped by individual resources, to determine the consequences on induction programs for teachers. Do they all struggle with the same requirements or are there differences and specific types? This is the key questions of this paper.

Purpose and objectives of the study

Based on the Lazarus theory of the transactional model of stress and coping (Lazarus & Folkman, 1984), the perception of requirements was examined to determine its relevance and individuals' competence. The study examines how teachers cope with requirements, how much they are *challenged*, how *competent* they feel, how *relevant* these requirements are for them and if there are different types with specific patterns of challenge appraisal.

The following research questions were examined:
- How do beginning teachers appraise challenge by professional requirements?
- How relevant do they appraise them and how competent do they feel in dealing with them?
- Which types of challenge can be identified?
- Do they differ in their appraisal of relevance and competence?

Based on Lazarus & Folkman, (1984) we assume, that the teachers differ not only in the challenge appraisal, but as well in the relevance of these requirements (primary appraisal) and the competence (secondary appraisal) they experience.

Literature review

Early research on requirements of the career entry phase focused on problems of teachers. In his meta-analysis Veenman (1984) identified several fields of problems, such as discipline and classroom-management, students' motivation and differences in learning, students' learning assessment, cooperation with parents and organizing the whole work

as a teacher. Other studies focus on the *socialization* effects of the specific school in which teachers were working. They say, that teachers adjust their problem-solving strategies to the usual practice of the school they are in (Sikes, Measor & Woods, 1985). A third line of research investigated the *focus of concerns* of teachers during the whole career. Fuller and Brown (1975) identified, that the focus of attention expands during the whole career. At the beginning, teachers are focused on their acting as a teacher and mastering the requirements of teaching. After a while, their attention is extended to the activities during the lessons; watching what is going on. In a third phase, teachers are capable of focusing on the learning activities of the individual students, following their learning processes and supporting them if necessary. But none of the studies took in account inter-individual differences of requirement appraisal by the teachers, on their dealing with requirements or on the growth of perceived competence and self-efficacy.

Current studies focus on the *growth of knowledge during teacher education* and its impact on dealing with professional requirements and well-being (Lauermann & König, 2016). Most of them are situated in a specific subject, with the emphasis on subject knowledge and pedagogical subject knowledge (Blömeke et al., 2008). Others focus on pedagogical knowledge (Gindele & Voss, 2017; König & Pflanzl, 2016). They also identify the effects of beliefs, motives and self-regulation (Blömeke et al., 2008). It is crucial to build up content knowledge, and pedagogical content knowledge in each subject, but knowledge on teaching is not sufficient to be prepared as a teacher. Knowledge has to be differentiated, dealing with specific situations to build up competences. The mastering of challenging situations and emerging insights are essential for professionalization even after graduation.

With their focus on the career entry phase, Hericks (2006) and Keller-Schneider (2010) identified, that beginning teachers are confronted with a new complexity of professional requirements; all of them have to deal with *developmental tasks* to proceed in their professionalization and to participate the professional community. Hericks (2006) developed a theory-based concept of four developmental tasks of beginning teachers. He investigated, how teachers in Germany, after graduation as a fully responsible teacher (after the examination of the second part of teacher education, called Referendariat), deal with these developmental tasks. He identified different stages of dealing with them, but also noticed cases of stagnation. Avoidance of dealing with some tasks leads to a stagnation of professional development. To deal with all of them, developing a professional identity and meeting the professional communities' expectations, is essential for further professionalization (Keller-Schneider & Hericks, 2014).

Keller-Schneider (2010) identified professional requirements from the perspective of beginning teachers, analyzing notes from counseling sessions with beginning teachers (Mayring, 2000). Counselling is offered as a part of the Zurich induction program (Keller-Schneider, 2019) that teachers may use if they wish. They bring in concerns and questions to talk about. These notes contain requirements of relevance for these teachers. A list of requirements was derived based on the content analyzes of 40 cases, using counselling for two years. Based on these empirical identified requirements, an instrument was developed to collect teachers' appraisal of these professional requirements. Following the theory of Lazarus (Lazarus & Folkman, 1984) and operationalizing the model of professionalization (Keller-Schneider, 2010), the requirements were evaluated as to their *relevance*, the *competence* the teachers experience and the *challenge*. Based on the data of Swiss teachers of primary schools, a four-factor model was identified by explorative factor analyzes, differentiated in twelve second order factor. Results from the study regarding the first order level of the requirements show, that teachers are challenged to foster students individually, build up a safe and fostering classroom climate, work with

parents and find a healthy balance to master all of the professional requirements (Keller-Schneider, 2010). A comparison of Swiss beginning teachers with student teachers and experienced teachers shows (Keller-Schneider, 2017a), that beginning teachers do not differ from experienced teachers in the perceived challenge or in the relevance of the requirements, but they feel less competent as experienced and as student teachers do. Entering the career and dealing with the whole complexity of requirements seems to disturb their self-concept as a teacher. The experience of challenge spreads widely; the challenge appraisal differs between individuals, affected by individual resources (Keller-Schneider, 2010, 2017b). These findings confirm, that career entrance is a specific phase (Keller-Schneider & Hericks, 2014) in which the complexity of professional requirements disturbs the self-concept as a teacher. Induction programs with elements of reflection and counselling are indicated (Keller-Schneider, 2019).

The four empirical identified factors of Keller-Schneider (2010) show similarities to the four developmental tasks of the Hericks' study (2006). From teachers' perspective, challenges during this period focus on the following four professional domains:

1) *Role- and identity-finding as a professional:* Finding an identity as a teacher to take the responsibility for acting as a teacher und interacting with students in a professional way, meeting the requirements as a teacher, respecting the own resources, and being aware of further development.

2) *Teaching to individual needs*: Finding tasks and didactic approaches to foster and support the students individually, respecting the wide range of their interests and capability.

3) *Adaptive acknowledging classroom-management*: Finding effective and appropriate ways to manage the classes and to establish an effective, but supportive and healthy learning atmosphere.

4) *Cooperation within and with the system*: Being part of the staff, cooperating with staff members and the principal, respecting the possibilities and frames of school and contributing to school development.

Merging the results of the studies of Hericks (2006) and Keller-Schneider (2010), these developmental tasks, identified as relevant for the fully responsible teachers in the career entry phase, were discussed as to their impact on the professional development and the characteristics of this specific phase (Keller-Schneider & Hericks, 2014). In addition, the four developmental tasks, identified as developmental lines with focus on the four domains listed above shape their whole career as a teacher (Hericks, Keller-Schneider & Bonnet, 2018), with phase-specific differentiations for future, beginning and experienced teachers (Keller-Schneider, 2018b). Findings say, that the experience of challenge by professional requirements differs between individuals. To discover a pattern behind the wide spread of challenge and the differences in experienced competence and relevance is the main purpose of this article.

Methodology

The paper sets out part of the results from the binational study on the perception and appraisal of professional requirements of beginning teachers (KomBest) of Manuela Keller-Schneider, Zurich University of Teacher Education, and Uwe Hericks, Philipps-University Marburg. The study uses a qualitative and a quantitative approach (Hericks et al., 2018; Keller-Schneider et al., 2019). To examine the research questions of this paper, the quantitative data of beginning teachers were used.

Sample: The sample contains 864 primary- and secondary-teachers from Switzerland and Germany in their second year of teaching, 655 (77.2%) are female, 196 (22.8%) are male (3 missing), with average age of 30.99 years (standard deviation of 6.37).

Instruments

The professional requirement scales of Keller-Schneider (2010) were used, version of 2019 (see Table 1).

Table 1: **Scales used in the study**

Scale (number of items)	Item example	Cronbach Alpha
Professional requirements (second order factors with number of first order factors computed)*:*		chall/comp/rel
• Role-finding as a teacher (3)	Act as a teacher referring to own expectations …	.82/.73/.73
• Teaching to individual needs (4)	Foster students on individual levels …	.77/.70/.78
• Adaptive, classroom management (2)	Perceive and conduct the dynamics within the class …	.84/.78/.75
• Cooperation with and within the system (3)	Identify implicit rules within the staff …	.76/.69/.73

Comments: chall=challenge, comp=competence, rel=relevance; the items were answered from thee perspectives: … challenges me, … I succeed in, … is important to me.

Data collection and processing

Date were collected by questionnaires (paper-pencil), sent by post to the school address.

Using confirmatory factor analyzes (method Maximum-Likelihood) the model of the four main developmental tasks of career entry (Keller-Schneider, 2010) was checked to its fit to the data of this study. By cluster analyze (Method k-means), six types of different profiles of challenge were identified. Results of the subsequent discriminant analysis show an assignment of 99.0% (Wilks Lambda .048). Differences between the types were analyzed using variance analyzes (ANOVA with Post Hoc Test, Bonferroni), testing the significance and the effects (Eid, Gollwitzer & Schmitt, 2011).

Results

Model of professional requirements

The latent structure of challenging professional requirements, perceived by beginning teachers, shows a second order structure with the main four developmental tasks, identified by Hericks (2006) and Keller-Schneider (2010), and twelve first order factors (see Figure 2). The main model of the four developmental tasks, based on the perception of Swiss primary school teachers (Keller-Schneider, 2010) could be replicated within the data of Swiss and German primary and secondary teachers of this subsequent study (Keller-Schneider et al., 2019). Results show an acceptable fit of Chi^2 = 2600.01, Chi^2/df = 2.56, RMSEA = .042, SRMR = .054, CFI = .911, TLI > .906 (Weiber & Mühlhaus, 2014). Figure 2 shows the model of developmental tasks.

The developmental task of *role finding* includes the requirements of acting according to ones' own expectations, using and protecting own resources at the same time and take the role of a fully responsible teacher. Teachers have to find an identity as a professional, based on their acquired knowledge and reflected experiences, reframed by their role as a teacher and not determined by their experiences as a student. They have to balance their energy by engagement with their role, get involved in their responsibility but be aware of their limits, not to risk a loss of energy. They have to take the role of a teacher and be responsible for their acting as a teacher, even in situations they are strongly challenged

and under pressure. They have to develop their role, relying on their own ideas and visions, building up their standards. There is no mentor anymore, who says, what should be done and what is the right way to do it.
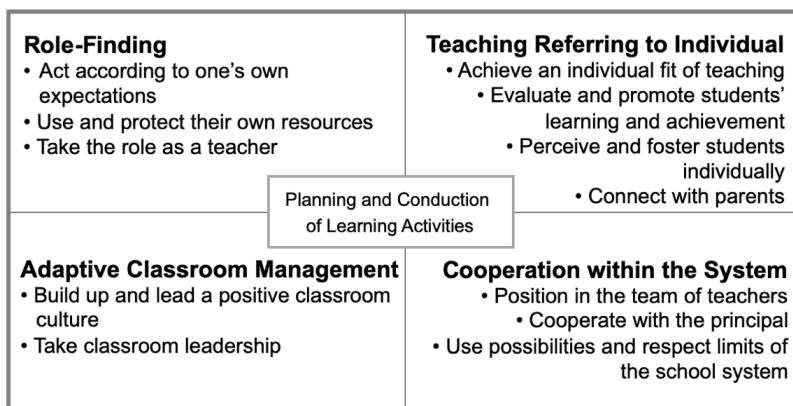
Role-Finding • Act according to one's own expectations • Use and protect their own resources • Take the role as a teacher	Teaching Referring to Individual • Achieve an individual fit of teaching • Evaluate and promote students' learning and achievement • Perceive and foster students individually • Connect with parents
Planning and Conduction of Learning Activities	
Adaptive Classroom Management • Build up and lead a positive classroom culture • Take classroom leadership	Cooperation within the System • Position in the team of teachers • Cooperate with the principal • Use possibilities and respect limits of the school system

Figure 2: Professional requirements of beginning teachers with four main developmental tasks and twelve subtasks

Teaching towards individual students' needs comprises the demands of achieving an individual fit of teaching; teaching that does not fit leads into disciplinary difficulties and a loss of time for learning. The effective use of time is a key characteristic of teaching at a high-quality level. Evaluating and promoting individual students' learning processes and their achievement is needed to find specific approaches, so they are able to work on tasks on their own and not only achieve better, but with a deeper understanding as well. To do this, teachers are required to focus on the students individually, to perceive and foster them in a positive and valuing relation. As a fourth part of this task, teachers have to establish a professional relation with the students' parents, focusing on the learning of their child, explaining to them how their child achieves and develops as well as the expectations of the school. Teachers act with the whole group of parents to obtain their support for activities and requirements of school. Beginning teachers are challenged to find a way how they can master these requirements the first time, and to be prepared to work on these tasks during their whole life as a professional.

The *adaptive classroom management* requires the teacher to build up and lead a positive, safe and fostering classroom climate. They have to establish rules and rituals to regulate the behavior of the students, to give them the experience of respect and safety as well as letting them participate in decision making and giving them room for their co-acting within the community of the class and the school. In addition, teachers are required to overtake the classroom leadership by acting, reacting and interacting, in relation to the students' needs, development and learning, respecting their ability and their needs to develop.

The task of a co-acting *cooperation with and within the school system* involves taking a position within the staff members of a school as a fully responsible and co-acting teacher, finding an identity as a staff member, taking responsibility for the school of which they are part. They have to cooperate with the principal, respecting his or her expectations as well as standing for their own ideas and goals. To be a staff member, teachers have to know about and use the possibilities within the school and the school system as well as respecting its limits and goals.

So, role-finding as a teacher and cooperation within the system are related; role-finding as an individual teacher is not enough, it also needs role-finding within the institution and the system. Teaching based on individual needs and the ability of an adaptive classroom management are mutual dependent as well; without a fitting teaching to individual capacity and needs, a fostering and respecting classroom climate is not possible. Underchallenged and underachieved as well as overchallend and overachieved students respond with disciplinary problems; they are not able or not motivated to meet the expectations they should. On the other hand, a repressive or dismissive classroom management with its turbulences and insecurities is an unfavorable basis for learning. But without going through this process of role-finding on an individual and collective level, teaching and guidance of a class is not possible, as a result of the uncleared references and the teacher's weak identity. Beginning teachers have to work on all of the four developmental tasks, relying on each other (Hericks, Keller-Schneider & Bonnet, 2018), referring to the situation they have to handle and to their individual appraisal of the professional requirements they perceive. How teachers understand these developmental tasks will be shown in the next step.

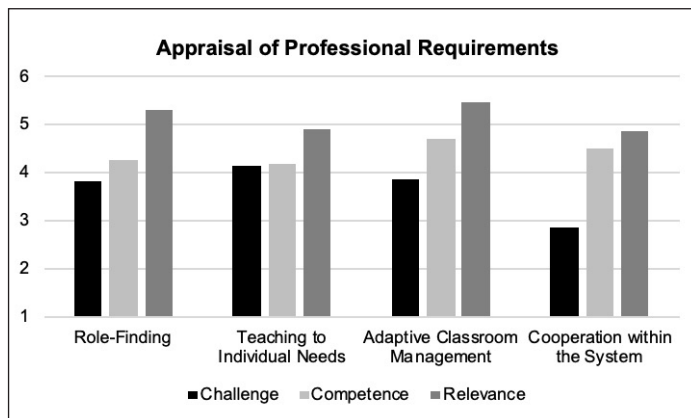*Appraisal of professional requirements – relevance, competence and challenge*

Figure 3: Appraisal of professional requirements (challenge, competence and relevance)

Results show (Figure 3 and Table 2), that teachers feel *challenged* in a moderate way; their requirement appraisal differ significant (F(1,863)=358.733, p<.001, η^2_{part}=.454). They experience teaching to individual needs as the most challenging task, followed by adaptive classroom management and role-finding; cooperation within the system affects the lowest challenge. All of the requirements differ significant from the average (p<.001). Beginning teachers experience themselves as *competent* in dealing with professional requirements, identified as developmental tasks of the career entry phase (Keller-Schneider & Hericks, 2014). The experienced competence in dealing with the four developmental tasks differs (significant, with a strong effect, F(1,863)=36.414, p<.001, η^2_{part}=.078); in addition, all of them differ significant from the average (p<.001). Competence in classroom management shows the highest value, teaching to individual needs and role-finding the lowest. Beginning teachers evaluate the professional requirements as *relevant*; the relevance of the requirements differs (significant with a very strong effect, F(1,863)=557.788, p<.001, η^2_{part}=.564). The requirements of adaptive classroom management and role-finding were assessed as the most relevant ones, teaching to individual needs and cooperation within the system were lower; all of them differ significant from the average (p<.001).

Regarding the *relationship of the three appraisals* of professional requirements (relevance, competence, challenge, Figure 3), operationalizing the Lazarus theory of transactional model of stress and coping, *teaching to individual needs* seems to be the most claiming ones; challenge and competence are more or less equal, by a slightly reduced relevance. This reduction of relevance seems to be helpful to conserve the teacher's resources and prevent an energy-loss (Buchwald & Hobfoll, 2004). Dealing with this requirement demands further professionalization, from the teachers' point of view. The requirements of *role-finding* and *adaptive classroom management* show a less stressing profile; competence is perceived as higher than challenge, accompanied by high relevance. *Cooperation within the system* is seen as a supporting requirement; beginning teachers experience themselves as very competent and little challenged.

Types of different patterns of challenge appraisal

Results of the cluster-analysis show a solution with six types, balanced in size (Figure 4).
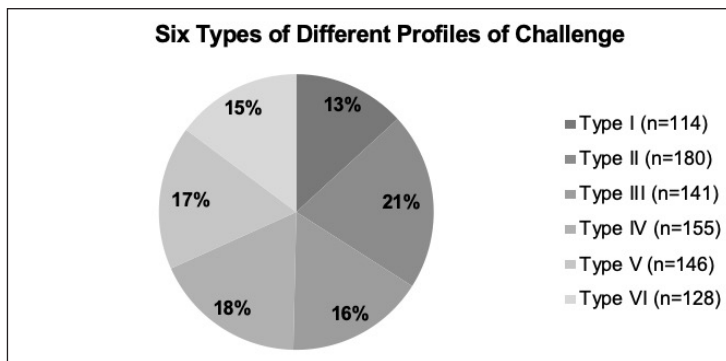

Figure 4: Number of participants per type of different profiles on their challenge appraisal by dealing with professional requirements

The types, shown in Figure 5 by their z-standardized means, differ by the challenge experienced as well as by their specific challenge profiles for different domains, with specific effects of classroom-management and cooperation within the system (Figure 5 and Table 2).
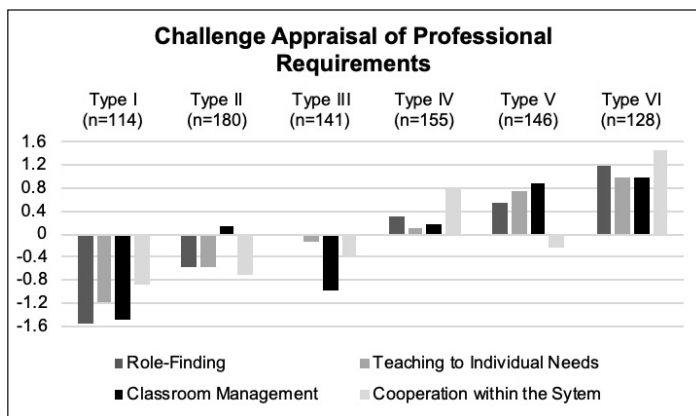

Figure 5: Types of different profiles of challenge by professional requirements

Type I (n=180/20.8%), the biggest group, shows the lowest challenge in all of the four domains.

Type II (n=114/13.2%), the smallest group, shows a profile of under average challenge in role-fining, teaching and cooperation within the system. Classroom-management corresponds to the average and is the most challenging task for this type of beginning teachers.

Type III (n=141/16.3%) differentiates from the others by the under average challenge by classroom-management. Role-finding, teaching and cooperation within the system is equivalent to the average.

Type IV (n=155/17.9%) shows average challenges in role-finding, teaching to meet individuls' needs as well as classroom-management and over average challenge in cooperation within the system.

Type V (n=146/16.9%) shows over average challenges in classroom-management, teaching and role-finding. Cooperation within the system corresponds to the average.

Type VI (n=128/14.8%) is the most challenged one, with over average challenge in all of the four domains.

Type I and type VI show the biggest contrasts in experiencing challenge by dealing with professional requirements. Type III and type IV are quite similar, differentiating by their type-specific characteristics of under average challenge in classroom-management of type III and over average in cooperation within the system of type IV. The results of the variance analyzes (Table 2) reveal type-specific characteristics.

Table 2: **Differences between the types (ANOVA with Post Hoc)**

Scale (M/SD)	ANOVA	Post Hoc (Bonferroni)
Perceived challenge:		
• Role-finding (3.82/1.00)	$F(5,858)=333.174$, p<001, $\eta^2_{part}=.660$	I<***II<***III<***IV<***V<***VI
• Teaching to individual needs (4.13/.91)	$F(5,858)=171.859$, p<001, $\eta^2_{part}=.500$	I<***II<***III/IV<**V<***VI
• Adaptive classroom management (3.89/1.08)	$F(5,858)=485.369$, p<001, $\eta^2_{part}=.739$	I<***III<***II/IV<***V/VI
• Cooperation within the system (2.88/.99)	$F(5,858)=359.547$, p<001, $\eta^2_{part}=.677$	I/II<***III/V<***IV<***VI
Experienced competence:		
• Role-finding (4.26/.68)	$F(5,858)=38.244$, p<001, $\eta^2_{part}=.182$	VI/IV/V/III/II<***I
• Teaching to individual needs (4.18/.62)	$F(5,858)=4.131$, p=001, $\eta^2_{part}=.024$	II<**IV/VI/V/III<**I
• Adaptive classroom management (4.71/.60)	$F(5,858)=26.345$, p<001, $\eta^2_{part}=.133$	II/VI/IV/V<***III<***I
• Cooperation within the system (4.52/.69)	$F(5,858)=15.709$, p<001, $\eta^2_{part}=.084$	IV/VI<***II<*III/V<**I
Relevance of professional requirements:		
• Role-finding (5.32/.48)	$F(5,858)=10.061$, p<001, $\eta^2_{part}=.055$	IV/II/III/I/V/VI
• Teaching to individual needs (4.92/.71)	$F(5,858)=9.525$, p<001, $\eta^2_{part}=.053$	VI<**V/I/III/IV/II
• Adaptive classroom management (5.49/.43)	$F(5,858)=8.357$, p<001, $\eta^2_{part}=.046$	IV/III/II/I/V/VI
• Cooperation within the system (4.88/.69)	$F(5,858)=10.608$, p<001, $\eta^2_{part}=.058$	II/IV/III/V/I<***VI

Type-specific competence and relevance of professional requirements

Figures 6 and 7 show results of competence and relevance of the four professional requirements (in z-standardized means), differentiated by the types of profiles on challenge by dealing with professional requirements. Results on the variance analyzes are presented in Table 2.

Differences in experienced competence: The types show different profiles in their experience of competence (Figure 6, Table 2). *Type I* differs significant from the others. The less challenged teachers of type I experience themselves more competent in dealing with the professional requirements than the others do. The other types of teachers do not differ greatly in their experience of competence in dealing with professional requirements, even though they differ in the challenge appraisal on a high significance level with very strong effects. *Type II* teachers, under average challenged as well, experience the lowest competence in teaching to individual needs; even they are less challenged than the others they do not differ in experiencing competence. *Type III*, under-averagely challenged by classroom management, shows higher competence in classroom management that the others. Competence is shaped by the different profiles of challenge, but in a quite moderate and unsystematic way. *Type IV, V and VI* differ from the others in their competence of cooperation within the system.
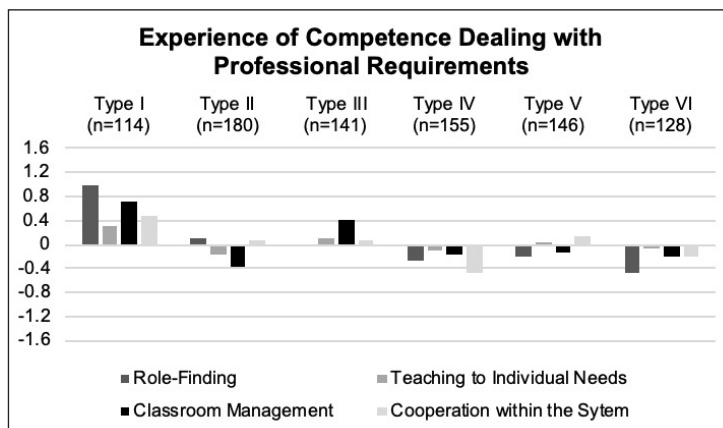

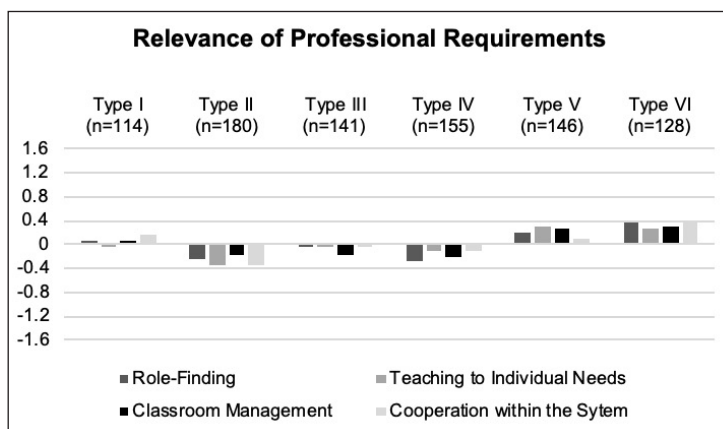*Figure 6: Type-specific appraisals of competence in dealing with professional requirements*

Figure 7: Type-specific appraisals of the relevance of professional requirements

Differences in the appraised relevance of professional requirements: The types differ significant, but with medium effects (Figure 7 and Table 2). *Type VI* characterized by high challenge (Figure 5) and low competence (Figure 6) appraise the professional requirements as more relevant than the others do. The low-challenged *Type I* shows average means of relevance. The appraised relevance of professional requirements shapes the types of different profiles in challenges in dealing with the professional requirements as well; relevance has a positive effect on the experience of challenge, but *Type I* with under average challenges does not show the lowest means in relevance of the professional requirements.

The perception of challenge is influenced by the perceived relevance of professional requirements and the experience of competence to master them, but there is also an independence between the three appraisals of professional requirements, visible through the smaller differences and the lower effects.

Discussions

The following results emerge from this empirical study:

1) The model of professional requirements, identified with a sample of beginning primary teachers in Switzerland (Keller-Schneider, 2010), fits to a sample of Swiss and German teachers from primary and secondary schools (Keller-Schneider et al., 2019). So, the model of the four developmental tasks of the career entry phase, developed by Hericks (2006) and specified by Keller-Schneider (2010), can be generalized to teachers in Germany and to secondary school-teachers as an additional school type. Further research would be needed to determine if it fits well to additional countries.

2) The professional requirements, bundled in the four developmental tasks of role-finding, teaching to individual needs, adaptive classroom-management and cooperation within the system, are moderately challenging, but challenge appraisals show wide spreads; interindividual differences are visible. To meet these individual different challenge appraisal with an induction program, the use of the opportunities, given by such a further education program, must allow a use referring to individual needs of a specific beginning teacher.

3) The identified types of challenges tell us, that there is a variety of different profiles of specific challenging requirement appraisals. There are phase specific characteristics, but they vary individually. So, some of the teachers are challenged more than others by several developmental tasks, or they focus on the challenge by mastering specific requirements, to be solved as developmental tasks.

4) The types of different profiles of challenge do not differ greatly in the experience of competence and relevance. Beginning teachers experience themselves as competent, despite of the varying amount of perceived challenge. They evaluate the requirements as relevant, but the relevance does not differ widely between these types of challenge. Perceptions of relevance and competence are shaped by the types of different profiles of challenge, but they do not differ in the same way as regarding to the perceived challenge. To be challenged by specific requirements is not an indicator for low competences in this domain; it is an indicator for high involvement in dealing with this specific requirement (see qualitative results in Keller-Schneider, 2020 as well) – an aim for further professionalization.

5) Dealing with professional requirements is influenced by its relevance as lenses, through which requirements were prioritized (Cochran-Smith & Zeichner, 2005), by the experienced competence (Ryan & Deci, 2017) and by the individually different challenge as a driving motive (Wal et al., 2014), confirming the Lazarus theory of the transactional model of stress and coping (Lazarus & Folkman, 1984), based on primary and secondary appraisals of professional requirements.

Conclusions on the induction program for beginning teachers in Switzerland

Beginning teachers are prepared to start their career as a fully responsible teacher to master the same tasks and duties as their experienced colleagues do. They experience themselves as competent, despite of feeling less competent than they did at the end of their initial education (Keller-Schneider, 2017a), but they are challenged by specific professional requirements. The changed context of pre- into in-service teaching let arise the requirements in a new complexity, as explained above. Results show, that *beginning teachers are challenged* by professional requirements in individual ways. The results also show that they perceive these requirements as relevant. From their point of view, professionalization has to continue, in particular in requirements of high relevance, joined by competence, experienced lower than the perceived challenge. But professional development as a teacher is not just an individual task (Keller-Schneider, 2019) but a task for the educational system as well (Picard & Ria, 2011). To promote their entrance into a successful career, an *induction program* is needed to support them in *solving the developmental task* of the stage in which they are, and of the profession in general (Hericks, Keller-Schneider & Bonnet, 2018). After graduation from teacher education, teachers start their further professionalization following the *induction program*, as the first part of further education, linking initial education with further education (see Figure 8) (Keller-Schneider & Hericks, 2017).
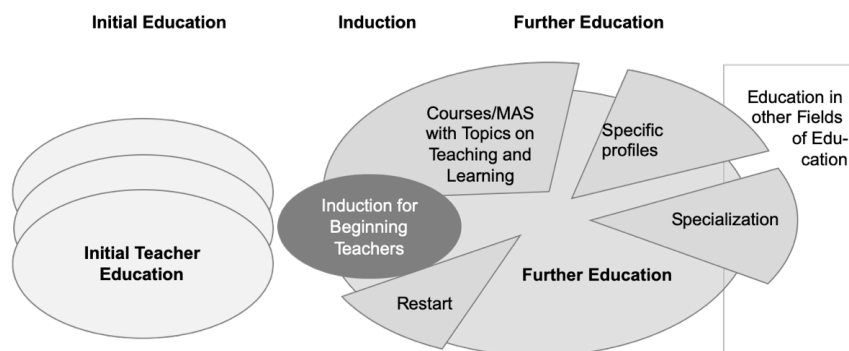

Figure 8: Induction for beginning teachers as the first part of further education, linking initial and further education

In addition to the induction program, further education in Switzerland offers a program for *restarting teachers* after some years of break, short *courses and programs of advanced studies* (CAS and MAS) in teaching and learning, programs for *specific profiles* as an additional teacher competence (for example IT, theatre pedagogy, teacher for student teachers during their pre-service teaching at school, mentors for beginning teachers) and *specializations* (for example as teacher for German as a second language or as a principle.

Induction programs were developed in Switzerland (Kanton Zurich) from 1975 (Vögeli-Mantovani, 2011). Since then, these programs have changed their focus from emphasizing on the *support* of beginning teachers by experienced teachers at their schools and *specific further education* to an induction program, aiming on *professionalization of the beginning teachers.* They offer a variety of approaches. Meanwhile it has been demonstrated that support is not enough for the need of further professionalization. The career entry phase is a specific phase of further professional development (Keller-Schneider & Hericks, 2014). Research shows that developing an identity as a teacher and solving the developmental tasks of the career entry phase, as described above, differ

among individuals. Based on these results it is obvious, that not all teachers experience their first years of teaching in the same way. The teachers' *experience of challenge* through professional requirements spreads widely, wider than the experience of competence. Thus, a program is needed to meet their individually different concerns. Some of them need support, ideas, reflections, materials or cooperation, others need nothing. If teachers are respected as fully educated teachers, able to process their job with competence, autonomy and relatedness (Ryan & Deci, 2017), meeting the expectations of the professional community, it is important to let them choose the offers of an induction program they wish. A mandatory program, offering the same content to all, is not useful. In addition, it is too expensive, because some would get offers they do not need, others would get the wrong ones.

As an example of an *induction program*, the program of the Zurich University of teacher education will be explained (Keller-Schneider, 2019). This free program runs during the first two years of the teacher's career and offers different possibilities. The *University of Teacher Education* is responsible for the elements of counselling, courses and further education as well as for the education of mentoring teachers at school, aiming on assistance and cooperation, on demand of the individual teacher. The *schools* are responsible for offering an experienced teacher, interested in mentoring beginning teachers on a mandatory and collegial base without the task of evaluation, and to introduce the teacher as well as the other new teachers into the staff.
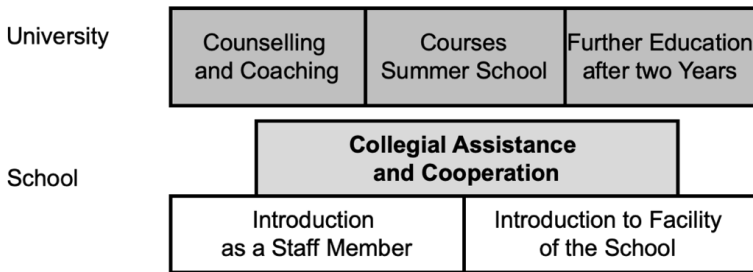

Figure 9: Induction program for beginning teachers after graduation, during their first two years of teaching

The program contains the elements shown in Figure 9:

- *Cooperation and Assistance:* An experienced teacher, working at the same school, teaching the same grade, available on demand, assists as a colleague the beginning teacher during the first two years. They meet at least twice a year, but most of them meet more often and contact each other for different matters. Some maintain an intensive cooperation.
- *Courses for beginning teachers:* The University of Teacher Education offers specific thematic courses, relevant for beginning teachers, such as building up a fostering classroom climate, working with parents, balancing their own resources, and approaches for their teaching referring to individual needs.
- *Counselling and Coaching,* individually or in groups. Teachers bring in specific concerns or questions. The focus of this work lies on a specific situation or a problem selected by the beginning teacher.
- *Further education for beginning teachers:* At the end of their second year as a teacher, the beginning teachers come back to University of Teacher Education for a specific three-week-program. They work in workshops on specific themes as well as in problem-focused-project groups. In addition, they reflect on their experiences during their first

two years of teaching in group sessions. For this program, student teachers in their last year of teacher education replace the teachers and teach all the classes, assisted by the principles of the school, if needed.

- *Summer course:* Other Universities offer a summer course as a starting week for planning the first year of teaching, preparing specific demands of the classroom management and the work with parents before starting the school year.

This different approaches of further education during the first two years of teaching allows the teachers to focus on their concerns und to select elements on their own decision. Teacher induction, as the first period of further education, does not assess the progress of teachers. It just supports them to work on the developmental tasks of the career entry phase and on the challenges on which they focus. Evaluating the quality of their teaching is a task of the principle, as he or she does with all of the teachers of her/his school. Teacher induction respects the inter-individual differences of teachers and facilitates support, meeting their concerns. The induction program is not the last part of education, but the first part of further education and a bridge to further professional development of teachers.

Acknowledgment

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