Reconsidering Fuller's concerns-based model of teacher development: comparing regular and academic student teachers' changing concerns

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"Why not be a teacher? You'd be a fine teacher. Perhaps even a great one."

"And if I was, who would know it?"

"You, your pupils, your friends, God. Not a bad public, that… Oh, and a quiet life."

"You say that!"

Excerpt from: *A Man for All Seasons*, by R. Bolt, 1954.

Reconsidering Fuller's concerns-based model of teacher development: comparing regular and academic student teachers' changing concerns

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Introduction

In the 1960s, Fuller coined the concept of teacher concerns, being the perceived problems of student teachers (Fuller, 1969). From the general concern theory, two types of research originated. The first type is concerned with understanding the developmental and learning dynamics of both pre-service and in-service teachers (van den Berg, 2002; Conway & Clark, 2003), leaning on Fuller's concerns-based model of teacher development (CBMoTD, Fuller, 1969,) and is the main focus of the current study. The second type of research extends the concept of concern to teachers' experiences in the context of educational innovation, known as the Concerns-Based Adoption Model (CBAM, Hall & Hord, 2001; Conway & Clark, 2003).

The CBMoTD has been of great influence on research relating to several facets of the professional development of teachers (van den Berg, 2002). Knowledge gained using the model aids matching concerns experienced by the teacher (concern-steered method) with concerns considered important by the educational institution (concern-steering method), creating a balanced and motivating teacher education programme (Schokker, 2006).

Although originating in the sixties, teacher concerns are still deemed relevant (Korthagen, Tigchelaar, & Wubbels, 2001; Pilcher & Steele, 2005; Boz, 2009), especially in the light of recent developments in teacher education. Worldwide, the professional status of teachers is being criticised (Korthagen & Kessels, 1999; Imig & Imig, 2007). To increase the quality of pre-service teachers, innovative teaching methods are implemented in teacher education (see for instance Broos & Korte, 2007; Vermunt, 2009). Acting on the diminishing number of student teachers and the decrease in the quantity of in-service teachers, student teachers are attracted from other occupational branches, creating a more diverse group of pre-service teachers (Association of universities, VSNU, 2003).

Although Fuller's concern theory is considered applicable for reshaping teacher education (Korthagen, Kessels, Koster, Lagerwerf, & Wubbels, 2001; van den Berg, 2002; Watzke, 2003; Pilcher & Steele, 2005) research posed several questions about the stage

model's premises, calling its validity into question. In this study, the CBMoTD is re-examined in order to test its validity, concerning hierarchy, sequence and generalizability of student teachers' concerns. Both quantitative and qualitative methods are employed.

The concern concept

In her early work, Fuller defined concerns as the perceived problems of teachers (Fuller, 1969), or something a teacher thinks about frequently and would like to do something about personally (Fuller & George, 1978, in George, 1978). The concept itself is prone to getting lost in translation, making it important to examine its meaning.

In Dutch concern translates to either 'worry' (*bekommernis*, Behets, 1997; *zorg*, Quality Assurance Netherlands Universities, 2008) or 'leaning need' (*leerbehoefte*, QANU, 2008), both being quite negative interpretations of the concept. Vermunt (2009) also describes concerns in a negative way as being "aspects to be learned, things that are not going well, things teachers are not pleased about" (p. 7). Conway and Clark (2003) adapt the concept of concern, trying to create a more balanced perspective. This is done by conceptualising concerns as equivalent to fears and counterbalancing them with hopes.

Schön (1987, in Guilliaume & Rudney, 1993) offers one possible explanation for the focus on the negative side of concerns. He argues that learning and reflection on action occurs when the concrete experience contains an element of surprise: "If plans proceed smoothly, little thought is expended in reflection. It is when the unexpected happens that practitioners analyse and hypothesize" (p. 74). This negative emphasis seems inappropriate however, considering the description of the concern concept by Fuller and George (1978, in George, 1978): "You may be concerned about problems, but you may also be concerned about opportunities which could be realized. (…) In short, you are concerned about it if you *often think about it* and would like to do something about it." (p. 33, emphasis in original). Thus, concerns can be described as topics that are of interest: they can focus on both positive and negative aspects of aptitude that a student teacher may want to put effort in.

Connecting concerns: experiences of student teachers

Knowledge of student teachers' concerns and their development should be used as a means to make teacher education more motivating (Fuller, 1969; Fuller, Parsons, & Watkins, 1974). Fuller (1970) argues that "education is 'irrelevant' when it answers, even very well, questions no one is asking" (p. 5, emphasis in original). Motivation is acknowledged to be an important condition for both learning and performance (Pintrich & Schunk, 2002).

Thus, concerns do not relate exclusively to cognitive experiences of teachers, but are also interrelated with affective and emotional levels of thinking (Hall & Hord, 1987, in Dunn & Rakes, 2010), surpassing the more cognitively oriented motivation (Korthagen et al., 2001). Indeed, Hall, George and Rutherford (1977, in Cheung, Hattie, & Ng, 2001) define concern as being "the composite representation of the feelings, preoccupation, thought, and consideration given to a particular issue or task" (p. 226).

Concerns are associated with several dynamics relating to experience, for instance student teachers' beliefs about teaching (Boz, 2009), their feelings of uncertainty (van den Berg, 2002), teacher efficacy (Ghaith and Shaaban, 1999) and specific styles of learning to teach (Oosterheert & Vermunt, 2002). These interconnections stress the importance of the encounters individual student teachers have on the development of their concerns, as they use their personal experiences as a framework for further learning. For instance, a student teacher's own encounters with teachers in his or her past created specific beliefs about how the student may wish to develop, creating an opportunity for concern development. However, additional research is needed to further clarify these relations (van den Berg, 2002).

Hollingsworth (1989, in Guilliaume & Rudney, 1993) suggests two types of influence that may affect student teacher's concern development other than personal ones, being contextual and program influences. Guilliaume and Rudney (1993) explain how educational institutions may differ in structure, sequencing course work and practice in the classroom, expecting that student teachers' concerns may develop in interaction with their educational experiences and context. Lunenberg and Korthagen (2009) and Vermunt (2005) suggest three influential sources affecting concern development that should be taken into consideration: abstract theories as provided by the teacher training, experiences of student teachers during their internships and the practical know-how existing of a sensibility for specific situations in education.

Thus, it can be concluded that concerns are associated the personal framework of student teachers regarding to teacher characteristics, past and recent experiences and environment. It is clear from these interrelations that the development of concerns depends on the teachers' experiences as "their minds are not blank slates awaiting inscription" (Zeichner, 1981). In this way, concerns can be described literally as *teacher concerns*, as they relate to the experience of individual teachers.

Concerns-based model of teacher development: teaching concerns

Originating from the teacher concerns concept, Fuller's CBMoTD is considered as a classic stage theory (Richardson & Placier, 2001). According to Watzke (2003) stage theories focus on distinct points in development unrelated to age. While the model was devised several times (for an overview, see Conway & Clark, 2003) and was adapted to fit the context of specialized teaching areas (see, for instance Campbell & Thompson, 2007, for an adaption for music teachers), three stages outline the model's central quality. These stages are *self*, *task* and *impact* concerns.

The first type of concern to be addressed by the teacher relates to *self*. Students reflect on experiences concerning survival in the classroom, receiving good evaluations, being accepted and their personal feelings of adequacy (Watzke, 2003). Examples of self concerns are: "Will I be able to become a good teacher?", "Do my pupils like me?"

After dealing with self concerns, student teachers concern themselves with *task* related issues. These experiences focus on the tasks that will need to be completed in a teaching situation on a daily basis, referring to duties, materials, methods, the number of students and classroom management (Boz, 2009). For example: "Am I able to prepare a lesson on history by myself?", "Can I manage the thirty pupils in my classroom?"

Finally, the student teachers move away from both self and task related concerns, busying themselves with the *impact* their teaching has on pupils' wishes and learning. Impact concerns relate to meeting the social, emotional and academic needs of pupils (Boz, 2009), such as: "Can I help my pupils in reaching their maximum learning potential?", "Am I able to differentiate according to the needs of different pupils?"

Fuller et al. (1969, in Hall & Hord, 2001) proposed that the self, task and impact concerns relating to specific factors of teaching, follow an identical hierarchical order for all student teachers. The developmental points, the teacher concerns, are evident in teachers' ways of thinking and acting (Fuller & George, 1978, in George, 1978; Boz, 2009). Conway and Clark (2003) summarize the development proposed by Fuller as a journey outward, as the student teachers' concerns shift from ones own survival needs to the wants of pupils. This shift is found in several studies (for an overview, see Burden, 1990; Guilliaume & Rudney, 1993; Watzke, 2007).

Thus, the CBMoTD is related to the shift in attention of the concerns in a context of teaching, ranging from a self micro (self concerns), to a teaching duties meso (task concerns) and finally to a pupil needs macro level (impact concerns). These categories are assumed to

be universal for all student teachers. It could be argued that this assumption relates to concerns being general *teaching concerns*.

Problems concerning the concerns-based model of teacher development

Although Fuller's CBMoTD has been and still is of influence in educational practice (Korthagen, 1998; Schokker, 2006) and scientific research (Burden, 1990; Conway & Clark, 2003), there seems to be little agreement concerning some of its major premises. This causes the validity of the model to decrease (Burden, 1990; Watzke, 2003, 2007). Problems of the CBMoTD stem, at least partially, from the teacher-teaching contradiction. On the one side the theory relates to an individual's experiences and on the other it depends on the more universal shift in attention, creating a dichotomy. Three of the problems concerning validity will be discussed, namely hierarchy, sequence and generalizability. These will be further examined by looking at the way teacher concerns are measured and analyzed in the context of research and educational innovation.

Problems concerning hierarchy and sequence assumptions

While the CBMoTD is fundamentally a stage model, several authors question the degree to which the development of the concerns from self to pupil is indeed hierarchical (Burden, 1990; Watzke, 2007). Researchers doubt both the fixed self-task-impact chronology and the need to deal with self and then task concerns to arrive at the impact stage. As Watzke (2007) puts it: "Rather than representing issues that must be immediately resolved before professional development continues, these concerns are on-going. Rather than chronological, this (teaching) experience seems to be more holistic, encompassing recurring areas of concerns, which are experienced and addressed by the beginning teacher in different ways across time" (p. 118).

Some studies roughly support the stage-like sequence that Fuller suggests, while others find that several concerns overlap or arise simultaneously (for an overview, see Burden, 1990; Guilliaume & Rudney, 1993; Watzke, 2007). Oosterheert, Swennen and van Rijswijk (2005) state that in each developmental phase, a certain concern is not exclusive, but dominant to a certain extent. Consequently, self task and impact concerns can occur at one moment in time and return throughout teachers' professionalization, especially if they encounter new problems and opportunities. Concern models that are employed to guide educational innovation, like the CBAM and the concomitant Stages of Concern Questionnaire

6

(SoCQ, Berg & Ros, 1999; Christou, Eliophotou-Menon, & Philippou, 2004; van den Berg, 2007) also assume that concerns can return if an experience or context triggers them.

Corresponding with the finding that the teacher concern development is non-sequential and non-hierarchical (Watzke, 2007), several studies show that some student teachers do not experience the outward journey from self to task to impact, thus not altering the focus of their concerns (Guilliaume & Rudney, 1993; Conway & Clark, 2003). In the study by Conway and Clark, four of the six students that participated show an outward shift in attention, while two students remain at a self concern stage in the six-month period of data collection. The authors then argue that this may cause to lengthen or even disrupt the student teachers' concern development. There is little information available on the onset and duration of specific stages of concerns (Burden, 1990), other than the knowledge that their development is a longitudinal process by nature (Watzke, 2007). This hiatus in the CBMoTD may be due to variations in research methods, the time frame of the study and the participating teachers, which have an influence on the results (Fuller, 1969).

Thus, recent findings suggest that both the hierarchy and the sequence of teacher concerns, assumptions of the CBMoTD, are in fact not accurate. Rather, it is suggested that self, task and impact concerns alternate or coincide in a non-ranked order.

Problems concerning generalizability assumptions
Watzke (2003, 2007) states that teacher concerns may indeed not be universal for all teachers, bur rather dependent on the individual teacher's experiences and surrounding contexts. Guilliaume and Rudney (1993) and Boz (2009) argue that the many factors interacting with student teachers' past and present experiences may in fact give rise to student teachers' concerns and their development, causing the mixed study results.

Dissimilarities have been found for instance, in different types of teachers. There is agreement on the fact that primary school teachers report greater overall concern compared to secondary teachers, while physical education teachers reported having lower overall concerns (Burden, 1990). Pigge and Marso (1987) distinguished several teaching fields, including elementary, secondary, special education and specialized areas like art, music, health and physical education to relate them to changes in attitude and concerns about teaching. From the results of Pigge and Marso, gender was revealed to have a significant impact on concerns, while Ghaith and Shaaban (1999) found no effect. Ghaith and Shaaban further explored the relation between selected teacher characteristics, teacher efficacy and the perception of teaching concerns, concluding that the concern theory is in need of further research, as their

findings indicated that "teaching concerns are more likely to be context specific rather than universal" (p. 495).

Similar trends are found in employment of concerns theory in educational innovation. Berg and Ros (1999) stress the importance of the "subjective reality of teachers" (p. 879) during reform, causing each person to participate in his or her own manner. McKinney, Sexton and Meyerson (1999) argue that "one of the most stable findings from studies about school change is that the process is highly complex and idiosyncratic, dependent upon factors associated with individual teachers as well as the culture of the school or schools in which it is occurring" (p. 471). All stakeholders, including parents, students, principals, government planners and administrators, should thus be considered as influences on the formation of concerns (Christou et al., 1999; McKinney et al., 1999; Watzke, 2007).

Concluding from the literature, it seems that individuals' characteristics and specifically encounters with contexts and the people in them trigger student teachers' concerns. For instance, a student teacher may think that a teacher should be strict due to his or her own experiences, while a school's culture may cause the trainee to think otherwise. Thus, in this example, a specific experience causes a change in concern for the student teacher. The assumption that all student teachers experience a highly comparable outward concern development (Fuller, 1969) is thus contradicted. Watzke (2007) argues that concern theory should be reformed, as its ability to comprehensively explain the complex nature of teacher development is limited: "The simplicity gained from the conceptualization of teacher development in terms of stages comes with a cost for it deemphasizes its complicated and multi-dimensional nature" (p. 119).

Problems concerning measurement and analysis
Fuller's concern theory was initially constructed through counselling seminars with novice teachers, accumulating in the pioneering stage model consisting of self task and impact concern stages (Watzke, 2003). Two quantitative instruments were modeled from this classification , namely the 15-item Teacher Concerns Questionnaire (Fuller & George, 1987, in George, 1978) and the 45-item Teacher Concerns Checklist (TCC, Fuller & Borich, in Borich, 2000), of which especially the latter is frequently employed recent studies. Both instruments are considered to be valid and reliable (George, 1978; Pilcher & Steele, 2005; Campbell & Thompson, 2007; Boz, 2009). Nevertheless, several studies on student teachers' concerns adapt the tripartite construct, adding altered concern categories to their instruments.

Swennen, Jörg and Korthagen (2004) for instance, add a fourth stage, *general education*, consisting of the following four items: "The limited possibilities in education to innovate.", "Cooperating in a team.", "The growing number of demands placed on teachers." and "The relatively small salary of teachers." Similar items can be found in the TCQ and the TCC, but these are categorized under task concerns, as they do not relate to the survival concerns or the impact on students. Rather than subjecting to the self-task-impact shift in attention, the authors decided to add a category to the model based on student teachers' experiences and contexts, choosing the teacher concern conceptualization instead of the teaching concerns one.

Another example of classifying the concerns experienced by student teachers on basis of experiential subject rather than attentive focus is the qualitative analysis of Guilliaume and Rudney (1993). Six themes of concern are presented: "Lesson planning and evaluation", "Discipline", "Working with pupils', "Working with cooperating teachers and adjusting to their classrooms", "Working with others in the profession" and "Transitions from student to professional teacher" Within these categories, the authors describe transitions from self to task or impact concerns. The authors also prefer the teacher concerns categorization of the CBMoTD, allowing for a broad examination of experienced concerns, rather than the narrowly defined self-task-impact classification that reflects three specific fields of attention regarding teaching concerns. Guilliaume and Rudney assume that within any of these six themes, a shift in attention can occur. It seems reasonable to assume that self, task and impact concerns can be related to any context. At the macro classroom level for example, the student teacher may have diverse concerns: "Do pupils like me?", "Am I able to manage the large number of pupils in the classroom?" and "Can I adapt to meet the learning needs of a specific pupil?", relating to the self, task and impact stages of concern respectively.

Conway and Clark (2003) adapt the CBMoTD into positive and negative concerns, hopes and fears, and find eight categories of hopes, while the nine fear categories are employed. The authors also feel that they need to further analyze the inward focussed self-as-teacher related hopes and fears or self concerns specifically, due to their persistence and frequency.

In research on teacher concerns relating to educational innovations, more than three stages are present, often adding a fourth category of colleagues or the school organization and its culture explicitly (Watzke, 2007). Christou et al. (1999); state that future research on the implementation of innovations should provide evidence on additional personal and contextual aspects of change and their role in the educational system, specifically other stakeholders in

the educational system. Judging from the instrument and analysis adaptations, adding concern categories is also a concern in research relating to student and novice teachers' concerns, like the CBMoTD.

Summarizing, unless the original fixed TCQ or TCC is employed, sometimes adapted to match a specific teaching field (see Campbell & Thompson, 2007, for an adaption for music teachers), researchers feel the need to alter the three concern categories relating to the shift in attention, analysing their data using more broadly defined teaching context concerns. This corresponds with the broader classifications of concerns used in educational innovation models like the CBAM (Hall & Hord, 2001). As van den Berg (2002) describes this process: "The (teacher concern) theory was meant to be relatively sequential and hierarchical, but, over a period of years and as a result of extended research in many countries, it has become much less deterministic in character. Concerns theory can now be used to analyze the different meanings that teachers have with regard to educational practice and relate these meanings to any number of other variables" (p. 593).

The present study

Research questions

From the problems that arise from research literature concerning the validity of the concerns-based model of teacher development (Fuller, 1969), the following research questions are posed.

1. Do student teachers' concerns develop in a hierarchical, outward manner over time?
2. Do teacher concerns arise sequentially rather than simultaneously?
3. Can the concerns-based teacher development be generalized to different student teacher groups?

Mixed methods design

To be able to answer the research questions posed above two quasi-experiments were carried out. Study 1 employed quantitative methods of testing student teachers' concerns, while study 2 focussed on qualitative methods. The main reason for using both quantitative and qualitative methods in the current study is to test the validity of the CBMoTD. Using a pragmatic, mixed methods design as proposed by Johnson and Onwuegbuzie (2004), quantitative and qualitative instruments are combined as if they form a continuum, enabling to review the validity of the CBMoTD from different angles. This kind of approach helps to avoid the

confounding effects of the method on measurements, as part of the outcomes of a study can be attributed to the method that was used (Fuller, 1969; Robson, 2002).

While recent research regularly applies the fixed Teacher Concerns Checklist (TCC, Fuller & Borich, 2000, in Borich, 2000), reflecting the self, task and impact stages, this tripartite classification is found to confine the full range of teacher experiences, causing authors to adapt the model (Guilliaume & Rudney, 1993; Swennen et al., 2004; Conway & Clark, 2003; Watzke, 2007). Watzke (2007) states there is growing evidence that casts doubt on the ability of the concerns model to provide a comprehensive explanation for the processes encompassing beginning teaching.

Following the advice of Robson (2002), apart from using the TCC, a focus group interview is employed, both methods differing significantly, but based on the assumptions of the CBMoTD. Wester and Peters (2009) argue that open-ended focus group interviews are able to visualise the world of the participant, making theory a less dominant factor in research. Robson (2002) adds that a qualitative, flexible design may help to allow participants' perspective, rather than focussing on the researcher's perspective using only a fixed, quantitative design. This is relevant in the current study, as it is strongly suggested that Fuller aims to study concerns of teachers, rather than concerns relating to teaching itself, defining concerns as the perceived problems of teachers and aiming to improve student teachers' motivation to study (Fuller, 1969, 1970).

Fuller did not propose a specific means of assessing teacher concerns. Repeated interviews were used to examine development in concerns (Fuller, 1969). Fullers' concern theory itself was based on a number of counselling seminars with student teachers (Watzke, 2003). In addition, the author tried to construct a more systematic, semi-structured open-ended instrument, the Teacher Concerns Statement, allowing the data to be quantified (Fuller, Parsons, & Watkins, 1974). However, to capture a student teacher's development over time, Fuller (1969) argues that an "almost microscopic examination of the concerns of (…) student teachers" (p. 218) may be necessary to find any changing patterns.

By means of triangulation, more aspects of teacher concerns may be explored (Wester & Peters, 2009), allowing the assumptions relating to hierarchy, sequence and generalization to be explored in a detailed manner. In the first study, the quantitative quasi-experiment is described, based on the TCC (Fuller & Borich, 2000, in Borich, 2000). The second study exists of the qualitative focus group interview.

Study 1

The Teacher Concerns Checklist (TCC, Fuller & Borich, 2000, in Borich, 2000) was employed to test the three assumptions of the CBMoTD. Two grades were asked to complete the checklist of each of the three participating teacher education institutions. This allowed for examination of within group examination of hierarchy and sequence over time, contrasting grades 1 and 2. The generalizability of the stage model was tested by comparing student teachers' concerns of the three teacher education institutions.

Methodology

Sample

Participants were drawn from three educational institutions for primary education. It was decided to compare groups drawn from a regular teacher education (RTE) training with the relatively new academic teacher education (ATE) for primary school. In 2008 the first Dutch ATE was formed, aiming for the improvement of teacher education. This training is in fact a conjunction of the RTE and educational sciences. Combining higher vocational and university training, the level of the ATE is academic, with a special emphasis on the interaction of theory, practice, and self-reflection. Due to the educational science elements of the training, student teachers are prepared to act as pioneers within the school context, aiming to put scientific theory into practice. The focus on school innovation and the academic level makes the ATE an interesting teacher group to examine.

To test whether the teacher concerns model indeed fits all kinds of student teachers, the ATE was compared with two RTE trainings. The ATE and the first RTE (RTE1) programme participating in this study are part of the same institute. Thus the ATE and RTE1 share several contextual and program factors, like the emphasis on reflection, courses on teaching, learning goals and the sequencing of course work and classroom experience.

For the second RTE group (RTE2), students of a different teacher education institute were selected. This student teacher training also seeks to improve the quality of teacher education by offering their students means to specialize on relevant themes like innovative education. The RTE2 training employs four concern phases based on the work of van den Berg (2007), who was involved in presenting the CBAM and concomitant SoCQ in the Netherlands and Belgium (van den Berg, 1999): self concern, task concern, pupil concern and organizational concern. The institution aims to help the student teachers to go through these four stages at increased speed in the beginning of their education, in order to prepare the student teachers for their internships.

All three trainings span four years, interweaving theory and practice in several internships, stressing the importance of students' ability to reflect on their actions. Only two ATE grades existed at the time of data collection, as the study itself was initiated in 2008. Consequently, only first and second grade RTE students were examined to match the academic student sample.

In total, 230 first and second grade students participated in the study. However, several students had missing values on their questionnaire. As it is likely that missing one of the statements in the relatively long checklist may lead to incorrect scoring of the following items, it was decided to exclude all students with missing values on their TCC scores. Thus, the final participant group consisted of 204 student teachers.

Descriptive statistics for the student teachers' categorized for each educational institution and grade can be found in Table 1. Of the students, 39 were male and 165 female, reflecting the largely feminine representation in current teacher education (Driessen & Doesborgh, 2004). Due to the unequal division of sex over the categories, it was not used as a variable in analysis. To determine student teachers' experience in actual teaching, they were asked to estimate the hours they spent teaching in a classroom. The hours of teaching minimum was 1 and maximum 1660, an implausible range, considering that the majority of the student teachers had spent a comparable amount of time on internships. It was decided that hours of teaching was unreliably measured and it was thus not included in further analysis.

Instrument

The instrument employed in this study was the TCC (Fuller & Borich, 2000, in Borich, 2000).This 45-item questionnaire consists of three scales, corresponding to Fuller's self, task and impact concerns of student teachers. Each of the three scales contains 15 items such as: "Doing well when I'm observed as I teach" (self scale), "Having too little control over the curriculum" (task scale) and "Understanding what factors motivate students to study" (impact scale). Each of the statements is followed by a Likert scale ranging from 1 (not concerned) to 5 (extremely concerned). Student teachers choose a rating that reflects their height of concern on the topic at the present time.

A Dutch version of the TCC was not available, therefore it was translated using back-translation. Other than the author, two educational scientists were involved in back-translating the questionnaire, one of them being a native speaker of English. The Dutch TCC can be

Table 1

Sex, Age and Secondary School Type, Categorized by Educational Institution and Grade

group	Sex			Age		
	male	female	*n*	*m*	*sd*	*n*
	First grade					
RTE1	11	25	36	19.03	1.59	36
RTE2	11	32	43	18.47	1.49	43
ATE	2	43	45	18.53	0.99	45
	Second grade					
RTE1	8	18	26	21.08	1.62	26
RTE2	6	18	24	19.71	1.85	24
ATE	1	29	30	19.37	0.56	30
	secondary school type					
	Preparatory middle-level applied education	Middle-level general continued education	Higher general continued education	Pre-university education		*n*
	First grade					
RTE1	3	1	23	3		30
RTE2	4	4	26	-		34
ATE	-	-	-	43		43
	Second grade					
RTE1	4	3	10	4		21
RTE2	1	2	20	1		24
ATE	-	-	-	29		29

Note. Overall, age minimum was 17 and maximum 25.

found in Appendix 1. Both a factor analysis and a reliability analysis were performed to examine the validity and reliability of the translated checklist.

Validation of the instrument

The 45 items of the TCC were subjected to principal components analysis (PCA), using the data gathered from the three educational institutions. Before performing PCA, the suitability of the data for factor analysis was assessed. Inspection of the correlation matrix revealed a large number of coefficients of .3 and above. The Kaiser-Meyer-Olkin value was .81, exceeding the recommended value of .60 and Bartlett's Test of Sphericity was statistically significant, supporting the factorability of the correlation matrix (Pallant, 2007).

PCA revealed 13 components with eigenvalues over 1. A clear break after the third component was revealed by the screeplot. It was decided to retain three components for further investigation. Consequently, PCA was conducted with varimax rotation for three

factors. Two items from the self and impact scale did not load on any of the factors, using .3 as a cut-off point (Pallant, 2007). It was decided to perform another PCA after deleting items 8 and 17. The TCC statements categorized by self, task and impact scales along with checklist numbering and loadings can be found in Appendix 2.

The three component solution explained 37.9% of the variance. The impact component contributed 19.6%, the task component 10.7% and the self component 7.6%. All three components showed a large number of strong loadings, reflecting the three categories of the original TCC, self (15 items), task (14 items) and impact (14 items) (see Appendix 2). However, two of the task items related to being able to handle disruptive pupils, loaded on the self factor with .59 and .54. One impact item concerning the consequences of pupils' health problems on learning loaded on the task factor with a loading of .45. One of the self items relating to the teachers' impact on parents loaded on the impact factor with a loading of .46. When these four items were read, it seemed reasonable to maintain them. It is not unusual for some items to switch scales (see, for instance Pilcher & Steele, 2005; Campbell & Thompson, 2007; Boz, 2009). Like in previous studies, TCC was found to be reliable, the value being .86 for the self, .83 for the task and .88 for the impact scale.

Results

Student teachers' concerns

To capture concern development over time, first and second grade students from the RTE1, RTE2 and ATE groups were compared, allowing for examination of the effect of grade and school on student teachers' concerns.

Scale scores for the self task and impact concerns were calculated by employing the mean score of all scale items. Scale scores and standard deviations on self, task and impact concerns categorized by educational institution and grade can be found in Table 2. A low score reflects that the student had little concerns on this scale, a high score shows students were very concerned about it.

To test whether the type of concern changes over time, developing in a comparable hierarchic manner for all kinds of student teachers, a MANOVA was performed. Three dependent variables were employed, the scale scores of self, task and impact concerns. Two independent variables were used, namely educational institution and grade. An alpha level of .05 was used. Preliminary assumption testing was conducted to check for univariate and multivariate normality, univariate and multivariate outliers, linearity, multicolinearity and singularity and homogeneity of variance-covariance matrices, finding no serious violations.

Table 2

Scale scores and Standard Deviations of Self, Task and Impact Concerns, Categorized by Educational Institution and Grade

	Self		Task		Impact	
	m	*sd*	*m*	*sd*	*m*	*sd*
	First grade					
RTE1	2.91	.47	2.83	.52	3.35	.56
RTE2	3.23	.50	2.72	.49	3.48	.56
ATE	2.93	.61	2.25	.48	3.42	.66
	Second grade					
RTE1	2.79	.68	2.68	.72	3.31	.62
RTE2	3.23	.55	2.72	.42	3.42	.43
ATE	2.98	.63	2.47	.46	3.31	.53

Note. Theoretical minimum is 1, maximum 5.

The MANOVA demonstrated a statistically significant difference between the three educational institutions on the self, task and impact concerns combined (F (6, 392) = 6.73, $p <$ .001, Wilks' Lambda = .82; partial eta squared = .09), resulting in a medium effect size using guidelines as proposed by Cohen (1988, in Pallant, 2007). No significant effect was found for grade (F (3, 196) = 0. 03, p = .83, Wilks' Lambda =.99; partial eta squared = .01). Also, no interaction effect of school and grade was apparent (F (6, 392) = 0.83, p = .55, Wilks' Lambda = .98). Figures 1 and 2 show the self, task and concern scale categorized by grade and educational training.

Three ANOVA's were conducted in order to find out whether self, task and impact concerns were indeed experienced differently by student teachers from the three teacher education institutions. As three comparisons were made, a Bonferroni adjusted alpha level of .017 was employed. The analysis revealed a statistically significant effect of educational institution on self concerns (F (2, 201) = 7.80, $p <$ .001; partial eta squared = .08), with a medium effect size. A statistically significant effect of educational institution was also found for task concerns (F (2, 201) = 14.53, $p <$ .001; partial eta squared = .14), with a large effect size. No differences were found in impact concerns (F (2, 201) = .80, p = .45, partial eta squared = .01).

Post hoc comparisons of the effect educational institution indicated that the mean self concerns of the RTE2 group (M = 3.32, SD = 0.52) was significantly different from both the RTE1 group (M = 2.86, SD = 0.56) and the ATE group (M = 2.95, SD = 0.62). Thus the RTE2 group had significantly more concerns relating to self. Post hoc comparisons between teacher groups on task concerns revealed that the ATE group (M = 2.34, SD = 0.55) was
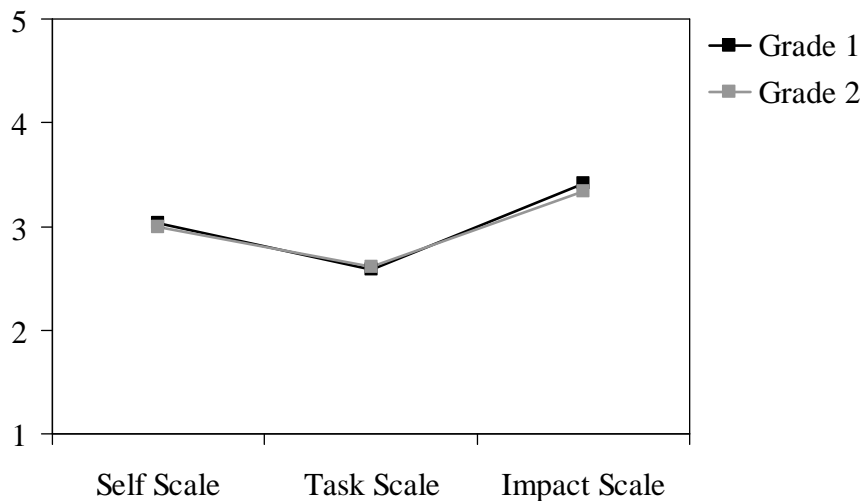
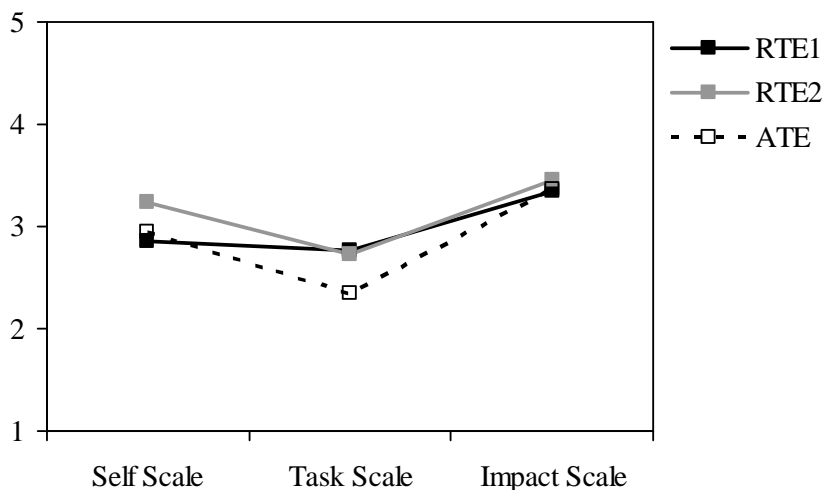*Figure 1*. Concern scales categorized by grade.

Figure 2. Concern scales categorized by educational institution.

significantly different from both the RTE1 group ($M = 2.77$, SD $= 0.61$) and the RTE2 group ($M = 2.72$, SD $= 0.46$). These results indicate that the ATE students experienced more task concerns than both RTE groups. Differences found are marginal, making their relevance rather limited. Results do however contradict the concern model's assumption of generalizability, as the teacher education has an effect on teacher concerns. Hierarchy and sequence in the self task and impact stages or development were not found, as concerns do not develop but stay stable in grade 1 and 2 and arise simultaneously.

Study 2

A focus group method was employed as a means to test the assumptions of CBMoTD. By having student teachers reflect on their one and a half year of teacher education, assumptions regarding the hierarchy and sequence were tested. In order to examine the generalizability of

the stage model, concerns of student teachers' from three different educational institutions were examined.

Methodology

Sample

After completing the TCC used for the first study, second grade student teachers were asked whether they wanted to participate in a follow-up focus group interview. Only second grade students were invited to participate, as first grade students would have only limited experience to reflect on. Conway and Clark state that student completely new to teaching may in fact not experience any concerns in the beginning of their study (2003). From the second grade teacher students, two ATE interview groups were formed, ATE 1 and ATE2, consisting of 2 and 5 students. From the RTE1 group, 3 students were interviewed. The RTE2 group consisted of 4 randomly selected student teachers.

Some background information on the participants categorized by educational institution and interview group is shown in Table 3. It can be seen that most student teachers from the RTE groups enrolled in previous studies relating to education, while for the majority of the ATE student teacher group, academic teacher education was their first study.

Instrumentation and procedure

To be able to visualise the students' concern development, student teachers were interviewed, asking them to reflect on their concerns of the past and present, covering their one and a half years of teacher education. Unlike other studies that analyzed teacher concerns using interviews drawn from other research (Conway & Clark, 2003) or reflective journals that were part of student teachers' course assignments (Guillaume & Rudney1993;), novel data were gathered, focussing explicitly on concerns experienced by student teachers by approaching them directly.

In the four focus group interviews conducted, student teachers were asked to remember major concerns at specific times in their training. Reflection on experiences is a recurrent activity found in all three teacher education institutions, causing the method to be relatively normal for the student teachers. The presence of other students from their grade aided students' recall of past events and enhancing the reflection on their concerns. Robson (2002) argues that focus groups have the advantage of raising participants' consciousness and empowering them. As opposed to the fixed TCC employed in study 1, the flexible, open-

Table 3

Background Information on Interviewed Student Teachers, Categorized by Educational Institution and Interview Group

Name	Sex	Age	Secondary School Type	Alternative study
			RTE1	
Sinead	Female	20	Higher general continued education	Educational assistant
Tabitha	Female	24	Pre-university education	Law
Loredana	Female	21	Preparatory middle-level applied education	Educational assistant
			RTE2	
Dora	Female	20	Preparatory middle-level applied education	Educational assistant
James	Male	19	Higher general continued education	-
Susanna	Female	20	Higher general continued education	-
Jo	Female	21	-	Physical education teacher
			ATE1	
Tori	Female	20	Preparatory middle-level applied education	Obstetrics, 1 year
Kate	Female	20	Preparatory middle-level applied education	Regular teacher education, 1 year
			ATE2	
Annie	Female	20	Pre-university education	-
Duffy	Female	20	Pre-university education	Law, 1 year
Joan	Female	19	Pre-university education	-
Bo	Female	19	Pre-university education	-
Xena	Female	20	Pre-university education	-

ended focus group interview allowed student teachers to make comments in their own words, while being stimulated by thoughts and comments of other group members (Robson, 2002).

Qualitative analyses were be performed on the interview data, using Fuller's stage model as an initial framework, but at the same time allowing for adjustments by adding concern categories.

Categorization of concerns

Although using Fuller's three-stage CBMoTD as a starting point for the analysis, it became clear from early in the data collection process that the self, task and impact concern classification would not be able to account for every type of concern communicated by the student teachers, reflecting the adapted categorization used in several previous studies (Guilliaume and Rudney, 1993; Conway and Clark, 2003; Swennen et al., 2004). Using the self, task and impact classification would result in forcing varying experiences from differing contexts into these narrow categories, risking oversimplification of the complex nature of learning to teach (Watzke, 2007). Instead, using Fuller's (1969) notion of concerns being teachers' experiences, *teacher concerns* rather than concerns relating to certain fixed aspects of teaching, *teaching concerns*, it was decided to form several new context-bound (Hollingsworth, 1989, in Guilliaume & Rudney, 1993) categories based on student teachers' variable encounters. This method allowed for concerns regarding the teacher education itself or the internship school as an organization with a unique culture for instance. This alteration fully employs the strengths of the focus group method by allowing for the participants' perspective, rather than the fixed concern stages of the model (Robson, 2002; Wester and Peters, 2009). Altering the concern stages in favour of the student teachers' experiences, the focus group data could be reflected by an assortment of codes in a way that was more meaningful.

Analysis

The focus group interviews were audio-taped and converted into type script. Focus group interviews are designed to capture collective phenomena, rather than individual ones (Robson, 2002) and analyses were performed on a group level, rather than on the individual level. It was clear from the interviews that within focus groups, students experienced largely similar types of concern, thus it was valid to speak about the different students in a focus group as a cluster.

All of the group interviews' statements were treated as possible teacher concerns. Following an initial reading, a start list of codes was created to summarize statements relating to concerns. This code list was held lightly (Miles & Huberman, 1994), allowing the selection of codes to change in the analysis process. The codes were descriptive, keeping close to the concerns experienced by the student teachers. Interviews were read and re-read, in order to select codes that would best fit all the interviews, allowing for variance between the groups.

Following the completion of the list, all data were re-read and re-coded using the final selection of codes.

After completing the satisfactory code list, codes were categorized into overarching themes. These categories were held lightly, allowing for contextual diversity of the expressed concerns. Like Guilliaume and Rudney (1993), categories related to context were used, rather than the self, teaching task or pupil impact level only. For instance, as a larger number of statements on the competency of the internship trainer was apparent, this was treated as a stand-alone aspect of teacher concerns, not matching the survival, teaching task or pupil impact concern categories. Thus, a statement about the support provided to the student teacher by the internship trainer was categorised as being an *internship trainer concern* category, rather than a self concern. It was assumed that a concern on any subject is able to range in attentive focus relating to either self, teacher task, or the impact on others (Guilliaume and Rudney, 1993; van den Berg, 2007). Regarding the concerns about the internship trainer for example, the original tripartite concern stage classification may be found within this category, for comparison: "Does my internship trainer like me?" (concern for self and survival), "Can I match the lessons on history that are taught by my trainer?" (concern for teaching task), "How can I improve my internship trainer's quality regarding to teaching, using the recent theories taught at my school?" (concern for impact on others). It was decided to retain several sub codes per category to allow for both a detailed visualisation of the concerns the student teacher groups experienced over time and the within category shift in attention.

To examine the effect of time on the student teacher concerns, the time of the onset or the duration of the concern was added to the specific codes used in the individual interviews. The focus groups were set up to explore the one and a half year of teaching chronologically, enabling this type of analysis. Student teachers were regularly prompted to mention the precise time a concern started and give information on its duration. Student teachers sometimes alternated between reflection on present and past concerns, reacting to other students' experiences. Consequently, only a collection of the statements could be related to a specific moment in time. Miles an Huberman (1994) note however, that qualitative research is "inescapably a *selective* process, that you cannot and do not 'get it all' even though you might think you can and are" (p. 56, emphasis in original).

Results

Teacher concerns of the focus groups

Nine broad categories of concerns were formed. Although subcategories show that the shift in attention, the outward journey (Conway & Clark, 2003), can occur within any of these broad categories, it is also described which of the concerns of Fuller's tripartite model the category matches best, self, task or impact. This is done to demonstrate to what extent the original tripartite stage model would fit the student teachers' experiences. Throughout the results, a distinction is made between the school and internship school. The school of the student teachers refers to the institution where they receive their study, the higher educational institution or university. The school organisations where the student teachers do their internships are referred to as internship schools.

- *Personal fit concerns*: concerns that communicate personal preferences, more or less unconnected to the task of teaching itself. These may relate to whether becoming a teacher is desirable and thoughts on which the age group is found to be most appealing to teach. Although not directly relating to teaching, these concerns would best fit Fuller's self category.

- *Learning process concerns*: these are concerns that relate to monitoring the general learning process of the student teacher, such as to having enough knowledge and being able to meet standards. Focussing on learning in general, unrelated to teaching tasks or pupils, this category relates most to Fuller's self stage.

- *Internship concerns*: concerns about learning from the internship as a trainee, not connected to the task of teaching itself. Concerns may relate to being comfortable in an internship school or getting opportunities to learn. Not relating to tasks that are regularly performed by a teacher, but rather to concerns specific for a trainee, this category is best matched with Fuller's idea of self concern.

- *Classroom concerns*: these concerns relate directly to the task of teaching within the classroom. Subject of classroom concerns are the subjects being taught, methods used and managing pupils as a group. This category relates most to Fullers task concerns, although it focuses on the teachers' tasks in the classroom context specifically.

- *Pupil impact concerns*: concerns on the influence the teaching process may have on pupils personally, like how to make learning meaningful and relate to each pupil's

conditions. This category is best reflected by Fuller's description of impact concerns, as they relate to influence of the student teacher on individual pupils.

- *Internship school organisation concerns*: concerns relating to the organizational level of the internship school, like working with colleagues and the internship school's culture. Like van den Berg (2007) concerns relating to the organisation are considered to be exceeding that of self, task and pupil impact, as they relate to impact on people beside self and pupils. Thus, is cannot be matched well by any of the stages of the model by Fuller.

- *Internship trainer concerns*: concerns about the actions and competence of the internship schools' trainers. Student teachers mentioned having concerns about their internship trainer specifically. This type of concerns is characteristic for trainees and does not fit into the tripartite teacher concern model.

- *Connecting study and internship concerns*: concerns describing the interrelation of subjects studied in teacher education and the actual teaching in the internship school. Concerns relate to being prepared for an internship by the school and the match found in theory and practice. Again, this concern category does not fit Fuller's model, as it relates to the match between internships and the study of teacher educational itself.

- *Teacher education concerns*: concerns that communicate events related specifically to the training received in teacher education. Concerns relate to the education the student teachers receive at their school and gaining responsibility for their own school career. While student teachers have concerns about their own training and the concern theory specifically aims to improve this (Fuller, 1969), no category in Fuller's model can match this concern category.

Table 4 shows all of the categories and subcategories per group. Subcategories were ranked to show a change from self to other-related concerns within each category, reflecting the journey outward described by Conway and Clark (2003). Percentages of specific concerns and subtotal percentages per category were calculated, treating them as a proportion of the total amount of concerns uttered, giving an impression of the concern's strength.

From Table 4 it can be seen that the four student teachers groups experience different concerns and they vary regarding to strength, implying that teacher concerns cannot be generalized. For example, both ATE groups have concerns relating to the teacher education, compared to the RTE groups. The RTE1 group is specifically concerned about the pupil impact concern category, like the RTE1, but also with internship trainer concerns. The RTE2

23

Table 4

Percentage of teacher concerns per category for different student teacher focus group interview groups

Label category and subcategories	Percentage per student group			
	ATE1	ATE2	RTE1	RTE2
Personal fit concerns				
1. Do I have enough spare time for hobbies etcetera?	3.37	0.00	0.00	0.00
2. Is teaching the right career path for me?	0.00	2.68	0.00	0.00
3. What age group appeals most to me as a teacher?	0.00	8.05	0.00	1.69
Subtotal category	*3.37*	*10.74*	*0.00*	*1.69*
Learning process concerns				
1. Do I meet the most important standards?	1.12	4.70	0.00	0.00
2. Am I able to perform well?	7.87	4.02	1.23	0.00
3. Is my level of knowledge acceptable?	1.12	0.00	2.45	0.00
Subtotal category	*10.11*	*8.72*	*3.68*	*0.00*
Internship concerns				
1. How much can I learn from doing an internship?	3.37	0.00	0.61	1.69
2. Do I feel at ease at the internship location?	2.25	0.67	1.23	0.00
3. Am I assertive enough in order to optimize my learning experience?	2.25	2.68	0.61	0.00
4. To what extent does the internship school provide me with opportunities and actual means to optimize the learning experience?	5.62	9.39	7.98	3.39
5. To what extent does the internship school provide me time and means to make a meaningful intervention?	2.25	5.37	2.45	1.69
Subtotal category	*15.73*	*18.12*	*12.88*	*6.78*
Classroom concerns				
1. Do the pupils like me?	0.00	2.01	0.00	0.00
2. Am I able to manage the pupils and have them listen to me?	0.00	2.01	0.61	0.00
3. Am I able to teach a group of pupils and design actual lessons?	1.12	2.01	1.84	5.08
4. Can I fulfil the pupils' learning goals?	0.00	1.34	0.00	0.00

5. How do I effectively carry out my teaching tasks in the available time?	0.00	0.00	1.84	0.00
6. What is the quality of the available teaching methods and how do I enhance these?	0.00	0.67	1.84	0.00
7. How can I use teaching methods to enhance my lessons?	0.00	2.01	0.00	6.78
8. Is it alright to stress the importance of reading, writing and mathematics, instead of subject like history and geography?	0.00	0.00	*3.68*	0.00
9. In what manner can I differentiate between pupils from diverse age groups?	0.00	4.02	0.61	6.78
Subtotal category	*1.12*	*14.09*	*10.42*	*18.64*

Pupil impact concerns

1. I what manner do factors like method, construction of the lesson and surroundings influence pupils?	0.00	1.34	3.68	0.00
2. Is my teaching meaningful for the pupils?	0.00	1.34	1.23	10.17
3. How do I promote deeper understanding and metacognitive skills in pupils?	0.00	0.00	1.84	0.00
4. How do I differentiate between pupils with different needs, maximize their learning?	2.25	0.00	7.98	8.47
5. Am I able to create an environment and culture that makes the pupils feel secure and self-confident?	0.00	0.00	11.04	3.39
Subtotal category	*2.25*	*2.68*	*25.77*	*22.02*

Internship school organisation concerns

1. What is the internship school organized like in terms of class management and culture?	0.00	0.67	4.29	1.69
2. Am I able to perform my tasks as a teacher outside the classroom?	0.00	0.00	0.00	5.08
3. To what extent am I aware and able to work with methods specific to the school?	0.00	0.00	4.29	0.00
4. What is the difference between different kinds of schools, such as a Jenaplan or Dalton school?	0.00	0.00	0.00	10.17
Subtotal category	*0.00*	*0.67*	*8.59*	*16.94*

Internship trainer concerns

1. Does my internship trainer like me?	0.00	0.67	0.00	0.00
2. What is the influence of the trainer on the quality of my learning process?	2.25	4.02	15.33	1.69
3. To what extent is my trainer able to help me support my learning process concerning given time and competence?	11.24	0.00	3.68	0.00
4. To what extent is the trainer given support from my teacher education institution?	2.25	0.00	3.07	0.00
Subtotal category	*15.73*	*4.70*	*22.09*	*1.69*

Connecting study and internship concerns				
1. Did my teacher education institution prepare me for the internship?	0.00	1.34	1.23	8.47
2. To what extent does the interaction between the study and internship create excessive workload?	1.12	2.68	0.00	0.00
3. Am I able to complete my internship competencies card with current support from both the school and internship location?	0.00	2.68	1.84	0.00
4. Did I get courses to match the age group I am to teach in my internship location?	0.00	0.67	1.84	8.47
5. Do I have a knowledge-base that can be used to put theory into practice?	5.62	4.70	0.00	5.08
6. Do the courses and evaluations from my study match the practice of my internship?	10.11	2.68	4.29	6.78
7. Am I able to communicate relevant and advanced theories and methods to the teacher or internship trainer?	3.37	2.01	0.00	0.00
Subtotal category	*20.22*	*16.78*	*9.20*	*28.81*
Teacher education concerns				
1. Does the study provide unclear messages concerning rules, regulations and expectations?	4.49	4.70	1.23	3.39
2. Am I able to make the study's deadlines and pass exams on schedule?	7.87	6.04	0.00	0.00
3. Am I pleased about my study's way of teaching, methods and material, and its regulations?	1.12	0.67	4.91	0.00
4. Does the study allow me to have responsibility over my own learning strategy?	6.74	2.01	1.23	0.00
5. How does being the very first conscription of the Academic Teacher Education have influence on me?	4.49	1.34	0.00	0.00
6. In what ways do the regular and academic teacher education trainings differ, and how do I deal with this?	6.74	8.72	0.00	0.00
Subtotal category	*31.46*	*23.49*	*7.36*	*3.39*
Total percentage	*100*	*100*	*100*	*100*

student teachers' concerns are relatively high regarding connecting the study and internship, but they also voice relatively high internship school organisation concerns.

Teacher concern development over time

In order to examine the assumptions of the CBMoTD relating to hierarchy and sequence, a profile was made for each of the four focus groups, focussing on the onset and duration of different concerns. In comparing the student groups, the original interviews and marginal remarks by the author were the main source for creating each group's concern profile. All of the profiles showed that self, task and impact concerns in different can occur at the same time, making the concern development non-sequential. Also, no straightforward outward journey can be inferred from the development, suggesting that there is no hierarchical shift in attention.

Concern development profile RTE1

In the very beginning of their study, the RTE1 students had specific concerns, such as being able to manage pupils in a class and completing their competency checklist provided by the educational training on time. These can be considered to be self concerns.

At the time of the first internship, the student teachers were concerned about whether their educational institution did prepare them thoroughly. In the second internship, these concerns were replaced by new ones, relating to the minor effort spent on subjects as geography, in favour of reading and mathematics. It was also the onset of the deep concern for maintaining a safe environment for pupils, impact concerns that were maintained throughout the study. As Tabitha explained: "*At that time, I started to work with issues like confidence and self-image. And I think those, looking at it now, are very important, maybe the most important in my study career. Especially when you have to teach a group that makes it difficult, that has a difficult time doing that. (…) Depending on the school itself and the group's dynamics and the teacher of the group. What those things can do concerning self-image, confidence.*"

The student teachers agreed that some concerns return in every internship. Recurring concerns were found in several of the categories in Table 4, including learning process, internship and school organisation concerns. Students explained having to create the appropriate surroundings before they could actually work on the concerns they found most important, namely class culture, matching the impact concern stage.

The second half of the first year the RTE1 student group wondered whether they would be able to complete their competency checklist, as this does not match the activities in the internship environment. These concerns focus on survival, making them self concerns. All through the first grade, the students busied themselves with adapting to school life itself, being freshmen.

Throughout their entire study, the students experienced concerns on their own schooling methods, the connection between the study and internships, and the fact that their education was not be able to provide courses relating to handling specific age groups on time. A fair amount of concerns relating to the internship as a learning experience was apparent, with the students scoring on all subcategories. It was also regularly experienced that the internship context caused them to get little opportunity to have an active role in the classroom. This made it hard for them to take full advantage of their internship, as Loredana explained: "(My internship trainer) *would not schedule (my lessons) for my anymore. (…) Well, my*

internship was not too much fun, it was a hard internship, for me too, because she expected quite a lot from me, but would not give me any means to make it happen."

Recent concerns focussed on the question whether the student teachers had an acceptable level of knowledge, a typical self concern, and gaining responsibility over their study strategy instead of being told what to do by their teachers.

Concern development profile RTE2

Unlike the other focus groups, the TRE2 student teachers were concerned about classroom context and the internships school's organization from the beginning of their study. They worried about their ability to teach a pupil group, but also about teaching tasks on an organizational level, different types on education and the internship school's culture itself. As Jo explained: "*Well, I have been taught at a regular primary school, but now I am doing my internship in a Jenaplan school. So, I didn't know what a Montessori school, a broad based school or… All those kinds of education, I didn't know they existed.*"

After the very beginning of the study, the RTE2 student teachers developed concerns regarding the impact teaching and school surroundings may have on pupils, but also the effect a classroom's culture has on pupils. Switching internship schools, the RTE2 students wondered how they could differentiate their teaching to varying age groups.

The impact concerns experienced in the first half on grade 1 of the teacher education study continue further into the academics year, as the student teachers expressed concerns about keeping the culture created by the internship trainer intact. Also, they busied themselves supporting individual pupils with specific needs.

One student mentioned having worries about her teaching in general, overcoming these largely self related concerns by adding some time to her internship and getting help from her internship trainer. Unlike the other groups, the RTE2 group rarely mentioned having concerns relating to their teacher education or the quality of the internship trainer. They did feel however, having missed pedagogy lessons in the first grade, a problem that was solved by becoming more experienced themselves.

Ongoing throughout the one and a half year of study were the RTE2 student teachers group's concerns for different kinds of education, as they get to experience schools' visions and philosophies first hand.

At the time of the interview, the RTE2 student teachers expressed having concerns about being to complete a competency checklist provided by the school, as it does not match the internship schools' practice. As James put it: "*It could be that* (the competency list) *says*

that we are supposed to have a conversation with an external mentor. And, well, we can't do that because that is a task of the internal mentor (rather than the teacher's)." The student teachers also mentioned having some concern about the connection between the study and the internship, as they do not always get the opportunity to teach an age group unknown to them. Finally, the students had concern regarding their ability to create and maintain projects that are their own, like Jo: "*Well, I do have my own project now with the pupils, right now I am teaching about world orientation on Morocco. That is my 'thing'. Plus, I was ill last Monday and* (my internship trainer) *did not do anything on* (the project), *she could do that, but it is specifically my thing. She will wait until you get better before we continue. And that is so much fun, having your own project*."

Concern development profile ATE1

At the start of their study, the ATE1 group had worries regarding to survival. They wondered whether they were doing things right and if they could deal with the deadlines set by the study. Concerning the internship, they asked themselves if they were well prepared by the teacher education and if learned theory could be put into practice. Concerned about the task of teaching, the student teachers worried about their ability to prepare a lesson by themselves.

Some time after the beginning of the study until the first half of the academic year, the ATE1 student teachers were concerned explicitly about the connection between the teacher education and the internship schools. They asked themselves what could be learned form an internship, how it related to the theory learned in school and worried about the extra study load the interrelation may cause them.

The ATE1 student teachers mentioned having similar concerns that come back at the start of each internship. They concerned themselves with feeling at ease at the internship school, the level of assertiveness they needed to exercise and the means they had to make at difference in the internship context.

Although present throughout the entire one and a half year of teacher education, two concerns diminished over time. These related to being able to meet up to the standards and having to deal with tests and delaines. Students admitted feeling more confident in being able to do well, taking of the stress. As Sinead explained: "*If you know that you have to read a book because you will get a test about it, then it won't be as relaxing as reading a book, just because you like it. Because otherwise you might enjoy reading, but then there is, there is a sort of pressure and now that pressure is gone. That is what is happening right now*."

Concerns that reigned throughout the entire study related to the broad range of concerns: gaining responsibility over the study strategy, understanding connections between the study and internship and having spare time for hobbies. The ATE1 student teachers explicitly mentioned having difficulties with internship trainers throughout their study, being trained academically. As Sinead stated: "*People have formed a certain image about you because you go to the Academic teacher education institution, so they think you will be able to do anything, although I am only a second grade student. (…) They have all these expectations. (…) I'm not sure, with all my internship trainers up until now, none of them had a critical view on things and everything I did was fantastic.*" This makes the students insecure about their knowledge base and whether they do now enough.

At the moment of the focus group interview, students reported having concerns about specific school assignments that were thought to be redundant and troublesome, but also discussed how they would challenge themselves, for instance by teaching two different age groups at the same time.

Concern development profile ATE2

The ATE2 group manifested varying survival related concerns at the beginning of their study, relating to several concern categories. They were worried about being liked by both the internship trainer and pupils. On a classroom level, they wondered whether they could get students to listen to them. The ATE2 student teachers voiced several concerns relating to being a freshman, being unfamiliar with studying itself and reading scientific articles that are part of the academic teacher education. They encountered several worries concerning the connection between the study and the internship, amongst them their readiness to for the teaching practice and the relation of study theory and internship practice. On a general level, the student teachers reported they had concerns about being able to meet standards.

In the first half of grade 1, the student teachers were concerned about the quality of the internship, regarding the availability of means to make a change themselves and the effects of this on their learning. These concerns were triggered by switching to a new internship school or class.

Like the other focus groups, the ATE2 student teachers mentioned that their concerns largely depend on the specific grade they teach in their internship. The student teachers experienced recurring concerns about feeling confident in a new internship school setting, having pupils listen to them and differentiating teaching to match it to specific age groups.

In the second part of the first academic year, the ATE 2 group started having concerns relating to several categories, such as the connection between study and internship, means of change in the internship and putting theory into practice. At this time, they developed concerns relating to the impact teaching may have on pupils and the schools organizational level, thus concerns relating to others.

Two types of concerns persisted throughout the entire one and a half year of study. One related to non-educational self concerns, such as the preference for an age group and the choice for teacher education itself. Also, the teacher students expressed several learning process concerns and wondered if the academic level of the training suited their taste. As Duffy explained: "*I do kind of recognize what Bo says, I too doubt constantly whether I do want to* (do this study). *I'm aware that I have doubts because I am afraid I won't be good enough. That may have to do more with me than it does with the training, but it is persistent so to say.*" The second type regarded the teacher education context. The ATE2 group wondered what the effect of being the first academically school teachers will have on them personally. Like the ATE1 group, the ATE2 group had concerns about being able to complete a form specific to the academic training, as they found doing this rather demanding. As for the internships, they wondered what level of assertiveness is preferred for a trainee. Thus most of the recent concerns regard self-related issues in different contexts.

Discussion and conclusion

In this study the validity of the Fuller's concerns-based model of teacher development (CBMoTD, 1969) was examined by testing some of its major assumptions on hierarchy, sequence and generalizability. This was done using a mixed method design. Outcomes of both study 1 and study 2 will be discussed for every research question.

Research question 1: teacher concern hierarchy

The first research question concerned the development assumed in concern theory. The CBMoTD being a stage model, it is assumed that student teachers go through three types of concern, self task and impact. These stages act as a stepladder, as self concerns are assumed to be dealt with before task concerns, and task concerns before reaching impact concerns (Fuller et al., 1969, in Hall & Hord, 2001) in a fixed sequence over time. In study 1 results of the Teacher Concerns Checklist (TCC, Fuller & Borich, 2000, in Borich, 2000) for grades one and two of three Educational institutions were compared to visualise development. No significant effect of grade was found, suggesting that student teachers' in grade 1 and 2 have

similar concerns, demonstrating no change in concern category. This finding contradicts Fuller's (1969) concern model, but it is consistent with the findings of Pigge and Marso (1987) who concluded that changes did not follow patterns like Fuller suggested; the overview by Burden, (1990) stating that the actual onset and duration of concerns remained unclear; Watzke (2007) arguing that concern development depends on an individual's experiences rather than being universal; and Boz (2009), finding no difference between Turkish student teachers' concerns comparing grades 1 and 2.

Study 2 added to this result, as outcomes from the focus group interviews showed that self task and impact concerns vary throughout the study of both the regular and academic teacher education groups, showing no hierarchical development. Consequently, students do not automatically experience a straightforward outward journey, similar to the participant group of Conway and Clark (2003), who found that only four of the six students examined show an outward shift in attention. It was apparent from the interviews that concerns may return in various new incidents, and the student teachers added to this interpretation by stating that they encountered similar concerns at the start of each internship.

The finding that concern development is recurrent, depending on new experiences instead of being hierarchically fixed is supported by the argumentation of Watzke (2003, 2007) and the assumptions of the Concerns-Based Adoption Model (CBAM) and the concomitant Stages of Concern Questionnaire (SoCQ) Hall et al.,1977, in Cheung, 2002; van den Berg, 2007).

Research question 2: teacher concern sequence

The second research question enquired whether teacher concerns did arise sequentially as predicted by Fuller's (1969) model, rather than simultaneously. From the outcomes of the TCC in study 1 it was apparent that student teachers from al grades and teacher education institutions experienced concerns that relate to pupil impact the most, although self and task concern numbers almost as high. Having similar height, the concerns were found to arise at the same time.

These results were supported by the qualitative findings of study 2. Investigation of concern statements of student teachers from all focus groups showed that a broad variety of concerns, amongst them self, task and impact related concerns categories, could be experienced at one moment. Thus, all three stages were evident at the same time, contradicting Fuller's assumption of sequence.

From the results it can be assumed that students do not have to deal exclusively with either self, task or impact concerns at any given time. Results of the current study are supported by the literature overview by Burden (1990), the studies by Reeves and Kazelskis (1985) and Pigge and Marso (1997), each source concluding that student teachers' concerns appear simultaneously, instead of as a staged sequence; Guilliaume and Rudney (1993), arguing that concerns relating to different contexts overlap as does their shift of attention; and Oosterheert et al. (2005) and Watzke, (2007), both studies leading to the conclusion that concerns do occur simultaneously. Again, the findings on concern sequence correspond with assumptions of the CBAM and SoCQ (Berg & Ros, 1999; Christou, Eliophotou-Menon & Philippou, 2004; van den Berg, 2007), presuming that the context rather than a fixed sequence triggers concerns, enabling the concerns to recur and overlap.

Research question 3: teacher concern generalizability

The third question examined in this study related to the assumption of Fuller (1969) that the stages of the CBMoTD were universal to all kinds of student teachers. In order to test for generalizability of the model, student teachers of three teacher education institutions were compared, two from regular teacher education institutions, RTE1 and RTE2 and one from the academic teacher education, ATE. In study 1, an effect of teacher education on both self and task concerns was found, with a medium and large effect size respectively. Post-hoc testing revealed that the RTE2 group had significantly more concerns relating to self. Regarding the task concerns, it was found that ATE student experienced more task concerns than both RTE groups. Thus, the groups differ rather than being comparable.

In study 2 concern statements from focus group interviews were categorized, revealing that interview groups differed in the concerns they experienced, again suggesting that concern cannot be generalized to all student teachers. The RTE1 group had strong concerns relating to impact on pupils, the RTE group was characterized by their ongoing concerns on the internship schools' culture, while only the two ATE focus groups experienced a larger number of concerns relating to the teaching education study they enrolled.

Some of these differences may be related to personal, program and contextual factors, as suggested by Hollingsworth (1989, in Guilliaume & Rudney, 1993). The majority of the RTE1 group was trained as an educational assistant, having more experience relating to working in a classroom. In the training guide of the RTE2 group, it was mentioned that student teachers were be trained using four concern stages, adding the organizational concern. The student teachers also recollected being confronted with organizational concerns in a

course at the very beginning of their study. Concerning the two ATE interview groups, their high concerns relating to their own study could be explained by two factors. The first is that the majority of group had just finished secondary education before enrolling as a student teacher, making them relatively inexperienced freshman. The second factor relates to the fact that they were the first group to ever enrol in the newly established academic teacher education, having them experience all growing pains that are typical for a novel study.

It was not a purpose of the study to compare the student groups directly, but rather to examine whether they experience similar concerns and concern patterns. I was concluded from the interviews that this was not the case. Interestingly, it became clear that the ATE provided a unique context, but the two RTE institutions also differed, suggesting that each educational institution may influence their student teachers concerns. This finding corresponds with the division used in teacher education practice, employing a concern-steered method, relating to the concerns experienced by the student teachers and the concern-steering method, focusing on concerns deemed important by the educational institution (Schokker, 2006). Also, differences were observed in comparing both focus groups from the ATE, indicating that there was also within teacher education training variance.

Results from both studies add to the research indicating that teacher concerns are not universal for all student teachers as contradiction the assumption of generalizability proposed by Fuller (1969). Similar results are found in the studies by Pigge and Marso (1987), who could not find the assumed self-task-impact pattern for all sample sub-groups; Burden (1990), finding that the school level the student teachers educates and the teaching area influence concern development; Guilliaume and Rudney (1993) who find that concerns voiced in student teachers journals show variation regarding to the six concern themes employed; and finally Ghaith & Shaaban (1999) concluding that several teacher characteristics and beliefs play a role in creating concerns. Thus it was found in the current study that student teachers' concern development depends on factors relating to characteristics of the student teacher, teacher education institution and internship school context (Hollingsworth, 1989, in Guilliaume and Rudney, 1993), turning them into concerns of individual teachers.

Validity of the concerns-based model teacher development
The current study added by the body of knowledge on validity of the concerns theory by generating and validating the Dutch version of the TCC, collecting data on concerns from both regular and academically schooled student teachers directly and combining the influence of teacher education and grade influence on concerns. Except for the study by Swennen et al.

(2004) no others studies on teacher concerns were found that employed a mixed methods design. All of these factors allowed for a more detailed investigation of the teacher concerns, concern being a complex, composite concept (Hall, George and Rutherford (1977, in Cheung, Hattie, & Ng, 2001).

The assumptions of the CBMoTD tested regarding hierarchy, sequence and generalizability were all contradicted by the outcomes of this study. Like in other studies, the TCC was found to be reliable and the factor structure of the original model was evident from the factor analyses performed (Campbell, 2007; Boz, 2009). However, the variance explained by the three factor solution was only of 37.9%. Thus regarding to the validity of the CBMoTD being measured by the quantitative TCC, no clear-cut judgement can be given.

Difficulties were encountered in using the tripartite concern scale during analysis of the qualitative data in study 2, as the three stage model could not account for the diversity of concerns voiced by the student teachers. On basis of Fuller's description of the concern concept relating it to student teacher experience and the large number of studies implying that the tripartite shift in attention regarding definite factors of teaching was not practical as a means of analysis, it was decided to focus on concerns being the broad experiences of individual teachers. Like in other studies (see for instance Guilliaume & Rudney, 1993; Conway & Clark, 2003; Swennen et al., 2004), it was decided to alter and add to the original model's self task and impact concern categories. Focussing on the student teachers' influential experiences (Boz, 2009) as a framework for analysis rather than the self-task-impact shift in attention, 9 categories were used to code the data. Four entirely new categories that did not match any of the concern categories by Fuller (1969) were constructed, namely internship school organisation concerns, internship trainer concerns, education concerns and connecting study and internship concerns. The first type of concern is typically found in concern theory applied in educational innovation, and it seems to improve the scope of the self, task impact classification. The second and third category relate to experiences of the student teachers in their role of trainee and student, making sense as concern categories, as student teachers have to work with both teachers and trainers as their superiors. The last concern category, connecting study and internship concerns, reflects a problem that is found in teacher education generally. Korthagen and Kessels (1999) and Korthagen et al. (2001) discuss how a gap between the theory presented in teacher education and teaching practice has appeared, as here is and international pressure towards more school-based teacher education programs. All of these new categories can be expected to have an influence on student teacher motivation regarding teacher education, which is the main goal of the CBMoTD (Fuller, 1970).

From the results of mixed methods employed in the study, it can be concluded that the TCC in itself is a valid instrument, but it is too narrow as it does not cover the teacher concerns in an exhaustive manner. Although the teacher concern model aims to enhance teacher education, it does not include concern categories relating to the student teacher in a trainee or student role, nor does it look at the relation between teacher education and internship schools. It is believed the Fuller's CBMoTD (1969) could be improved by focussing on concerns and experiences of teachers, rather than teaching, allowing for influence from all stakeholders in teacher education, including student teachers, teachers, internship trainers, and pupils (McKinney et al., 1999). Different contexts will have their influence on teacher development though an interaction of people, goals and the culture involved (Guilliaume & Rudney, 1993). As suggested by Watzke (2007) the theory on student teachers concerns as designed by Fuller (1969) should be reconsidered in order to be of help in redesigning teacher education, as its simple tripartite self-task-impact structure has only limited capacity to reflect the complex nature of teacher concerns comprehensively. This study added to exploring a possible reform based on student teacher's concerns explicitly, resulting in nine broad concern categories based on the CBMoTD and literature by Fuller (1969).

Like the development of teacher concerns, the progress made in concern theory is ongoing. Although Fuller's classic and influential concerns-based model of teacher development is now a respectable 50 years of age, it is still expected to submit to new, perhaps recurrent concerns of educational researchers and innovators in order to remain relevant for current teacher education.

Limitations and suggestions for further study

The current study has some limitations. Due to the explorative nature of the study, explorative factor analysis was used, rather than confirmatory factor analysis. Also, due to time constraints the present examination did not employ a longitudinal design or repeated measures. Instead, different grades were employed in order to examine concern development. Genuine longitudinal comparisons of the same group over time may yield progress in student teachers concerns, with a possibility of showing the outward journey as suggested by Conway and Clark (2003). Boz (2009) for instance, found differences in student teachers' concerns, but only in comparing second- and third-year students with fifth-year student teachers.

Ghaith and Shaaban (1999) suggest that the relation between selected teacher characteristics is in need of further research, as findings suggest that concerns are not

universal. In the current study, both sex and hours of teaching experience could not be included in the analysis. Also, it would be interesting so compare different teacher groups, as people from non educational background are welcomed in education, creating a non-regular student-teacher group as to age and experience and matching on-the-job teacher training (VSNU, 2003).

Apart from personal student teacher characteristics, the influence of program should also be investigated systematically, as a growing number of innovative teaching methods is implemented in teacher education (see for instance Broos & Korte, 2007; Vermunt, 2009).

To further validate the TCC, it would be fascinating to compare outcomes of the checklist with qualitative data directly, although no readily available means for doing this are present. The focus group method used in this study was 'microscopic' (Fuller, 1969) in comparison to the fixed TCC, but in order to find out to what extent teacher concerns are indeed personal, methods that investigate student teachers personally should be employed. This would match the movement of individual professionalization tracks (see, for instance, Broos & Korte, 2007).

As Fuller (1969) notes, variations in research methods, the time frame of the study and the participating student teachers all have an influence on the results, and without further investigation of these factors their weight on the results of the current study cannot be underestimated. The CBMoTD may indeed match with one teacher group better that it does with another.

The nine concern categories employed in this study were based on the CBMoTD and literature by Fuller, as well as literature on the general concern theory. It should be further investigated to what extent similar categories can be meaningfully employed in research on student teacher concerns, as the current state of concerns theory caused it to become much less deterministic in character, allowing the concept to be related to "any number of other variables" (van den Berg, 2002, p. 593), possibly losing its initial focus.

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Appendix 1: Dutch translation of the Teacher Concerns Checklist by Fuller and Borich (in Borich, 2000)

Docenten Concerns Checklist

Vertaling van de Teacher Concerns Checklist

door Francis F. Fuller en Gary D. Borich

De Universiteit van Texas in Austin

Er is geen goede Nederlandse vertaling voor 'concern'. Je bent 'concerned' over iets <u>als je er vaak aan denkt en er zelf iets aan zou willen veranderen</u>. Je bent niet 'concerned' over iets alleen omdat je het belangrijk vindt. Als je ergens zelden aan denkt of tevreden bent met hoe de dingen zijn, geef dan niet aan dat je er 'concerned' over bent. Je kan 'concerned' zijn over problemen, maar ook over kansen die je kunt realiseren. Je kan ook 'concerned' zijn over zaken waar je op dit moment niet mee te maken hebt, maar alleen als je verwacht dat ze op je pad komen en je er vanuit dit oogpunt vaak aan denkt. Kortom, je bent ergens 'concerned' over als je er <u>vaak aan denkt</u> en er <u>graag iets aan zou willen doen</u>.

INSTRUCTIE: Deze checklist verkent waar leraren(-in-opleiding) 'concerned' over zijn in verschillende fasen van hun loopbaan. Er zijn geen juiste of onjuiste antwoorden omdat iedereen zijn of haar eigen concerns heeft. Alle gegevens worden vertrouwelijk behandeld en geanonimiseerd.

Op de andere zijde van de pagina staan statements van 'concerns' die je zou kunnen hebben. Lees elk statement en vraag jezelf af: ALS IK AAN ONDERWIJZEN DENK, BEN IK HIER DAN 'CONCERNED' OVER?

Omcirkel een 1 als je niet 'concerned' bent, of wanneer het statement niet van toepassing is. Een 5 staat voor sterk 'concerned'. De andere punten liggen hiertussen. Het is de bedoeling dat je één cijfer per statement omcirkelt, niet meerdere.

PERSOONLIJKE GEGEVENS:

Naam ………………………………………………………………………

Man/Vrouw ………………………………………………………………………

Leeftijd ………………………………………………………………………

Alvast bedankt.

Als ik aan onderwijzen denk, ben ik hier dan 'concerned' over? (bijna) niet   (zeer) sterk

1.	Te weinig administratieve hulp voor leraren……………………………………	1	2	3	4	5
2.	Of de leerlingen me respecteren………………………………………………	1	2	3	4	5
3.	Teveel extra taken en verantwoordelijkheden…………………………………	1	2	3	4	5
4.	Het goed doen als ik geobserveerd word tijdens de les………………………	1	2	3	4	5
5.	Leerlingen helpen om leren te waarderen……………………………………..	1	2	3	4	5
6.	Te weinig tijd om te rusten en de les voor te bereiden………………………	1	2	3	4	5
7.	Niet genoeg assistentie van gespecialiseerde leraren………………………	1	2	3	4	5
8.	Het efficiënt managen van mijn tijd……………………………………………	1	2	3	4	5
9.	Het respect van mijn collega's verliezen……………………………………..	1	2	3	4	5
10.	Niet genoeg tijd om te beoordelen en toetsen………………………………	1	2	3	4	5
11.	De inflexibiliteit van het curriculum……………………………………….....	1	2	3	4	5
12.	Te veel standaarden en voorschriften voor leraren…………………………...	1	2	3	4	5
13.	Mijn vaardigheid om geschikte lesplannen voor te bereiden………………..	1	2	3	4	5
14.	Dat mijn tekortkomingen bekend worden bij andere leraren………………....	1	2	3	4	5
15.	Het gevoel van bekwaamheid bij leerlingen verhogen………………………	1	2	3	4	5
16.	De strikte instructieroutine…………………………………………………....	1	2	3	4	5
17.	Het herkennen van leerproblemen van leerlingen……………………………	1	2	3	4	5
18.	Wat het schoolhoofd zal denken als er te veel herrie is mijn klas is………..	1	2	3	4	5
19.	Of elke leerling zich kan ontplooien…………………………………………	1	2	3	4	5
20.	Het ontvangen van een goede evaluatie van mijn lesgeven…………………	1	2	3	4	5
21.	Te veel leerlingen in een klas hebben………………………………………..	1	2	3	4	5
22.	Het herkennen van de sociale en emotionele behoeften van leerlingen….	1	2	3	4	5
23.	Het uitdagen van ongemotiveerde leerlingen…………………………………	1	2	3	4	5
24.	Het respect van mijn leerlingen verliezen……………………………………	1	2	3	4	5
25.	Gebrek aan maatschappelijke steun voor scholen……………………………	1	2	3	4	5
26.	Of het me lukt de juiste mate van orde in de klas te houden………………..	1	2	3	4	5
27.	Niet voldoende tijd hebben om te plannen……………………………………	1	2	3	4	5
28.	Bereiken dat leerlingen zich gedragen………………………………………	1	2	3	4	5
29.	Begrijpen waarom sommige leerlingen langzaam vooruitgaan……………..	1	2	3	4	5
30.	Het voorvallen van een gênant incident in mijn klas waarvoor ik als verantwoordelijk gehouden zou kunnen worden……………………………	1	2	3	4	5
31.	Niet om kunnen gaan met onruststokers in mijn lessen……………………	1	2	3	4	5
32.	Dat mijn collega's kunnen denken dat ik mijn werk niet goed doe………..	1	2	3	4	5
33.	Of het me lukt om met ordeverstorende leerlingen te werken……………..	1	2	3	4	5
34.	Begrijpen hoe gezondheids- en voedingsproblemen van de leerling invloed kunnen hebben op leren…………………………………………….	1	2	3	4	5
35.	Competent overkomen op ouders……………………………………………	1	2	3	4	5
36.	Tegemoet komen aan de behoeften van verschillende soorten leerlingen……………………………………………………………………..	1	2	3	4	5
37.	Alternatieve methoden zoeken om er zeker van te zijn dat leerlingen de lesinhoud leren………………………………………………………………...	1	2	3	4	5
38.	Het begrijpen van de psychologische en culturele verschillen die van invloed zijn kunnen zijn op het gedrag van mijn leerlingen………………	1	2	3	4	5
39.	Mezelf aanpassen aan de behoeften van verschillende leerlingen………..	1	2	3	4	5
40.	Het grote aantal administratieve taken………………………………………	1	2	3	4	5
41.	Het leiden van leerlingen naar intellectuele en emotionele groei………….	1	2	3	4	5
42.	Met teveel leerlingen per dag werken………………………………………..	1	2	3	4	5
43.	Of leerlingen kunnen toepassen wat ze leren………………………………	1	2	3	4	5
44.	Effectief lesgeven als een andere leraar aanwezig is……………………....	1	2	3	4	5
45.	Begrijpen wat leerlingen motiveert om te leren……………………………	1	2	3	4	5

Appendix 2: Translated TCC statements with checklist numbering and loading, categorized by self, task and impact scale

Self			Task			Impact		
2.	Whether the students respect me	.56	1.	Insufficient clerical help for teachers	.69	5.	Helping students to value learning	.52
4.	Doing well as I am observed during lessons	.57	3.	Too many extra duties and responsibilities	.54	15.	Increasing students' feelings of accomplishment	.44
9.	Losing the respect of my colleagues	.50	6.	Insufficient time for rest and class preparation	.37	19.	Whether each student is reaching his or her potential	.63
13.	My ability to prepare adequate lesson plans	.50	7.	Not enough assistance from specialized teachers	.42	22.	Recognizing the social and emotional needs of students	.72
14.	Having my inadequacies become know to other teachers	.53	10.	Not enough time for grading and testing	.58	23.	Challenging unmotivated students	.71
18.	What the principal may think if there is too much noise	.51	11.	The inflexibility of the curriculum	.49	29.	Understanding why certain students make slow progress	.58
20.	Obtaining a favourable evaluation of my teaching	.49	12.	Too many standards and regulations set for teachers	.51	35.	Appearing competent to parents	.46
24.	Losing the respect of my students	.67	16.	The rigid instructional routine	.43	36.	Meeting the needs of different kinds of students	.68
26.	My ability to maintain the appropriate degree of class control	.63	21.	Having too many students in a class	.56	37.	Seeking alternative ways to ensure that students learn the subject matter	.50
28.	Getting students to behave	.55	25.	Lack of public support for schools	.65	38.	Understanding the psychological and cultural differences that can affect my students' behaviour	.74
30.	Having an embarrassing	.39	27.	Not having sufficient time to	.45	39.	Adapting myself to the needs of	.55

	incident occur in my classroom for which I might be judged responsible			plan			different students	
31.	Not being able to cope with troublemakers in my classes	.59	34	Understanding ways in which student heath and nutrition problems can affect learning	.45	41.	Guiding students toward intellectual and emotional growth	.74
32.	That my colleagues may think I'm not doing an adequate job	.50	40.	The large number of administrative tasks	.64	43.	Whether students can apply what they learn	.46
33.	My ability to work with disruptive students	.54	42.	Working with too many students each day	.54	45.	Understanding what factors motivate students to learn	.68
44.	Teaching effectively when another teacher is present	.68						