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# Teacher dilemmas in challenging students in higher education

Karin Scager, Sanne F. Akkerman, Albert Pilot and Theo Wubbels

Faculty of Social and Behavioral Sciences, Utrecht University, TC Utrecht, The Netherlands

## ABSTRACT

Students need to be challenged to stimulate their learning. Applying challenge in practice however is not straightforward. Challenging students may conflict with other teacher responsibilities, creating potential dilemmas for teachers. This study discloses dilemmas teachers encounter when challenging students as well as the considerations accompanying their actual choices for action when coping with these dilemmas. Based on interviews with teachers, first, a dilemma analysis instrument was developed. Seven main categories of dilemmas were found. One of the main dilemmas encompassed maximizing challenge versus keeping all students on board. University students differ in their ability, confronting teachers with the feeling that choosing to serve one group could be detrimental to the learning of others. The diversity of choices and considerations brought forward by the teachers indicates that it matters who the teacher is, and what he or she stands for and is able to do.

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Teacher dilemmas; morality; ethics; challenge

## 1. Introduction

Research on higher education has consistently shown the need to challenge students in order to prevent boredom and to stimulate learning (Heilbronner, Connel, and Reis 2010; Marra and Palmer 2004; Noble and Childers 2008; Weiss 2003). Previous studies have revealed three factors that are conducive to challenging students to produce their best work in higher education: high levels of complexity, student autonomy, and teacher expectations (Scager et al. 2012, 2013). One might argue that accomplishing teaching practices with these features is relatively straightforward. However, challenge is likely to be but one of many objectives in teaching that follows from teachers' conceptions of teaching and learning or the institutional environment. Research has shown teaching to reflect a complex mix of responsibilities and, as a result, it inherently involves dilemmas (Billig et al. 1988; Enyedy, Goldberg, and Welsh 2006; Kelchtermans 2009; Lampert 1985). As we will explain, realizing challenge in educational practice also easily evokes dilemmas for teachers. The current paper investigates dilemmas underlying teachers' approaches to challenging university students. Studying these dilemmas sheds light not only on a complex array of action options but also on the considerations to be taken into account

**CONTACT** Karin Scager  [k.scager@uu.nl](mailto:k.scager@uu.nl)  Faculty of Social and Behavioral Sciences, Utrecht University, P.O. Box 80127, 3508, TC Utrecht, The Netherlands

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in choosing from these options; such issues are an integral part of teaching in higher education. Considerations entail the weighing of the perceived advantages and disadvantages of the options to choose from.

In the following section, we first treat of the theory of dilemmas in the field of teaching before focusing on the concept of challenge in higher education and its dilemmatic nature.

### **1.1. Teacher dilemmas**

Conceptually, dilemmas are conflicts in which there are multiple, equally viable alternatives, each of which has advantages and disadvantages (Billig et al. 1988; Enyedy, Goldberg, and Welsh 2006; Kelchtermans 2012; Lampert 1985). Other than a problem that can be solved, a dilemma cannot be fully resolved without leaving some residue (Cushman and Young 2009; Denicolo 1996; Kelchtermans 2012). It is not just the prospect of a particular loss, which makes the choice from different options for action difficult; the dilemma arises from the difficulty of weighing the consequences of various options, which complicates the choice (Berlak and Berlak 1981). Teachers have to live with the disadvantages of their choices afterwards, even where discomfited by the unwanted outcomes, which can cause moral stress (Colnerud 2015). It is important to note that dilemmas are subjective, because the advantages and disadvantages of a similar option might be identified and valued differently. Hence, dilemmas require a choice between courses of action, based on considerations of the perceived values of the advantages and disadvantages of the alternative choices. A dilemma is basically about handling a situation where there is often no one right way of acting, but, according to Honig (1996), only a way of ‘acting for the best’.

A body of research recognizes and describes the dilemmatic nature of teaching, relating to the contradictions individual teachers experience in their daily practice as a consequence of the complex and ambiguous nature of teaching (cf. Cabaroglu and Tillema 2011; Enyedy, Goldberg, and Welsh 2006; Helsing 2007; Kelchtermans 2009; Lampert 1985; Lyons 1990). In line with this, Lampert (1985) positioned dilemmas at the heart of teaching, regarding the teacher as a dilemma manager, ‘balancing a variety of interests that need to be satisfied in classrooms’ (190). According to this view, teachers cannot evade dilemmas in practice, but they can find various strategies for handling these, which are shaped by teachers’ values, priorities, knowledge, and their awareness and ability to reflect on alternatives (Kelchtermans 2009; Sumsion 2000).

Although teacher dilemmas are widely acknowledged as being central to teaching, to our best knowledge, there is no research considering the dilemmas teachers experience when challenging students. Creating challenge is a crucial pedagogical mechanism for inducing students’ motivation and fostering learning (Berlyne 1960). An increased understanding of teachers’ considerations when choosing for or against maximizing challenge may enable teachers to better manage and change their work, and shed light on the competing values, beliefs, demands, and practical constraints that may complicate teaching.

### **1.2. The dilemmatic nature of challenge**

For our conceptualization of challenge we draw from psychological theories that include the notion of challenge, such as the control-value theory of motivation (Pekrun 2006), the self-determination theory of motivation (Deci and Ryan 1985), and the flow theory

(Csikszentmihalyi 1975). In a consistent manner, these theories express the inherent relationship between levels of challenge and ability, indicating a need for a delicate balance, with a challenge level slightly above what one easily can do (the ability level) for positive effects on motivation and learning. Csikszentmihalyi (1975) assumes that an appropriate balance between challenge and ability creates a state of flow; accordingly, tasks should increase in their level of difficulty as the student's level of ability improves. This postulate of optimal challenge in flow theory is consistent with the need for competence in the self-determination theory (Ryan and Deci. 2000): To create a feeling of competence, tasks need to be optimally challenging, implying a balance between challenge and abilities. Pekrun (2006) emphasizes the emotional aspect, stating that a lack of balance, caused by demands that are too high or too low, causes negative emotions that can impair intrinsic motivation (Pekrun 2006). According to McWilliam (2009) on the other hand, high challenge is necessary to prepare students for the twenty-first century, even though it can cause negative emotions. She states that: 'Fun is important but of itself, it is unlikely to result in a sustained passion for problem solving and a willingness to wrestle with ambiguity and complexity.' Providing appropriate challenge therefore is assumed to be a vital pedagogical mechanism for teachers. Increasing the challenge, however, may contradict other objectives, such as preserving students' motivation, and thereby cause dilemmas for teachers.

A previous study by Scager et al. (2012) showed that university students reported the highest motivation and learning effects when the challenge considerably exceeded the level of ability. While these students reported maximum learning in periods of high challenge, an imbalance between perceived challenge and ability also induced feelings of worry and frustration (Scager et al. 2012). There was little difference in the way students responded to the high challenge; all of the students reported to have learned the most when over-challenged, and they all experienced negative emotions. Negative emotions such as stress and frustration can damage student motivation (Linnenbrink 2006; Meyer and Turner 2002; Pekrun 2006). Increasing challenge can accordingly be expected to generate dilemmas for teachers in creating a learning environment with an appropriate level of challenge for all students. In doing so, teachers typically also pursue non-academic objectives, such as caring for the well-being of individual students, developing a good learning climate and developing a good relationship with students (Butler 2012; Kelchtermans 2009; Oser 1994). Given the dilemmatic nature of teaching and the assumption that creating challenge might evoke teacher dilemmas, this study aimed to answer the following research question: *What dilemmas do experienced teachers in higher education encounter when challenging students and what considerations do they take into account when making choices related to these dilemmas?*

## 2. Methods

Examining teachers' considerations is not straightforward. Many studies on teacher dilemmas have used direct interview methods, eliciting information from teachers on the dilemmas they experience. This can be problematic as teachers are not equally sensitive to dilemmatic issues and able to reflect on them (Billig et al. 1988; Oser 1994). According to Billig et al. (1988), dilemmas can be expressed explicitly as well as implicitly. In the latter case, discourse should be analyzed and interpreted. According to Engeström and

Sannino (2011, 373), contradictions, or dilemmas, are typically expressed in the form of hedges and hesitations, recognizable in linguistic cues such as: ‘On the one hand’ or ‘Yes, but ...’. In the present study, teachers were asked to reflect on their teaching practice regarding challenging students and an analytic framework was developed for identifying dilemmas in teachers’ discourse.

## 2.1. Context

The teachers we selected all taught at University College Utrecht (UCU), which is Utrecht University’s international undergraduate honors college offering a Liberal Arts and Sciences program. Utrecht University is a large research university in the Netherlands. The three-year college is international, with 64% Dutch students, and 36% students from 56 different countries; the language is English, and the focus of content is on issues that are global and international. Students at this college are selected on the basis of their academic standard (minimum GPA of 3.0), curiosity, and motivation. Courses are offered at three levels, the 100-, 200-, and 300-levels. Courses at the 100-level are accessible by students of all majors and years, entry to a 200-level course requires a 100-level course in the same disciplinary track, and entry to a 300-level course requires a 200-level track course.

## 2.2. Participants

Twelve teachers were chosen to participate in this study, as within this sample size data saturation has been found to occur (Guest, Bunce, and Johnson 2006). Both the Dean and Director of studies of UCU were approached to take on the role of selectors of 12 experienced teachers, spread over course levels and disciplines. We opted for experienced teachers in this study, because such experienced teachers have been found to offer students more challenge than their non-expert counterparts (Berliner 2001). We then checked whether student evaluations confirmed the expert status of the teacher. All 12 teachers had overall scores on course evaluations higher than 4.2 (on a 5-point-scale). Information about the courses delivered by these teachers is included in Table 1. The first author has also observed the courses of six of these teachers as part of a previous study (Scager et al. 2013).

**Table 1.** Courses, levels, class sizes, and student evaluation.

Courses	Level	Class size	Overall student evaluation
Biology	100	28	4.5
Political science	100	25	4.2
Philosophy	100	27	4.6
Economy	200	28	4.4
Law	200	22	4.7
Geography	200	26	4.3
History	200	24	4.3
Political science	200	23	4.2
Linguistics	300	18	4.4
Medical science	300	16	4.9
Political science	300	21	4.6
Biology	300	13	4.8

Although all teachers were responsible for delivery of more than one course at the college, they were asked to talk specifically about just one of their courses. Courses were well spread over the departments and covered all three undergraduate years.

### 2.3. Interviews

In the interviews teachers were asked to reflect on whether they realized challenge and, if so, the manner in which they had realized such challenge. The first part of the interview was unscripted whereas the second part of the interview was structured around the identified challenge factors – complexity, high teacher expectations, autonomy – as well as factors that counterbalanced high challenge (support and safety). As a starting point for this part of the interviews, teachers were asked to assess their levels with reference to these five factors on a scale from one to five in the context of delivery of the selected course. The purpose of this self-assessment was, to encourage the teachers to think about the challenge levels they provided in class, and to further elaborate on the reasons and the manner in which these factors had surfaced, leading to reflections and dilemmas.

In the interviews with the six teachers whose courses had been observed, part of the interview time was reserved for general evaluation of the course, leaving too little time for the actual interview. Therefore, these six teachers were approached for a follow-up interview. To check for influence of the interview type on the results, the results of these interviews were compared with the other six interviews, and were found to have similar results in terms of types and frequencies of dilemmas.

### 2.4. Analyses

The first author read the interviews to uncover, define, and explicate the dilemmas. We developed a Dilemma Analysis Instrument (Table 2), comprising four steps for analysis: (1) identification of dilemmas; (2) detecting the options and the direction of choices; (3) determining the urgency status of dilemmas; and (4) uncovering considerations underlying the choices between the options.

*Step 1 Identification of dilemmas.* The first step entailed extracting from the interviews all fragments comprising dilemmas. We then sought to group the fragments to identify units of analysis. For this purpose, we used a reasoning chain as the defining cut for the fragments (Chi 1997), sometimes combining separate parts within one interview when they concerned the same dilemma. Dilemmas not relating to challenge were removed. Table 2 shows the instrument developed to detect and analyze the dilemmas. To be able to identify dilemmas, we developed a list of linguistic cues (column 1), expanding the types of expressions of hedges or hesitations, as mentioned by Engeström and Sannino (2011).

The second linguistic manifestation – deliberations – occurred the most frequently in the fragments of all 12 participants, although they all had their own manner of speaking. Some showed hesitation, or tended to talk in terms of questions and solutions, while others seemed to prefer deliberations.

*Step 2 Detecting the options and the direction of the choice in the dilemmas*

In a second step, all fragments comprising a dilemma were listed and summarized into themes ‘A versus X’, where A referred to maximizing the level of challenge and

**Table 2.** Dilemma analysis instrument.

Step 1 Indicating dilemmas	Step 2 Detecting the choices and its direction	Step 3 Determining the urgency status	Step 4 Uncovering the considerations
1 Hesitations Cues: 'maybe', 'I am not sure', 'I think' 2 Deliberations Cues: <i>contrasting</i> , 'if I do this, it endangers that'; 'on the one hand ... on the other hand'; <i>Talk of discussions with colleagues</i> , 'but' 3 Problematizations Cues: 'difficult', 'challenging', <i>labeling his/her own behavior negatively</i> 4 Questions or Solutions Cues: <i>rhetorical questions</i> , <i>questions to the interviewer</i> ; 'maybe I could', 'I'm thinking of' 5 Eliminations Cues: 'I do not want to ...'	Choice A  versus  Choice B/C/D/	1 = Urgent Position uncertain Teacher chooses A, but is not happy with A, or with the alternative B. Cues: Speaking in the present Providing recent examples Speaking of emotions Repetitions and/or length of discussion 2 = In deliberation Position hesitant Teacher chooses A, but in the future considers B. Cues: Speaking in the future Speaking of 'could' rather than 'should' 3 = Decided Position certain Teacher chooses A, is satisfied with choice, and does not consider B (anymore). Cues: Speaking in terms of they, he, she, instead of I Speaking in the past Theorizing, generalizing	Cues: Argumentation Reasons Elaborations Experiences Examples

X referred to an option that teachers considered as conflicting with or opposing the challenge. Fragments often comprised multiple themes deriving from different levels of dilemma (e.g., 'A versus B and C'). In these cases, within a particular fragment, we distinguished the primary dilemma – which was the dilemma most frequently referred to as opposing challenge (A versus B) – from the secondary dilemma (A versus C), which consequentially resulted in 67 primary and 28 secondary dilemmas. For example, a teacher could mention hesitating over increasing the difficulty level of his questions in class because students might feel embarrassed when failing to answer (challenge versus safety dilemma), but also because such behavior could affect the relation between teacher and students negatively (challenge versus a positive relation dilemma). We identified seven recurrent dilemmas from the transcripts. In this step, we also considered the choice by teachers to act for or against challenge (A versus B), see Table 2 column 2.

*Step 3 Determining the urgency status of the dilemma.* The urgency status of the dilemmas varied. In some cases, teachers were, at the time of interview, experiencing the dilemma, while, in others, the teachers' positions seemed to have been resolved. We differentiated three distinct statuses dilemmas could represent to teachers, summarized in Table 2 (column 3): urgent, in deliberation, and decided.

*Step 4 Uncovering the considerations underlying the choice between A and B.* In a fourth step, the considerations in making a choice were investigated. Considerations were

understood as the weighing of the advantages and disadvantages of the choice, visible not only in the arguments, elaborations, and reasoning provided by teachers, but also and/or in the examples they were in a position to supply (Table 2, column 4).

To ensure the reliability of the analysis in the four steps mentioned above, we first tested the analysis by coding and discussing five fragments with all four authors. In a next stage, 13 ambiguous cases (30% of the fragments) were checked by the second author, and discussed among the group until agreement was reached. As a third and final check, we tested for inter-rater reliability by asking a colleague to code 25% of the fragments in accordance with the four steps of the Dilemma Analysis Instrument. The resulting Cohen's (1960) kappa coefficients indicated substantial agreement (Landis and Koch 1977):  $\kappa = 0.71$  for linguistic cues;  $\kappa = 0.80$  for dilemma themes;  $\kappa = 0.82$  for the urgency status of the dilemma, and  $\kappa = 0.67$  for direction of choice.

### 3. Results

#### 3.1. Overview of the dilemmas

Seven dilemmas, relating to maximizing the challenge, were found, as shown in Figure 1.

The surface area of the circles represents the relative frequency of mentioning of the dilemma, whereas the numbers between the brackets represent the frequency of dilemmas specifically identified as primary dilemmas. The width of the arrows symbolizes the frequency of the choices pro and contra challenge.

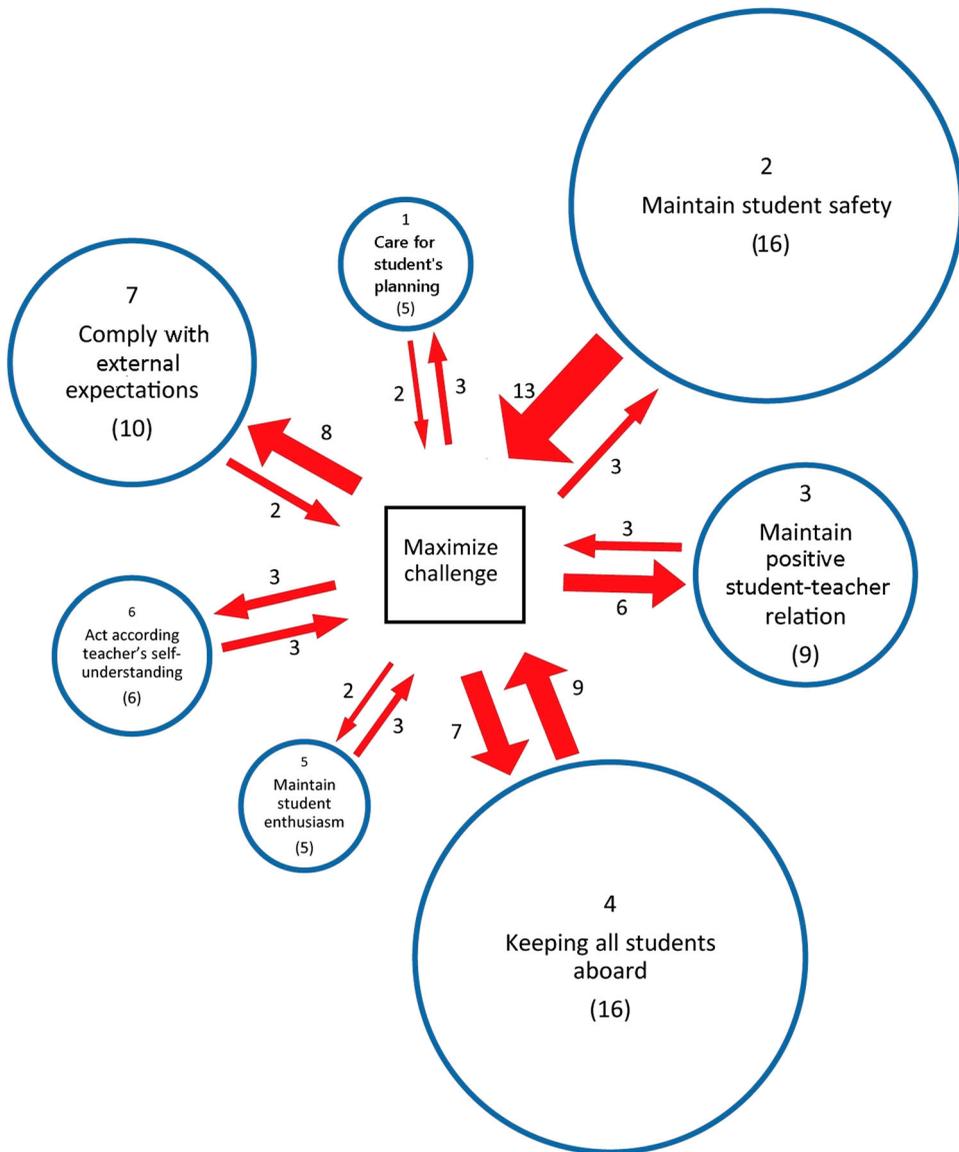
Table 3 shows the frequency of these seven dilemmas, the number of teachers who experienced each dilemma, the choices teachers made for or against maximizing challenge and the urgency status of each dilemma.

'Maintain students' safety' (dilemma 2) and 'keep all students aboard' (dilemma 4) were the most common dilemmas teachers experienced. The least experienced dilemmas were 'care for students' planning' (dilemma 1) and 'maintain students' enthusiasm' (dilemma 5). The number of teachers mentioning the dilemmas was lower than the total frequency of such dilemmas, indicating that teachers sometimes mentioned a dilemma more than once, albeit in a different situation and with different considerations. For example, student safety could be threatened by asking students difficult questions, or by openly providing critical feedback on their work.

Teachers tended to choose to maximize challenge slightly more often than not (35 and 32). Most of the dilemmas were urgent (status 1), meaning that the teachers were currently uncertain about their chosen courses of action, although the frequency differences between the three statuses were small. The urgency status of dilemmas was also well distributed across the teachers. Further, the different dilemmas were well spread over the teachers, and consequentially over the different course levels.

#### 3.2. Description of the dilemmas and considerations

(1) *Maximizing challenge versus caring for students' planning.* This dilemma entailed a choice between maximizing challenge and caring for students' planning of other activities, such as parallel courses. According to the teachers, maximizing challenge could cause stress, because students also have other obligations, or may compromise their freedom



**Figure 1.** Diagram representing the seven dilemmas related to maximizing challenge. The surface area of the circles represents the relative amount of times the dilemma was mentioned (except for 'Maximize challenge'). Between brackets the frequencies of the dilemma – mentioned as a primary dilemma – are given. The width of the arrows symbolizes the frequency of the choices pro and contra challenge.

to prioritize courses or course elements. The status of the dilemma was classified as 'urgent' in all five cases.

Two teachers reported choosing to maintain high expectations, although they were concerned about the negative impact the challenge could have on students' stress levels. A refusal to reduce their learning objectives was one of their considerations. Second, some stress was assumed to be an inevitable consequence of the effort required by students to meet learning objectives.

**Table 3.** Overview of the dilemmas: Frequencies, number of teachers mentioning the dilemma, direction of choice, and urgency status.

	Dilemma	Frequency <sup>a</sup>	Teachers	Direction of choice <sup>b</sup>		Status <sup>c</sup>		
				↑	↓	1	2	3
1	Care for student's planning	5 (1)	4	2	3	5		
2	Maintain students' safety	16 (2)	9	13	3	5	6	5
3	Maintain a positive relation with students	9 (5)	6	3	6	5	1	3
4	Keeping all students aboard	16 (5)	8	9	7	4	9	3
5	Maintain students' enthusiasm	5 (4)	4	3	2	1	1	3
6	Act according teacher's self-understanding	6 (8)	5	3	3	3	3	
7	Comply with external expectations	10 (3)	6	2	8	2	4	4
	TOTALS:	67 (28)		35	32	25	24	18

<sup>a</sup>Frequencies' shows the number of times the dilemma concerned a primary dilemma, and between brackets the number of times the dilemma were indicated as secondary dilemmas.

<sup>b</sup>An upward arrow represents a choice for challenge, while a downward arrow means that the teacher chose for the alternative instead of challenge.

<sup>c</sup>Three urgency statuses are indicated: (1) urgent, (2) in deliberation, and (3) decided.

Two teachers reported choosing to keep the level of challenge for their courses manageable, accepting that students might prioritize other obligations. As one of them explained:

I don't know how important this course is for their future. But I don't want to give them the impression that they have to focus on this course and not on other courses. I don't think I should be offended that some students rather devote their time on another course. I think that that is their responsibility. [...] The best thing I get from students is that they say: 'I did not feel pressure, but I liked it a lot.'

Concern for students' pressure tolerance was the first consideration. A second consideration was the value these teachers attached to students' freedom to take responsibility for setting their own priorities; this was deemed preferable to forcing them to dedicate all of their efforts to a particular course. The word 'offended' in the excerpt above indicates that the teacher's own feelings were involved, which he considered a disadvantage of his choice. Some satisfaction was apparently sought by this teacher, and, if not found in the energy students put into the course, it could be alternatively derived from students' positive evaluations of the course. The fear that students could be bored by the lack of challenge was mentioned as a second disadvantage, creating doubt in the minds of the teachers who made this choice.

(2) *Maximizing challenge versus maintaining students' psychological safety.* A second dilemma arose from the choice between maximizing challenge and maintaining students' feelings of psychological safety, for example, by preserving freedom to contribute to class discussions, thereby precluding students 'feeling stupid'. This dilemma was one of the most frequently mentioned ones (in 16 cases by 10 teachers). In most cases (13 out of 16), maximizing challenge was chosen over maintaining students' psychological safety. These teachers considered it important to stimulate thought as a means of pulling students out of their comfort zone; they did this by expecting answers from many questions – some difficult – and/or by providing difficult assignments. There were several advantages considered in choosing challenge over safety. First, asking difficult questions and expecting answers was assumed to stimulate learning and to deepen the level of class discussions. Second, questioning communicated the need to prepare for class, which also meant helping students keep abreast of the material and deterring procrastination, thereby

supporting students' achievement in the exams later on in the course. Third, discussions (in class and through the Internet) were used to encourage students to share their insights, capturing an orientation to learning as a social process. A byproduct of the intensive interaction in class – according to one of these teachers – was that students came to know each other, a factor possibly contributing to group cohesion. The disadvantage of the choice of maximizing challenge was expressed as the risk that students would feel embarrassed when failing to answer, and, as a consequence, shy away from sharing their thoughts and questions in class. Furthermore, two teachers considered questioning students directly as too 'schoolish', negatively affecting students' own responsibility.

In three cases, teachers reported choosing psychological safety over maximizing challenge. The main consideration for two of these teachers was to diminish the initial insecurity students might feel, which – as one of these teachers argued – was not achieved by scaring them by asking excessively difficult questions. Other considerations of these teachers mirrored the disadvantages mentioned above: wanting neither to affect the safe class atmosphere nor diminish students' responsibility for preparing for class. The disadvantage of this choice for all three teachers was the acceptance that students did not always prepare for class.

(3) *Maximizing challenge versus maintaining a positive relation with students.* A third dilemma entailed the choice between maximizing challenge and maintaining a positive relation with students. In three cases, teachers reported choosing to maximize the challenge, citing the same considerations mentioned in the previous dilemmas: attaining a high level of class discussion and individual student work; helping students to avoid procrastination; and, encouraging shared learning. In addition, these teachers believed that interesting class discussions also contributed to their own enjoyment, which had subsequent positive effects on students' enjoyment. The perceived disadvantage of their choice was the possibility that students might perceive them to be too authoritative. One of these teachers also expected that a possibly disturbed relation would make itself felt in the students' evaluations of the course.

Five teachers described establishing a positive relation with students as taking precedence over enforcing their own expectations. One consideration of these teachers was that students at university level should be expected to take responsibility for their own learning. Also, these teachers considered it 'not their job' or 'not their style' to control students' preparations. Further, teachers spoke about preferring a 'non-authoritarian' or 'relaxed' attitude towards students, encapsulating an unwillingness to use their power. Nonetheless, all five teachers mentioned that a disadvantage of their choice might be that students might not always take responsibility for their homework.

(4) *Maximizing challenge versus keeping all students on board.* The fourth dilemma concerned the heterogeneity – perceived or actual – of students' ability, referring to the choice between maximizing challenge or zeroing in on less able students in order to keep all students on board. This was one of the most frequently mentioned dilemmas (16). The direction of teachers' choices in this regard was nearly evenly spread (9:7), and the considerations regarding disadvantages and advantages accompanying their choices were diverse, albeit not solely dependent on the direction of their choices.

Teachers choosing to maximize challenge considered that the most significant disadvantage of this option was the risk that students for whom the perceived challenge level was too high might lose their self-confidence, which could detrimentally affect their

willingness to participate in class. One of the considerations for setting the bar high – according to these teachers – was that it enhances the quality of students' work and the depth of discussions in class, which makes teaching more interesting and rewarding. Another consideration mentioned by two teachers was that a temporary loss of confidence caused by high challenge could be an important learning experience: students sometimes need to realize that they must intensify their efforts. Lastly, for one of the teachers, a consideration to maximize the level of challenge was to provide students with an opportunity to gain access to a top-level master's degree course.

Teachers choosing to zero in on students with perceived lower than average ability considered the risk of under-challenging the group of students with the highest perceived ability to be a disadvantage. Some of them even feared that they might underestimate the whole group of students, which group could then lose its motivation. Two teachers emphasized the ideological issue raised by the choice to focus on either the top or the bottom half of the class. As one of them said:

But there is also a risk of creating a sort of sect: I, the teacher, you, the good ones, and together we form a sort of little sect. For instance, some of us continue in a social network. [...] I don't want to give them the impression of forming a legion of favorite students here.

(5) *Maximizing challenge versus maintaining student enthusiasm.* The fifth dilemma was mentioned five times and referred to the possibility that students might lose their enthusiasm when teachers and/or texts are too demanding. In two cases, teachers chose not to maximize the challenge, considering that students would lose their enthusiasm when the learning would become too difficult. These cases related to 100-level courses. Stimulating students' motivation for a field of study which was new to the students was considered an important objective for courses at this level. The disadvantage of this choice for the teachers was considered the under-challenging students, and not getting the most out of them.

In the other three cases, teachers chose to maximize the challenge, acknowledging the disadvantage of a loss – even temporary – of students' enthusiasm. The considerations of these teachers depended on the particular situations described. Students could, some ventured, lose their enthusiasm or their confidence because their research plans had been criticized, or because they had secured low grades.

(6) *Maximizing challenge versus acting in line with the teacher's self-understanding.* A sixth dilemma entailed the choice between maximizing challenge or acting in line with what we have interpreted as 'professional self-understanding'. 'Self-understanding' refers to the teachers' conceptions of themselves as teachers, including their self-esteem, job motivation, and task perception (Kelchtermans 2009). This dilemma was more often characterized as a secondary than as a primary dilemma (8:6), indicating that other objectives generally prevailed.

In three cases teachers reported maximizing the challenge, despite the fact that it considerably affected their workload, compromising other tasks and responsibilities. In these cases, teachers took the view that having high expectations of students also required a maximum effort from themselves. Expecting students to achieve highly on assignments, for example, required teachers to not only support students by supplying frequent and elaborate feedback, but also to be very accessible for student questions, and to provide and discuss additional materials with students who wanted to learn beyond the prescribed

curriculum. These teachers said they invested hours far beyond what was formally expected of them, which both negatively affecting their other responsibilities and encroached on their free time and/or family life.

In three cases, teachers described choosing not to maximize the challenge. Their main considerations were related to their own dispositions and nature. As one of them explained:

A bit more expectations, about their behavior in class, I suppose would be good. [Gives an example in which he did not intervene when a student was facebooking in class.] I left it, but well, it was not so much a matter of respect, to be honest, but it was more my own difficulty. Perhaps I don't dare to do it.

For this teacher, expectations would entail intervening when students did not live up to such expectations, an option which, although he considered preferable, was not in line with his own instincts.

(7) *Maximizing challenge versus complying with perceived external expectations.* This dilemma encompassed the choice between maximizing the challenge and complying with the expectations of others (students, colleagues), or with college regulations. In eight out of ten cases, teachers described choosing compliance. Seven of these cases related to courses at the 100 level, which were supposed to cover basic concepts and theories. These teachers believed that students – as well as teachers of subsequent 200-level courses – expected them to cover the basics of the discipline, even though students' interest might decrease as a result of the lack of challenge.

In two cases, teachers described choosing to maximize the challenge despite the perceived expectations of others. In one of these cases, the teacher raised the challenge by allowing students a high level of autonomy in choosing topics for their research assignments, while, at the same time, withholding directing support. Some students, however, expected the teacher to help them choose their topics. The dissatisfaction of students in view of that withholding of support, and the possible showing of their dissatisfaction in the course evaluations, were considered acceptable disadvantages of the choice.

#### 4. Conclusions and discussion

This study aimed to disclose dilemmas teachers in higher education encounter when challenging university students and also the considerations they take into account when making their choices, weighing perceived advantages and disadvantages. Because analyzing the dilemmas – that more often than not were implicitly communicated – required some interpretation for which no standard instruments were available, we developed a four-step procedure, referred to as the 'Dilemma Analysis Instrument' (Table 2). The instrument also provides a tool to future researchers in the classification of dilemmas.

We detected seven main categories of dilemmas. The first dilemma encompassed the choice between maximizing challenge and care for students' planning, such as in relation to their stress levels and their freedom to choose their own priorities. In these cases, teachers reasoned that their responsibility for students moved beyond optimal intellectual development and encompassed non-academic goals such as care for students' general well-being. In other words, it was considered that what was good for a student's learning could interfere with the same student's well-being.

Dilemmas 2, 3, and 5 (maintaining students' psychological safety, maintaining a positive relation with students, and maintaining students' enthusiasm) encompassed instructional choices. Maximizing challenge is supposed to stimulate university students to bring their talents to full fruition. However, at the same time, challenge can negatively affect students' feelings of psychological safety (dilemma 2), and subsequently scare them away from contributing to class discussions. Teachers in this dilemma negotiated two options, which aligned with two separate sides of caring for students: making sound decisions about students and their educational needs ('care for students' future'), and 'care for the present' (helping to fulfill students' basic needs for safety) (Noddings 1992; Oser 1994). Psychological safety is the feeling of being able to show and employ oneself without fear of negative consequences for self-image or status (Kahn 1990). Research on the influence of psychological safety has mainly focused on safety among peers. These studies indicate that psychological safety has a significant impact on university students' social and academic motivation (Wentzel et al. 2010), and is further associated with better team learning and achievement (Edmondson 1999). Such findings validate the hesitation expressed by teachers in our study to affect students' safety. In dilemma 3, challenge was in opposition to maintaining a positive relationship between teacher and students. This dilemma concurs with the findings of Williams and Wilson (2012), who encountered a similar tendency for teachers to focus on establishing positive relationships with students to the detriment of the intellectual quality of the learning experience, rooted in the belief of teachers that positive teacher–student relations are the key to managing students' behavior. In dilemma 5, teachers encountered challenge as a threat to students' enthusiasm, judging that enjoyment decreases when students lose their confidence having been challenged at a level that exceeds their ability. In this regard, the concept of self-efficacy is at stake, which has indeed been found to affect student motivation (e.g. Pintrich and Zusho 2007). These instructional dilemmas show how one pedagogical objective might interfere with other pedagogical objectives.

Dilemma 4 encompassed maximizing challenge versus keeping all students on board. University students differ in their ability – perceived or otherwise – and creating an optimal challenge level for all students in class is nearly impossible. This dilemma confronts teachers with the feeling that choosing to serve one group could be detrimental to the learning of others. As Lampert (1985) explains, such dilemma between 'excellence and equality' does not encompass a neat choice between two abstract social goals, but exposes the teacher both to tensions between individual students, and to inner conflicts in relation to their identity. Managing this dilemma requires not simply better instructional differentiation; according to Oser (1994, 63) 'what the teachers really need is a technique for better estimation of the consequences'. In fact, this dilemma was one of the main dilemmas facing the teachers in the study; namely, what stimulates the learning of one student could be harmful to another student's learning.

All of the first five dilemmas involved frictions between various courses of action in the context of fostering the best interests of students. This list, however, did not fully address why certain values would be prioritized above others in teachers' decision-making. Teachers in higher education also deal with their own needs, limitations, task perceptions, and personalities (dilemma 6), such as maintaining their own enthusiasm. The importance of the self-understanding of the teacher is increasingly recognized, and has been found to be an additional source for the occurrence of dilemmas (Enyedy,

Goldberg, and Welsh 2006; Kelchtermans 2005). The focal point of this dilemma is that what could be good for students might be unfavorable for the teacher. The seventh dilemma encompassed maximizing challenge versus complying with perceived expectations of others (students/colleagues) or with institutional regulations. According to Troman, Jeffrey, and Raggl (2007), institutional policy creates the majority of teacher dilemmas; this, however, was not corroborated by our findings. One possible explanation for dilemmas could be that the college under study allows teachers a considerable amount of freedom, which, according to Colnerud (2006), emboldens teachers to assume greater personal responsibility, resulting in the internalization of dilemmas that were initially created externally. Summarizing, the central theme in this dilemma is the extent to which benefits accruing to students or teachers could interfere with the interests of colleagues or with institutional policy.

Overall, this study showed that challenging university students in order to bring their talents to fruition is an educational objective that can easily collide with other values. Teaching implies, not only a technical agenda of applying concepts that have been found to be beneficial to learning, but also maintenance of an ongoing complex relationship with students, including moral responsibilities and emotional experiences (Kelchtermans 2009). The diversity of choices and considerations brought forward by the higher education teachers in this study exemplifies the importance of who the teacher is, what he or she stands for, and what he or she is able to do. Fundamentally, the moral dimension of teaching concerns what is in the best interest of students (Kelchtermans 2009). As this study demonstrates, however, acting in the best interest of students is, not straightforward. There can be conflicting issues that are both in the interest of a student; moreover, it is undeniable that what produces benefits for some students may be detrimental to others in the same class. Accordingly, there seems no single right or wrong way to handle dilemmas such as those related to challenge as described herein. Our results show that explicating and reflecting on these dilemmas advances our understanding of teaching practice.

#### **4.1. Urgency status and direction of the dilemmas**

Urgent dilemmas were more discomforting than dilemmas accorded the status ‘in deliberation’ or ‘decided’. Helsing (2007) detected fundamental differences in the ways in which teachers respond to and interpret their dilemmas. Some describe dilemmas and uncertainty as a prime cause of anxiety, frustration, burnout, and poor teaching, whereas others claim that the recognition of uncertainty is an important driver of improved practice and that it protects teachers from pessimism, guilt, and frustration (1328). The teachers we interviewed were all experienced, and therefore can be assumed to have had at their disposal a broad selection of courses of action as well as knowledge of the potential consequences of behavioral choices. Their knowledge and experience were expected to allow them to improvise more fluidly than newly qualified teachers. This raises the question as to whether the dilemmas of less experienced teachers are experienced more often as ‘urgent’.

The direction of the choices teachers made was quite evenly distributed both for and against applying high challenge, indicating that the situations were indeed dilemmatic

in nature. Based on similar considerations, teachers described dissimilar choices, weighing the advantages and disadvantages of their choices differently.

#### **4.2. Limitations and further research**

We recognize three limitations in this research. First, the sample was small and consisted of experienced college teachers. It would be worthwhile to expand the study to a larger group of higher education teachers, including newly qualified teachers, in order to validate or extend our findings, revealing, for example, correlations between the different types of dilemmas and teacher experiences. Newly qualified teachers more often experience feelings of frustration and helplessness when facing dilemmas than experienced teachers (Helsing 2007; Pillen, Beijaard, and den Brok 2013). One can therefore imagine that newly qualified teachers would less often choose to maximize challenge to avoid dilemmas. Further, we would expect that newly qualified teachers more often face ‘urgent’ dilemmas than experienced teachers. The ‘urgency’ as an analytical component, however, may well depend on the timing of the dilemma in relation to the timing of the interview, since recent dilemmas are more likely to be unresolved. This issue deserves further research, in combination with research into differences between beginning and experienced teachers.

Another relevant line of research concerns the weighing of disadvantages and advantages of teachers when making choices. When confronted with economic dilemmas, people tend to weigh the disadvantages of a choice heavier than the advantages (Kahneman 2011). It would be beneficial to know whether this finding also applies to teachers’ considerations in educational dilemmas, since the tendency to weigh disadvantages heavier than advantages could hold teachers back from taking risks and trying new instructional strategies.

Second, all the teachers in this study were from one college; therefore, our findings should be viewed as situated in this specific context. To gain a more comprehensive perspective on dilemmas related to teaching university students, it would be beneficial to conduct similar research on other higher education programs both in other countries and in other teaching contexts. The dilemma analysis instrument we developed could be used in such research.

Third, it should be noted that the dilemmas were drawn from interviews that were conducted *after* the courses were finished. These interviews elicited reflections on events that happened during teaching. Conscious reflections, however, are often not the primary driver of behavior; intuitions play a large role in the decisions people make (Haidt 2001), which is why the teachers’ reflections may not have fully reflected their on-the-spot considerations.

#### **4.3. Implications**

Reflecting on dilemmas constitutes powerful opportunities for learning and for the development of teachers in higher education. Dilemmas are endemic to the teaching profession (Biesta 2012; Kelchtermans 2009; Lampert 1985), suggesting that some contradictions are irreconcilable and that the best way to handle them is to find ways to keep their negative side effects to a minimum. According to Biesta (2012), the centrality of judging situations in the context of teaching calls for developing ‘virtuosity for wise educational judgment’.

As judgments in practical situations are often made intuitively (Haidt 2001), it would be prudent to develop the professional intuition of newly qualified teachers. For experienced teachers, in order to break through the patterns of routine behavior, it would be worthwhile to reflect on the values underlying their actions. To progress professional intuition, explicit learning from theory and expertise is needed (Salas, Rosen, and DiazGranados 2010). One way to develop expertise could be found in collaborative reflection on dilemmas. By their very nature, dilemmas allow for the evocation of reflection and argumentation, encouraging teachers to talk about choices and considerations. Recent studies converge to the insight that reflecting on dilemmas can have beneficial effects on teacher learning and change, as it provides teachers with the opportunity to examine and challenge their beliefs and to explore alternatives for change and growth (Helsing 2007; Pareja Roblin and Margalef 2013; Yoon and Kim 2010). Pareja Roblin and Margalef (2013) found that the acknowledgement of dilemmas enabled teachers to adopt a critical perspective on their educational beliefs and practices, thereby strengthening critical reflection. As situations in which judgments are made are unique, each judgment is new (Biesta 2012). Therefore, not only are such judgments important, but the underlying considerations, values, objectives and practical constraints shaping the judgments are of pivotal significance. In light of the fact – as shown in this study – that higher education teachers differ in the way they value the advantages and disadvantages of their choices, reflecting collaboratively and challenging the diversity of the prevailing beliefs and actions (e.g. in professional development programs) would add considerably to the existing learning experience.

## Disclosure statement

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