DUTCH TEACHERS' BELIEFS ON LINGUISTIC CONCEPTS AND REFLECTIVE JUDGEMENT IN GRAMMAR TEACHING

JIMMY VAN RIJT*, ASTRID WIJNANDS**, PETER-ARNO COPPEN***

**Fontys University of Applied Sciences, Sittard; Radboud University Nijmegen **Utrecht University of Applied Sciences, Radboud University Nijmegen ***Radboud University Nijmegen*

Abstract

Teacher beliefs have been shown to play a major role in shaping educational practice, especially in the area of grammar teaching—an area of language education that teachers have particularly strong views on. Traditional grammar education is regularly criticized for its focus on rules-of-thumb rather than on insights from modern linguistics, and for its focus on lower order thinking. A growing body of literature on grammar teaching promotes the opposite, arguing for more linguistic conceptual knowledge and reflective or higher order thinking in grammar pedagogy. In the Netherlands, this discussion plays an important role in the national development of a new curriculum.

This study explores current Dutch teachers' beliefs on the use of modern linguistic concepts and reflective judgment in grammar teaching. To this end, we conducted a questionnaire among 110 Dutch language teachers from secondary education and analyzed contemporary school textbooks likely to reflect existing teachers' beliefs. Results indicate that teachers generally appear to favor stimulating reflective judgement in grammar teaching, although implementing activities aimed at fostering reflective thinking seems to be difficult for two reasons: (1) existing textbooks fail to implement sufficient concepts from modern linguistics, nor do they stimulate reflective thinking; (2) teachers lack sufficient conceptual knowledge from linguistics necessary to adequately address reflective thinking.

Keywords: grammar teaching, teacher beliefs, reflective thinking, reflective judgement, linguistic concepts

J. van Rijt, A. Wijnands & P.-A. Coppen (2019). Dutch teachers' beliefs on linguistic concepts and reflective judgement in grammar teaching. Contribution to a special issue What is Grammar in L1 Education Today?*, edited by Kaisu Rättyä, Elżbieta Awramiuk, and Xavier Fontich. L1-Educational Studies in Language and Literature, 19, 1-28. https://doi.org/10.17239/L1ESLL-2019.19.02.03*

Corresponding author: Jimmy van Rijt, Fontys University of Applied Sciences, Sittard, Department of Teacher Education, Mgr. Claessensstraat 4, 6131 AJ Sittard, The Netherlands, email: j.vanrijt@fontys.nl

1. INTRODUCTION

Historically, grammar teaching has been one of the cornerstones of L1 language education worldwide, dating back at least to classical antiquity (Kraak, 2006, p. 40; Seuren, 1998, p. 26-27). Since the 1970's, grammar teaching has been increasingly debated under the influence of social changes and the emergence of new branches of linguistics, such as sociolinguistics and pragmatics. These international developments gave rise to a new paradigm in language teaching, most commonly referred to as the communicative paradigm (cf. Bonset & Rijlaarsdam, 2004; Sawyer & Van de Ven, 2007), in which—at least in the ideological sense—educational attention shifted from teaching grammar (and literature) to teaching communication skills.

In subsequent years, this has led to considerable changes in the educational curriculum of several countries. In many cases, grammar shifted from a key position in the curriculum to a peripheral one, sometimes even disappearing from the curriculum altogether. In countries where the latter happened, grammar is starting to make a (strong) comeback. Such developments can be observed in the United States (Kolln & Hancock, 2005), the United Kingdom (Hudson & Walmsley, 2005; Myhill, 2018), Australia (Derewianka, 2012), Brazil (Cosson, 2007), Germany (Funke, 2018) and Spain (Fontich & Garcia-Folgado, 2018), indicating that (explicit) grammar teaching has resurfaced as a topic of interest for policy makers and researchers (cf. Locke, 2010). In other educational jurisdictions, such as the Netherlands, traditional grammar education has not disappeared from educational practice at all (Van Gelderen 2010, p. 110).

In recent years, the question that is at the heart of the still quite lively discussions on grammar seems to have shifted from 'why teach grammar at all?' (cf. Myhill, 2000) to (a) 'which grammar should be taught?', and (b) 'how should grammar be taught?' (cf. Fontich & Camps, 2014; Locke, 2010)[1]. This paper addresses these questions from an empirical perspective, with a special focus on the related teacher beliefs and textbooks, since these are known to play a major role in shaping classroom practices (e.g. Borg, 2003; Watson, 2015a, 2015b). We will first provide some background to question (a) and (b) and then we will zoom in on the role of teacher beliefs regarding these questions. In the discussion, we will address these questions, combined with the results from our research, from a perspective of curriculum development (cf. Van der Aalsvoort & Kroon, 2015).

Which grammar should be taught?

The question which grammar should be taught has received a lot of attention (Fontich, 2014, 2016; Fontich & Camps, 2014; Hulshof, 2013). Several researchers have sought the answer to this question in restoring the bond between linguistic theory

[1] *In spite of this shift, the question 'why teach grammar?' remains relevant.*

and grammar education. They argue that conceptual knowledge from modern linguistic theory could well be used to provide grammar education with a common, theoretically sound metalanguage, providing teachers with better ways of conveying grammatical knowledge and students with deeper insights into the workings and structure of language (Carter, 1982; Hudson, 2004; Denham & Lobeck, 2010; Mulder, 2011, Van Rijt & Coppen, 2017; Van Rijt, De Swart & Coppen, 2018; Watson & Newman, 2017). Some of these researchers suggest that identifying relevant conceptual knowledge from theoretical linguistics is a prerequisite for pedagogically enriching grammar education, both for writing education (cf. Fontich, 2016; Watson & Newman, 2017) as well as for enhancing language awareness in general (cf. Van Rijt & Coppen, 2017; Van Rijt et al., 2018).

Van Rijt & Coppen (2017) report on a general agreement between experts of theoretical linguistics regarding concepts from modern linguistic theory that are important for grammar education. Experts agreed on the importance of 24 concepts in the syntax-semantics interface (cf. results section). Using these concepts as a basis for grammar teaching pedagogy will arguably strengthen grammatical awareness and understanding (as is indicated by Watson & Newman, 2017), giving rise to the concept of 'conscious grammar skills' (cf. Manifest Nederlands op School, 2016). Grammar education based on conscious grammar skills strives to strengthen grammatical understanding by the classroom application of linguistic concepts. However, in spite of the agreement on grammatical concepts from Van Rijt & Coppen (2017) there is still a gap between conceptual knowledge from modern linguistic theory and traditional grammatical terminology: it is not at all clear which terms from traditional grammar education can be pedagogically linked to which linguistic concepts, and how this should be done.

There are several ideas about this. For example, Van Rijt (2016) and Van Rijt et al. (2018) propose to introduce concepts such as *semantic roles, valency* and *syntactic functions* when explaining what passives are in the pedagogical arrangements for the passive construction, with specific attention to what is known in linguistic theory about the so called 'mapping problem' (cf. Bresnan et al., 2016). Another example is using the general concept of *predication* (cf. Van Eynde, 2015) as the basis for understanding several traditional grammatical categories, such as primary and secondary predicates, appositives and predicate nominals (cf. Coppen, 2011; Van Rijt, 2017), or for using the concept of *valency* (cf. Perini, 2014) as a foundation for understanding the difference between obligatory (e.g. complements) and facultative elements (adjuncts) (e.g. Van Calcar, 1983; Van Rijt, 2013, 2016).

Although there are some ideas for implementing conceptual knowledge in order to gain a better understanding of the terminology from traditional grammar, empirical evidence for its effectiveness in the classroom is currently lacking. Future research exploring this is highly desirable (Fontich & Camps, 2014; Hulshof, 2013).

How should grammar be taught?

Regarding question (b), 'how should grammar be taught?,' there appears to be a general preference for contextualized grammar teaching, in accordance with the aforementioned communicative paradigm and its instrumental view of language. For example, in Australia and New Zealand, a Hallidayan (i.e. 'functional') view on grammar is maintained (Christie, 2010; Derewianka, 2012; Exley & Mills, 2012; Fench, 2010; Halliday & Webster, 2016; Jones & Chen, 2012). This general preference for communicative goals also seems to be in line with research into the relationship between grammar teaching and literacy development (e.g. Locke, 2010; Myhill, Jones, Lines & Watson, 2012). Whether or not teachers adopt such a contextualized approach to grammar teaching, the question remains 'how teachers can facilitate higher levels of metalinguistic understanding' (Chen & Myhill, 2016, p. 107). Reflecting on experiences in language learning seems to be beneficial for achieving this goal (cf. Van Velzen, 2016).

According to Fontich (2014), the role of reflection cannot be underestimated. He states that dialogue is such a means of facilitating linguistic understanding and should therefore be at the core of grammar teaching. Talking about grammar is likely to help students observe language from a broad perspective and from different points of views, which will lead to the development of their reflective attitude. Fontich (2014, p. 273) does not only describe this reflective attitude as the willingness of students to argue their positions in dialogue about grammar, but also as the willingness to ask others about their position, and to change their opinion. A reflective attitude is in turn a prerequisite for reflective thinking, and it might also be deemed as the permanent source of grammar learning (cf. Fontich, 2016).

According to Lipman (2003, p. 26) reflective thinking is 'thinking that is aware of its own assumptions and implications as well as being conscious of the reasons and evidence that support this or that conclusion'. Both Vygotsky and Dewey, and many of their heirs, defined reflectivity as an important key for learning. They consider reflective thinking as a meaning-making process in which a learner moves form one experience into the next with a deeper understanding of its relationships with and connections to other experiences and ideas (Dewey, 1933; Kember et al. 2000; Kember et al., 2008; King & Kitchener, 1994; Rodgers, 2002; Vygotsky,1962).

Dewey (1933) states that true reflective thinking concerns the recognition that a genuine problem exists and that this problem cannot be addressed by formal logic alone (King & Kitchener, 1994, p. 6). To solve the 'condition of mental unrest and disturbance' (Dewey, 1933, p. 13) people make a judgment about this problematic issue, also labeled as an ill-structured problem (King & Kitchener, 1994, 2000). The development from non-reflective thinking to reflective thinking has been described in the framework of King & Kitchener (1994) and is called the Reflective Judgment Model. This model distinguishes three main stages: a pre-reflective stage, a quasi-reflective stage and a reflective stage. Individuals reasoning in a pre-reflective

manner assume that knowledge is absolute, objective, certain or temporarily uncertain in some areas, because the evidence has not yet become clear. They also assume that answers can be given by authorities (King & Kitchener, 1994; Muis, 2007). Individuals reasoning with a quasi-reflective stance assume that knowledge can differ among individuals. Individuals can think differently in various contexts or can think from multiple perspectives. 'Interpretation is inherent in all understanding; therefore, no knowledge is certain' (King & Kitchener, 2002, p. 253). In the highest stage of reflective thinking, the reflective stage, individuals realize that knowledge is uncertain and must be understood in relationship to context and evidence. Reflective thinkers realize that a problem can face different possible solutions. Such thinkers can compare and evaluate these solutions to come to a justification of the problem. Because of this, they can also take different points of view into account. When confronted with an ill-structured problem, reflective thinkers use higher order thinking skills, such as analyzing, evaluating and creating from Bloom's well-known taxonomy, whereas pre-reflective thinkers use lower order thinking skills, such as remembering, understanding and applying (see Kember, 2002, 2008).

In traditional L1 grammar teaching, students mostly remain non-reflective or pre-reflective thinkers because of the restriction to lower order objectives as remembering, comprehending and applying, aimed at avoiding uncertainties, which is even strengthened by a general emphasis on the prescriptive norm (cf. Berry, 2015). Students are not encouraged to think about possible different solutions for grammatical problems—instead, they are told to restrict themselves to a prescriptive norm, thus causing them to remain stuck on their initial beliefs (cf. Coppen, 2009; Fontich, 2014). They are not stimulated to surpass the level of habitual action and understanding. In contrast, a more descriptive approach to grammar, more in line with current linguistic thinking (Hudson & Walmsley, 2005), would already require a much more reflective way of thinking, encouraging students to think beyond the prescriptive norm and to integrate different perspectives on grammar (Fontich, 2014).

To achieve this more descriptive approach to grammar, students can consult corpora of spoken or written language (Van Rijt & Wijnands, 2017) or reference grammars in which the variety of language reality is described (Wijnands, 2016). This language reality is illustrated with many examples from the standard language and its varieties. By using reference grammars students can learn how to analyze language from three perspectives: their own language intuitions, language reality and the prescriptive norm. This enables them to develop a more critical and reflective attitude towards language which will enhance their linguistic awareness (Fontich, 2014). Students would thus reach the level of *reflection* or even of *critical reflection*. Reaching this state of reflection is most likely possible by letting students engage in exploratory talk (e.g. Mercer, 2005; see also Fontich, 2014).

According to Ribas et al. (2014, p. 15), 'there are close ties between grammatical concepts and studying and reflecting procedures'. A real comprehension of the more abstract concepts of modern linguistic theory, in this view, is a prerequisite for the

development of reflective thinking. As such, the development of both conceptual knowledge and reflective thinking can be seen as the target of grammar education.

In spite of all this attention to bridge the gap between theoretical linguistics and L1 grammar education, and notwithstanding communicative or functional goals at the center of current ideology, grammar teaching in L1 classrooms is still mainly traditional in nature throughout the world. Grammar teaching still often consists of isolated parsing exercises that seem to be mostly form-focused (Graus & Coppen, 2015; Watson, 2015). It generally seems to be associated with rules of thumb and superficial tricks (Berry 2015; Coppen, 2009), which causes many students to look upon these as the target of grammar teaching rather than the underlying grammatical concepts or insights. If grammatical insights are being addressed at all, these are commonly not rooted in modern linguistics (Van Rijt et al., 2018).

In terms of Anderson & Krathwohl's (2002) and Bloom's (1956) taxonomy, learning objectives in grammar education are limited to remembering rules and isolated forms, and applying superficial rules-of-thumb. No real comprehension is aimed at, and analysis is again limited to applying predefined sequences of rules-of-thumb. On the whole, grammar education comes down to instructions to avoid errors or grammatical problems, both in language use as well as in grammatical analysis (Coppen, 2009). As such, it fails to address uncertainties, which are necessary for the development of reflective thinking (cf. King & Kitchener, 1994). Subsequently, hardly any reflective development is achieved by current grammar education.

In conclusion: both reflective thinking and linguistic conceptual knowledge are practically absent in current grammar education, although in the educational literature, these aspects are considered crucial for grammar teaching (Coppen, 2011; Ribas et al., 2014; Van Rijt & Coppen, 2017). However, much still remains unclear about how teachers think about these approaches to grammar teaching. In other words: what are their *teacher beliefs* regarding conceptual knowledge and reflective thinking in grammar teaching?

Central to the current study is what Dutch language teachers believe is important in grammar teaching and why. If teachers have different beliefs than the ideals promoted in the educational literature (e.g. Ribas et al., 2014; Van Rijt & Coppen, 2017; Van Rijt et al., 2018) and in the manifesto (Manifest Nederlands op School, 2016) cited before, grammar education will be difficult to improve accordingly. Therefore, gaining knowledge on these beliefs is of great importance. After all, in recent years, it has become clear that *teacher beliefs* have a major role to play in (language) teachers' pedagogical choices. For example, it is well-established that teachers mostly teach in ways that resemble the way in which they themselves were taught (Borg, 2003; Holt Reynolds, 1992; Hudson, 2001; Phipps & Borg, 2009; Watson, 2015a; Watson, 2015b), and it is widely acknowledged that teacher beliefs shape language classrooms.

Even though teacher beliefs are at the core of educational research, both for existing teachers as well as for preservice teachers (e.g. Giovanelli, 2015, 2016; Graus & Coppen, 2015), little is known about these beliefs in Dutch L1 grammar education.

In the present study, we adopt Borg's (2003, p. 81) definition of *teacher beliefs*: 'what teachers know, believe and think', and we focus in particular on the two aspects of the teacher's beliefs that are perceived as important in much of the educational literature on grammar teaching: conceptual knowledge (derived from or related to modern linguistic theory) and reflective thinking (in the sense of King & Kitchener, 1994). This focus also has great relevance beyond the Dutch context, since to our knowledge, this is the first study to address these specific aspects of teacher beliefs in grammar teaching.

We will investigate these beliefs by conducting a questionnaire complemented by an analysis of frequently used school textbooks. The questionnaire aims to give direct insights into self-reported teacher beliefs, whereas the analysis of textbooks provides more indirect data on teacher beliefs, since in the Netherlands, school textbooks are created with the help of teachers, i.e. teachers create and review textbooks, and advise editors on new editions.

2. METHOD

2.1 Questionnaire

According to Maggionni (2004, p. 179), the most effective way to measure (epistemic) beliefs, is to conduct a questionnaire. Various other methods, such as interviews or essays, prove to be very time-consuming and more importantly, far more difficult to score properly. Moreover, in previous research into epistemic beliefs, it has become apparent that social desirability issues arise when using interviews. Additionally, according to Maggionni (ibid., p. 179) 'written interviews, for example, have increased the chance that individuals do not engage the problem deeply or quit trying'.

Beliefs on perceived grammatical knowledge too are often measured by questionnaires (cf. Berry, 1997; Macken-Horarik, Love & Horarik, 2018). Therefore, in order to gain insights into the teacher beliefs regarding both conceptual knowledge and reflective thinking in grammar teaching, we questioned in-service secondary school teachers of Dutch Language and Literature via an online questionnaire using Qualtrics (n = 110). The questionnaire was distributed amongst teachers of Dutch through a Facebook group for Dutch language teachers and per e-mail and was accessible for two weeks. Teachers could anonymously take the questionnaire and they could win a book about language for their participation. The questionnaire was pretested on preservice teachers from two separate universities of applied sciences (n = 19), which led to some improvements in the formulation of questions or items.

2.1.1 Participants

A total of 110 teachers participated in this study. The majority of teachers mainly taught havo/vwo classes (n = 73); the other 37 mainly taught at the vmbo/mbo level.

[2] 45 teachers held a grade one qualification, for the highest classes, whereas 65 teachers were grade 2 certified, which means they can only teach in the lower classes. Their experience as a teacher in Dutch language and literature ranged from 0-5 years (*n* = 40), 6-10 years (*n* = 32), 11-15 years (*n* = 18), 16-20 years (*n* = 10) to >21 years (*n* = 10). The vast majority of teachers indicated using a textbook by an educational publisher in their grammar teaching (*n* = 97). The two most commonly used textbooks were *Nieuw Nederlands* ('New Dutch', *n* = 54); *Op Niveau* ('On level', *n* = 20) (cf. next section.)

2.1.2 Outline of the questionnaire

The questionnaire was divided into three main sections: (1) reflective thinking in the context of grammar teaching, (2) teachers' beliefs regarding conceptual knowledge and (3) teachers' contentment with the textbook they were using. All items were randomized within each section.

In the first of these sections, regarding reflective thinking, participants scored items on a five-point Likert scale (ranging from *fully disagree* to *fully agree*), which was strongly based on the validated items Maggionni (2004) used for reflective thinking in history classes (cf. Appendix 1 for the items we used in this section). The items were designed to measure pre-reflective[3] (Cronbach's α = .62), quasi-reflective (Cronbach's α = .69) and reflective thinking (Cronbach's α = .82) in the grammar classroom and also included some items with negative loadings to mirror reflective thinking. On average, the scale had a decent internal validity (mean Cronbach's α = .71). Since we measured three categories with two extremes (pre-reflective versus reflective), we used a Pearson's correlation to verify if participants did not score the same on both scales (e.g., having a high score on both the reflective and pre-reflective scale). Pearson's *r* indicated a significant negative correlation between the pre-reflective and the reflective scale (*r* = -2.14, *p* = .025, two-tailed), indicating that the scales were indeed answered to differently.

The second section asked teachers how familiar they were with the grammatical concepts from Van Rijt & Coppen (2017), again on a five-point Likert scale (ranging from *I have no idea what this concept entails* to *I can effortlessly explain this concept*). This scale had an excellent internal validity (Cronbach's α = .94). Additionally, this section aimed to gain insights into how familiar teachers are with

---

[2] Vmbo (voorbereidend middelbaar beroeps onderwijs = lower general secondary education; mbo (middelbaar beroeps onderwijs = intermediate vocational education; havo (hoger algemeen voortgezet onderwijs = higher general secondary education; vwo (voorbereidend wetenschappelijk onderwijs = pre-university education).

[3] Note that in the pre-reflective scale, we deleted one item that appeared to correlate poorly with most of the other items. This is probably due to a negative formulation in the question. Removing this item increased Cronbach's α from .53 to .62.

two key concepts from the recent literature on grammar education in The Netherlands, namely *predication* and *valency*. To establish whether or not teachers might refer to these concepts, either implicitly or explicitly, we let teachers respond to statements that are indicative of referring to either concept.

The final section of the questionnaire, which had a very good internal validity as well (Cronbach's $\alpha = .89$), was designed to measure the extent to which teachers were satisfied with the textbook they used for grammar teaching. In an open question, teachers could elaborate on the scores they had given. We analyzed these open questions by dividing them into categories in a grounded theory approach consisting of one cycle (cf. Strauss & Corbin, 1990). We created a category if a certain response occurred three times or more.

2.2 Analysis of contemporary textbooks

In the Netherlands, textbooks are being produced by educational publishers in cooperation with teachers. Therefore, textbooks aim to reflect existing teacher's practices as well as possible. Furthermore, because teachers play an active role in creating these textbooks, an analysis of existing school textbooks should give insights into teachers' beliefs, especially when combined with teachers' contentment with such textbooks (cf. previous section).

Based on the participants' answers in the questionnaire, we selected the two most frequently used textbooks used in Dutch grammar lessons (one of which was co-authored by one of the researchers). We analyzed these textbooks to establish to what extent they offer opportunities for teachers to work on reflective thinking and conceptual knowledge in grammar classrooms.

Both textbooks were analyzed for two distinct educational levels: vmbo-b/k (one of the lowest levels of lower general secondary education) and vwo (pre-university education, i.e. the highest level of secondary education). We examined one particular edition of each textbook. For *Nieuw Nederlands*, we analyzed the fifth edition; for *Op Niveau*, we analyzed the first edition. We chose editions that were not the newest edition (because these editions are not yet implemented in most schools), but the edition prior to that one. That way, we could guarantee examining a recent edition that is also commonly used in classrooms. This is important because we wanted to make sure that our analysis would be a reflection of the current state of affairs. Because we were looking for evidence of reflective thinking in these textbooks, we applied a grounded-theory analysis (Strauss & Corbin, 1990) with sensitizing concepts (cf. Bowen, 2006) from Bloom's (1956) taxonomy. According to Moseley et al. (2005, p. 313), who considers the taxonomy of Bloom as a 'three-tier model', the first two steps of thinking consist of *information gathering* and *building understanding*, the latter being 'relatively simple ways of understanding, elaborating and using what is known'. These two stadia refer to the lower-order thinking stadia of Bloom's taxonomy, namely remembering, understanding and applying. The third step of thinking, namely *productive thinking* refers to higher-order thinking, which Moseley

et al. (2005, p. 313) describe as 'a learning process which leads to deeper understanding of the nature, justification, implications, and value of what is known'. Although Moseley et al. (2005) suggest that reflective thinking can take place irrespective of the cognitive stage, we argue that higher-order thinking provokes considerably more reflective thinking than lower-order thinking.

We were also interested in the extent to which these textbooks introduced linguistic concepts other than the conceptual terminology from traditional school grammar. To establish this, we looked at whether or not we could determine if any linguistic concepts from Van Rijt & Coppen (2017) were explicitly present, again adopting a grounded theory approach. We also looked for implicit occurrences, since it is known that in the literature on grammar teaching too, if modern linguistic concepts are being discussed at all, this happens mostly in an implicit way (cf. Van Rijt et al., 2018). Full agreement on the implicit occurrences was reached between the authors.

Our unit of analysis was twofold: we examined the theoretical sections of each grammar chapter as well as the assignments or exercises that followed. It is important to note that no other sections of the textbooks were taken into account, such as the spelling sections or the 'language contemplation' sections, since these have a very different focus than the grammar paragraphs.

3. RESULTS

3.1 Questionnaire: Reflective thinking in the context of grammar teaching

To gain insight into teachers' declared practice, they were divided into King & Kitchener's (1994) three stages of reflective thinking. The Reflective Judgement Model should be seen as a continuum with three anchor points. We considered the area between the pre-reflective and the quasi-reflective anchor point the pre-reflective stage. Similarly, the area between the quasi-reflective anchor point and the reflective anchor point was seen as the quasi-reflective stage. This left us with a final stage, which is the reflective stage.

We labeled teachers predominantly *pre-reflective* if they scored high ($M > 3.5$) on the pre-reflective scale and low ($M < 3.5$) on both the quasi-reflective and the reflective scale. This restriction was formulated because pre-reflective thinkers are unable to suddenly think more reflectively. The opposite does hold: (quasi-)reflective thinkers can, if the circumstances call for it, adopt pre-reflective thinking styles. These criteria applied to 13 teachers (11.8%).

Likewise, teachers were labeled *quasi-reflective* if they scored high ($M > 3.5$) on the quasi-reflective scale, but $M < 3.5$ on the reflective scale, since this would lead to those teachers being labeled as reflective. These indicators applied to 16 teachers (14.5%).

Reflective teachers were characterized by a high score on the reflective scale ($M > 3.5$), without any further restrictions because of aforementioned reasons. This

indicator was applicable to 53 teachers (48.2%). This division accounts for 82/110 teachers (74.5%). The remaining 28 teachers could not be classified indistinctly—an important point to which we return in our discussion.

Since linguistic sources (such as language advise books or reference grammars) can help teachers to grow towards the reflective stage in terms of King & Kitchener (1994), we also asked teachers if they use linguistic sources themselves if they are confronted with a grammatical problem. 106 teachers (96.4%) claim to do so; only 4 teachers (3.6%) say they don't ever use linguistic sources. 58 teachers (52.7%) also report that they let their students use linguistic sources in their grammar lessons. The remaining 52 teachers (47.3%) report that they don't work with such sources in their grammar teaching.

To determine whether there were significant differences between teachers' qualifications (Grade 1 or 2) and reflectivity, we conducted an independent samples T-test for each of the reflectivity scales. We conducted the same tests for the relationship between teaching level (vmbo/havo-vwo) and reflectivity. See Table 1 for means and standard deviations:

Table 1. Means and standard deviations for each reflectivitiy scale (reflective (R), quasi-reflective (QR) and pre-reflective (PR)) per qualification (first and second grade qualifications) and teaching level ((v)mbo and havo/vwo).

Reflectivity	Grade	N	M	SD	Teaching level	N	M	SD
R	2	65	3.20	.83	(v)mbo	37	2.88	.85
	1	45	3.71	.49	havo/vwo	73	3.67	.53
QR	2	65	3.34	.73	(v)mbo	37	3.08	.77
	1	45	3.82	.47	havo/vwo	73	3.78	.49
PR	2	65	3.06	.76	(v)mbo	37	3.08	.76
	1	45	2.73	.55	havo/vwo	73	2.85	.65

Levenes Test for Equality of Variances indicated unequal variances for all scales regarding qualification. For teaching level, unequal variances were found for the (quasi-)reflective scales but not for the pre-reflective scale. Degrees of freedom were adjusted accordingly.

The independent samples T-test indicated that teachers with a grade 1 certification considered themselves to be significantly more reflective than grade 2 certified teachers. They scored higher on the reflective ($t(105.43) = 4.013$, $p \leq 0.01$) and quasi-reflective scale ($t(107.54) = 4.155$, $p \leq 0.01$) and lower on the pre-reflective scale ($t(107.8) = 2.61$, $p = 0.010$). Equally, teachers who mainly teach in the higher

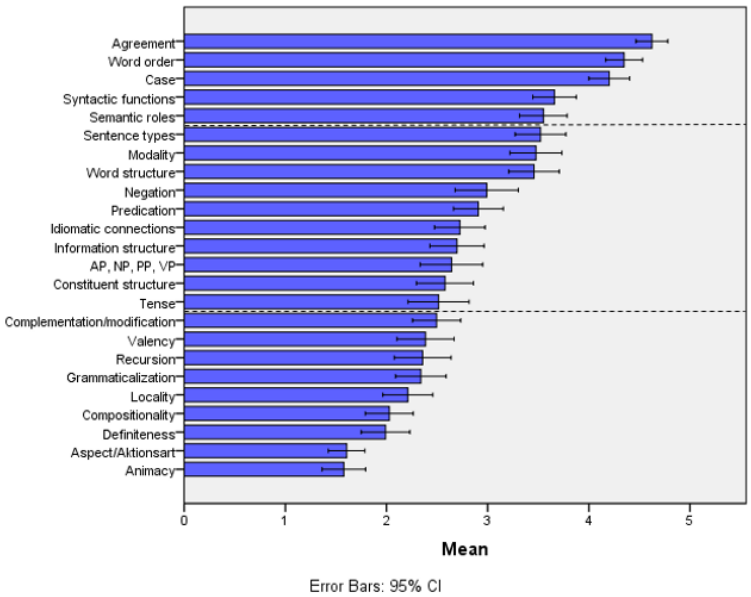
levels (havo/vwo), considered themselves to be more reflective than teachers teaching in the lower levels ((v)mbo), scoring higher on the reflective ($t(50.83) = 5.15$), $p \leq 0.01$) and quasi-reflective scale ($t(51.18) = 4.96$), $p \leq 0.01$), and lower on the pre-reflective scale ($t(108) = 1.59$), $p = 0.12$), although the latter showed no statistical significance. No significant relationship was found between teaching experience and reflective thinking.

3.2 Questionnaire: Teachers beliefs regarding conceptual knowledge

In this section, teachers were asked to indicate on a 5-point Likert scale how familiar they were with the linguistic concepts from Van Rijt & Coppen (2017). The scale ranged from 1 ('I have no idea what this concept entails') to 5 ('I am able to effortlessly explain this concept to others').

In Figure 1, the means and standard deviations of the familiarity with these concepts is given. The concepts are ranked according to their average score. We considered linguistic concepts relatively well-known if they had a mean score of > 3.5. This applied to *agreement*, *word order*, *case*, *syntactic functions*, and *semantic roles.* If concepts scored $M < 2.5$, we considered them relatively unknown. This was the case for *complementation/modification*, *valency, recursion, grammaticalization, locality, compositionality, definiteness, aspect/Aktionsart* and *animacy*.

Figure 1. Means and standard deviations (error bars) for each concept (N = 109). Dashed lines form the boundaries between well-known, medium known and poorly known concepts.



An independent samples T-test indicated that on average, teachers with a grade 1 certification (M = 3.12) considered themselves significantly more familiar with linguistic concepts than grade 2 certified teachers (M = 2.7) (t(107) = 2.631, p = .010). Similar results were found for the difference in teaching level: on average, teachers teaching in the higher levels (havo/vwo) reported more conceptual knowledge (M = 3.01) than teachers teaching in the lower levels ((v)mbo) (M = 2.61): (t(107) = 2.423, p = .017). Again, no effects were found for teaching experience. Additionally, Pearson's r indicated significant correlations between teachers' self-reported measure of reflectiveness and their self-reported conceptual knowledge: reflective teachers (r = .455, $p \leq .001$), quasi-reflective teachers (r = .241, p = .012). For pre-reflective teachers, no significant correlation could be found (r = -.179, p = .063).

Apart from asking teachers about their familiarity with linguistic concepts, we were also interested in whether teachers take concepts from the literature on grammar teaching into account when teaching grammar, namely *predication* and *valency*. To establish whether or not teachers might take these concepts into account, either implicitly or explicitly, we let teachers respond to statements that could be indicative of using either concept. In Table 2 and 3, we reported the statements that targeted either *predication* or *valency* and reported mean scores for each statement.

For all statements but the one marked with an asterisk (*), the higher the score, the more likely teachers are to use insights on *predication* in their grammar teaching in the relevant areas. For the statement marked with an asterisk, the opposite holds: neither from a linguistic, nor from a pedagogical perspective would it make sense to have a high score on this statement. Hence, if teachers use *predication* as a concept underpinning their grammar teaching, they would score low on this statement. Generally, the table seems to indicate that teachers don't make much use of *predication* as an overarching linguistic concept in explaining primary and secondary predicates, appositives and predicate nominals.

Table 2. Statements that aimed to shed light on teachers' use (either implicitly or explicitly) of 'predication' as an overarching concept in explaining related terminology from traditional school grammar.

	Never (%)	Rarely (%)	Regularly (%)	Often (%)	Always (%)	Mean	*SD*
When covering secondary predication, I also discuss the subject complement.	61.8	13.6	13.6	6.4	4.5	1.78	1.18
I discuss verbal and nominal predicates simultaneously.	26.4	26.4	14.5	17.3	15.5	2.69	1.43
I point out the similarities between appositives and the verbal predicate*	70.9	18.2	10.9	0.0	0.0	1.40	.68
I discuss secondary predicates and appositives jointly.	66.4	17.3	9.1	4.5	2.7	1.60	1.02

A similar procedure was followed for the concept of *valency* (see Table 3). Again, the more teachers claim to adhere to these statements (except for the one marked with *), the greater the indication that their pedagogical choices are being influenced by their (implicit or explicit) understanding of *valency*. The table indicates that teachers don't make much use of *valency* as an overarching linguistic concept in explaining syntactic functions such as objects and the differences between objects (which are generally obligatory, because they are being 'summoned' by the verb) and adjuncts or adverbials (which are generally optional, since they are not enforced by the verb).

Table 3. Statements that aimed to shed light on teachers' use (either implicitly or explicitly) of 'valency' as an overarching concept in explaining related terminology from traditional school grammar.

	Never (%)	Rarely (%)	Regularly (%)	Often (%)	Always (%)	Mean	SD
The direct and indirect object are jointly discussed in my classroom.	8.2	15.5	19.1	40.9	16.4	3.42	1.18
The prepositional object[4] and the adverbial PP are discussed simultaneously in my classroom.	51.8	20.0	10.9	12.7	4.5	1.98	1.25
I show that the direct object and the verbal predicate form a whole.	40.9	26.4	12.7	14.5	5.5	2.17	1.26
I tell my students that adverbials are parts of speech that 'remain' after identifying all other parts of speech.*	16.4	20.9	29.1	20.9	12.7	2.93	1.26
I explain to my students what the difference in meaning is between direct and indirect objects.	6.4	6.4	24.5	26.4	36.4	3.80	1.19

[4] In Dutch, syntactic constructions with a 'voorzetselvoorwerp' (prepositional object) are characterized by the fact that these combine a verb with an unchangeable preposition, with a non-literal meaning (e.g. 'Ik wacht op jou' – 'I am waiting for you'). Prepositional objects are considered as complements of the verb (cf. Broekhuis, Corver & Vos, 2015) and can hence be described by using valency. Similar forms often appear with a literal meaning ('Ik wacht op het perron' – 'I am waiting on the platform'). In these cases, the PP 'op het perron' is not a complement of the verb, but instead, it is an adverbial (adjunct) indicating place. Hence, in spite of their resemblance in form, both constructions behave rather differently. Having insight into valency can help foster a better understanding of these constructions.

3.3 Questionnaire: Teachers' contentment with their current textbook

Section 3 of the questionnaire was aimed at identifying teachers' contentment with their current textbook (n = 96). In general, teachers are moderately satisfied with the textbooks they work with (M = 3.11, SD = .93, measured on a 5-point Likert scale). Similar pictures arise from questions about textbooks' theoretical explanations of grammatical subjects (M = 3.04, SD = .95), the quality of assignments and exercises in grammar sections (M = 3.07, SD = .93) and the order in which grammatical topics are covered (M = 2.95, SD = .97). In an open question, teachers could elucidate their views. 43 teachers commented on the scores they had given, which we divided into six categories. In Table 4, the teachers' main comments are listed:

Table 4. Teachers' main comments on the current textbook for grammar they are using.

Category	*N* of mentions	Illustrative quote
The textbook only uses simplifications and meaningless rules-of-thumb	7	'[The textbook is] solely focused on how it should be done [the prescriptive norm], rather than on how language works.'
The order in which grammatical subjects are covered is strange / a clear build-up is missing	7	'The textbook is inconsistent in teaching the right order of grammatical terminology over the various years.'
Explanation and/or exercises are limited	6	'More exercises are required' / 'too little is expected from the students'
Grammar in the textbook is too hard for students	4	'For many students, grammar is too hard […] The pace is too high for those students who have had limited grammar education in primary school.'
Certain aspects of grammar are unnecessary	4	'In my opinion, certain parts of speech are unnecessary to teach, such as the secondary predicate.'
There is too little room for students' own experiences and intuitions / too little self-discovery	3	'There is little room for own experiences.'

In general, teachers' comments are aimed at identifying deficits in the textbook, for example the lack of linguistic insights that these apparently convey, or limitations in pedagogy (strange build-up, limited theory or exercises). Other remarks mostly reflect their personal beliefs about which conceptual knowledge should be covered: some teachers express the desire to downplay explicit grammar teaching, whereas

others believe that students should be capable of handling much more or at least more difficult grammar.

3.4 Reflective thinking and conceptual knowledge in contemporary textbooks

Contemporary textbooks were analyzed to explore the extent to which they offer opportunities for teachers to work on reflective thinking and conceptual knowledge in grammar classrooms. In general, almost all assignments in the grammar sections are lower-order thinking assignments (see Table 5). There is no difference between the kinds of textbooks nor between the educational level with respect to the distribution of lower-order and higher-order thinking assignments. Most assignments appeal to lower order thinking at the level of *applying* (in Blooms (1956) terminology).

Table 5. Lower-order thinking and higher-order thinking assignments in the grammar sections of the textbooks Nieuw Nederlands *and* Op Niveau*, vmbo-kader and vwo. The numbers in the table indicate the amount of exercises in the different categories of Bloom's (1956) taxonomy.*

Textbook	*Nieuw Nederlands*							*Op Niveau*							*Total*
Level of secondary education	vmbo – kader (low level of education)				Vwo (pre-university education)			vmbo – kader (low level of education)				Vwo (pre-university education)			
Year	1	2	3	4	1	2	3	1	2	3	4	1	2	3	
Remembering	2	1					2	5	7	1			2		20
Understanding							1	5	4	5		1	1	1	19
Applying	64	68	23	6	71	64	55	34	31	35	18	44	49	39	601
Analyzing			1				1	1				3			6
Evaluating						1				1					2
Creating															-

A closer look at the different types of assignments shows that remembering assignments are about remembering rules-of-thumb for finding parts of speech or about giving an example of a particular kind of part of speech. For instance, 'Name three verbs' (our translation from Dutch, *Nieuw Nederlands*, 1vmbo-kgt, p. 105) or 'What is the question with which you can find the subject of a sentence?' (*Op Niveau*, 1 vmbo-kgt, p. 167).

An example of an assignment that appeals to the level of *understanding*, is: 'Is the italic part of speech in the next sentence an object? 'According to the policeman, the driver drove *90 kilometers per hour'.* Explain your answer' (*Op Niveau*, 1 havo/vwo, p. 226).

A typical *applying* assignment is about finding a particular part of speech in sentences. For instance, 'Name the finite verb, subject, and verbal predicate from

each sentence.' (*Nieuw Nederlands*, 1 vwo, p. 109). Close to 94% of all assignments fits into this category.

An example of an assignment in which students have to *analyze* language is: 'Examine whether or not contractions occur in German, English and French on the word level, phrase level and sentence level and backwards and forwards.' (*Nieuw Nederlands*, 3 vwo, p. 205).

In the following example students have to *evaluate* a linguistic problem. 'Your teacher will present to you a mystery, a grammatical problem. The mystery is about the question: is the word 'well' in the sentence 'This writer writes very well' an adverb or an adjective?' Discuss this problem in pairs. Your teacher will give you a couple of statements about this sentence. Try to answer the question above with the help of these statements.'[5] (*Nieuw Nederlands*, 2 vwo, p. 241). We refer to such an assignment as an *evaluating* assignment.

In the three types of lower order thinking assignments, we have not found any starting point for reflective thinking. The few assignments concerning higher order thinking allow students to take a more reflective stance towards language or grammar. However, the assignments still suggest the existence of a clear, well-formed answer, which is typical for the lower levels of reflective thinking. Strikingly, not one assignment could be placed under Bloom's 'create'-category[6].

In the textbook analysis, we also took inventory of implicit or explicit concept use in grammatical theory and exercises. In most cases, linguistic concepts that were being addressed were derived from traditional grammar, which is not strange, considering that modern linguistic theory is built upon traditional grammar (cf. Allan, 2007). In all textbooks, we found instances of all sorts of traditional parts of speech (e.g. subject, personal pronoun) and other concepts that are strongly affiliated with traditional grammar, such as *voice* and *sentence types (e.g. subordinate clauses)*.

Concepts that are more associated with modern linguistic theory, occur much less. In one school book, we encountered *constituent structure* (including *modification* of the core of a constituent) and *main syntactic categories (AP, NP, PP, VP)*. These concepts were explicitly introduced and discussed, and do not belong to the domain of traditional school grammar. However, no other concepts from modern linguistic theory found their way into the analyzed textbooks.

Some textbooks conveyed implicit instances of conceptual knowledge from modern linguistics. We found three paragraphs (in two different books) that seemed

---

[5] In Dutch, the adverb and adjective share the same form in this particular case. Therefore, the difference between an adverb and an adjective can only be explained by using contextual cues and by conducting linguistic manipulations that can only apply to either adjectives or adverbs.
[6] It has to be noted that some methods employ assignments such as 'Form a sentence according to the following pattern: subject – finite verb – object.' Even though in a literal sense, this requires students to 'create' a sentence, we argued that in fact these assignments were variants of typical sentence analysis. Hence, we analyzed exercises of this type as belonging to 'apply'.

to hint towards *predication*, only one of which was clearly used to connect the relevant parts of speech associated with the concept (primary and secondary predicates, appositives and predicate nominals). However, no explicit mention of the concept occurred. We also found two paragraphs and one exercise that appealed to the concept of *valency*, prompting students to think about obligatory elements (*complementation*).

4. DISCUSSION

Since grammar has internationally resurfaced in language policy and in academic research over the last decade (cf. Locke, 2010, Watson & Newman, 2017, p. 382), teachers and policy makers are once again confronted with the question whether explicit grammar teaching should play a role in L1 education. In several publications on the topic, emphasis is given to the added value of implementing insights from modern linguistic theory (e.g. Van Rijt & Coppen, 2017) and a reflective attitude that enables students to achieve a more conscious level of understanding and using language (e.g. Ribas et al., 2014). This study is the first to dive into Dutch teachers' beliefs regarding modern linguistic concepts and reflective thinking (in the sense of King & Kitchener, 1994) in the grammar classroom.

It is important to note that this study aimed to shed light on beliefs, rather than on existing classroom practice. Therefore, the current study, although providing valuable data on declared practice, cannot give unequivocal insights into what actually happens in secondary schools. For instance, the majority of teachers claim to use linguistic sources in their grammar classroom, but it cannot be concluded that they actually do this. Gaining more insights into actual classroom practices regarding conceptual knowledge and reflective thinking is therefore an important next step. Measuring beliefs is a complicated matter. Even though questionnaires are a frequently used method to gain insights into teacher beliefs (cf. method section), it has a few inherent downsides, which may have influenced the outcomes. For example, since our questionnaire was open to participation, it may have been the case that most teachers that have participated had strong views on grammar teaching. Therefore, the questionnaire may have targeted teachers with beliefs that are somewhat different (e.g. more reflective) than other teachers' beliefs.

Additionally, even though we had a very decent number of participants (N = 110), not all groups of teachers could be equally represented. Therefore, some caution should be exercised when trying to generalize these results, although the study shows several very interesting tendencies.

Lastly, using a questionnaire to measure reported linguistic knowledge may not seem like the most obvious choice, even though there are several studies that have done so (e.g. Berry, 1997). However, bear in mind that this study aimed to capture teachers self-estimated linguistic knowledge rather than their actual knowledge. Taking into account that most people tend to overestimate their knowledge when filling in a questionnaire, the actual level of their conceptual knowledge is likely to

be even lower. These results can therefore give an indication of the actual level of conceptual knowledge.

Our study indicates that most Dutch teachers seem to hold views on grammar teaching that are either quasi-reflective or reflective in terms of King & Kitchener's (1994) Reflective Judgement Theory. The minority of teachers can be considered mostly pre-reflective. Even though a quarter of the participating teachers could not be clearly identified as belonging to a single category, we argue that these teachers are most likely quasi-reflective thinkers. After all, teachers reasoning in a quasi-reflective manner know that knowledge is uncertain and they therefore consider several viewpoints without comfortably making a well-informed decision in the given context (King & Kitchener, 2004, pp. 6-9). This would explain why some teachers cannot be indistinctly classified. It suggests that the total number of quasi-reflective reasoners is 44 (40%), making the vast majority of teachers (quasi)-reflective.

Even though some teachers may have judged themselves to be more reflective compared to how reflective they actually are in classroom practice, teachers seem to be open to a large role for reflective thinking in grammar teaching. This is for instance expressed by their self-reported implementation of linguistic sources in the classroom. As argued before, such sources have the potential to stimulate students' reflectivity (cf. Wijnands, 2016), even though more research on this matter is still highly desirable. Regarding reflective thinking, teachers' views seem to align with the ideals that are promoted in the educational literature on grammar teaching (cf. Ribas et al., 2014), which makes it feasible to pedagogically enrich grammar education in that way. Although most teachers seem to be open to reflective thinking in grammar teaching, not all teachers will find it equally useful, since there are significant differences between them: teachers with a grade 1 certification consider themselves to be far more reflective than their grade 2 certified colleagues. The same goes for teaching level: teachers teaching at the highest levels (havo/vwo), are generally more reflective in their thinking than teachers from the lower levels (vmbo). Teachers from lower levels of education also show less willingness to implement reflective thinking into their grammar teaching. This could indicate that teachers believe that reflective thinking in grammar teaching is more important for students with greater cognitive capacity.

Apart from their mostly positive attitudes towards stimulating reflective judgement in grammar teaching, there are also indications that many teachers are open to making use of conceptual knowledge from modern linguistic theory: frequently mentioned complaints about textbooks are that these oversimplify grammar and that they expect too little from students (although a smaller group of teachers from our data set believes there is too much grammar in the textbooks). Conceptual enrichment is likely to counter those complaints, even those from teachers who consider grammar to be too hard for their students. After all, as some authors argue, grammar is made needlessly difficult because no real insights are aimed at, but instead, superficial tricks and rules-of-thumb that are inadequate for grammatical analysis dominate (Berry, 2015; Coppen, 2009; Van Rijt & Coppen,

2017). This makes parsing sentences a meaningless task. Conceptual enrichment could be used to reduce the rules-of-thumb that lead to unnecessary difficulty.

However, teachers self-reported knowledge on the main concepts from modern linguistics is no reason for optimism: They only claim to know a small amount of linguistic concepts fairly well, namely *agreement, word order, case* and *syntactic functions*. These all belong to traditional grammar and are less associated with modern linguistic theory. Teachers also claim to know *semantic roles* (e.g. *agent*, *patient*) fairly well, which is the only concept in that category from modern linguistics. Even if the highest scoring concepts from the middle group are taken into account (*sentence types, modality* and *word structure*), the overall picture remains the same, since these concepts too are commonalities in traditional grammar.

These results align with previous studies into teachers' and student teachers' metalinguistic knowledge, which is generally reported to be rather low (e.g. Alderson & Hudson, 2013; Borg, 2003; Giovanelli, 2015, 2016; Graus & Coppen, 2015; Jones & Chen, 2012; Myhill, 2000; Sangster, Anderson & O'Hara, 2013). Moreover, teachers tend to overestimate their linguistic knowledge (e.g. Sangster et al., 2013), which further strengthens the idea that their linguistic knowledge is not up-to-date. This does not merely seem to be a matter of them not knowing the proper terminology, as was suggested by teachers' replies to statements that aimed to measure their understanding of *predication* and *valency*. If teachers didn't know the appropriate term, but completely understood the concept itself, they would have scored much higher on the related statements.

Therefore, before grammar education can be conceptually enriched, it seems advisable that teachers are trained in crucial concepts from the syntax-semantics interface, so that they can (more) effectively convey this knowledge to their students. A lack of conceptual knowledge leads to grammatical misconceptions and poor pedagogical choices, as Myhill (2000, 2003) has demonstrated, for example for grammatical instruction on the passive construction. Luckily, Alderson & Hudson (2013) have shown that undergraduate students' metalinguistic knowledge can be quickly enhanced. Short trainings seem suitable to substantially upgrade teachers' linguistic knowledge. Finally, educational linguists have an important task to further investigate the relationship between linguistic concepts and traditional grammatical terminology.

Strikingly, according to our data, the variable of *teaching experience* plays no significant role in either linguistic conceptual knowledge or in reflective thinking. This suggests a strong degree of fossilization of teachers' initial beliefs, which confirms findings of earlier studies (e.g. Borg, 2011; Phipps & Borg, 2009, p. 381) stating that teacher beliefs are strongly influenced by teachers' own experiences as learners. This raises important questions about how teacher beliefs can best be influenced to pedagogically enrich their practice. Research into this theme is therefore much desired. Another important issue pertains to methodology: how can teacher beliefs best be measured? Although questionnaires have been called the best method (e.g. by Maggionni, 2004), they come with inherent downsides, that cannot simply be

canceled out by complementing them with interviews due to low correlations between them (Maggionni 2004, p. 179).

Teachers are only moderately satisfied with the textbooks they are using, and our analysis of the two most commonly used textbooks has revealed that these textbooks don't align with the suggestions from the literature on grammar teaching at all (cf. introduction section). First and foremost, the vast majority of exercises can be characterized as involving lower order thinking, offering little possibilities for developing a reflective attitude. This is also echoed by some of the teachers' complaints about the textbooks they use, when stating that 'too little is expected from students'. This is a missed chance, since several authors argue that reflective thinking is crucial in developing a deeper understanding of language (Fontich, 2016; Ribas et al., 2014). Moreover, textbooks only scarcely implement insights from modern linguistic theory, and if they do so, this is mostly done in an implicit manner. This too is a missed chance, since a good understanding of explicit linguistic concepts can help further students' insights into the workings and structure of language, both in and out of (written) context (Chen & Myhill, 2016; Myhill, Jones & Wilson, 2016; Ribas et al., 2014; Watson & Newman, 2017). Explicit linguistic terminology might also foster students' reflective capacity, since adequate reflection involves a decent knowledge. This especially holds for reflective thinkers in the King & Kitchener (1994) model, since these thinkers should be capable of making well-informed decisions that are dependent upon the given context. Well-informed decisions can only be made if the learner can adequately grasp the subject matter, e.g. a grammatical phenomenon.

The relationship between teachers' beliefs and their classroom practice on the one hand and the arguments to implement knowledge from the related academic discipline on the other is crucial for a successful curriculum development. Van der Aalsvoort & Kroon (2015) and Van der Aalsvoort (2016) have convincingly shown that linguistics did not become a part of the official Dutch curriculum because of the way teachers and policy makers perceived the relationship between the school subject of Dutch Language and Literature and the related academic discipline. Van der Aalsvoort & Kroon (2015, p. 10) point out the importance of *cooperation* (as opposed to *transmission* or *non-cooperation*) between school subjects and academia, in which teachers and academic linguists jointly discuss the best way to combine their respective expertise, in an effort to develop the best grammar pedagogy. This is also a way out of the traditional 'grammar debate', shifting the discussion from the question whether grammar should be taught at all to how it should be done. A good example of such a state of cooperation is the Professional Learning Community (cf. Schaap & De Bruijn, 2018), where teachers and scientists created teaching materials for grammar education together in a Professional Learning Community (cf. De Bruijn et al., 2016 for a Dutch grammar teaching example).

In summary, most Dutch language teachers appear to hold positive views towards reflective thinking in the grammar classroom, which echoes important ideologies in grammar teaching and in related research. The implementation of linguistic

knowledge can also be seen as a way to strengthen the grammar curriculum and to enforce deeper grammatical insights (cf. Hudson, 2004; Hudson & Walmsley, 2005; Van Rijt & Coppen, 2017; Van Rijt et al., 2018). However, since teachers report a fairly low knowledge about the concepts from modern linguistics, a lot of work is still to be done before these insights can be effectively conveyed to students. The only way that ideological views on how to teach grammar can be effectively implemented in grammar classrooms, is to align *teacher beliefs* with these ideologies, preferably through *cooperation* between teachers and linguists.

The teachers we questioned seem to have beliefs on grammar teaching that indeed do match the ideologies on reflective thinking and conceptual knowledge fairly well, but the textbooks they make use of, do not offer many opportunities to exercise these ideologies. This frustrates teachers' needs and desires, and limits what they can achieve in their daily practice. Teachers wanting to escape this friction should be encouraged, and more importantly facilitated, to make use of modern linguistic concepts in their teaching, and address reflective thinking more prominently. This calls for more research on the way this can be done.

ACKNOWLEDGEMENTS

The authors express their thanks to Brenda van den Broek (University of Antwerp) for valuable advice on the statistical analyses and for pre-review comments on the paper.

FUNDING

This work was supported by the Netherlands Organisation for Scientific Research (NWO) [grant number 023.009.034] and [grant number 023.011.041].

REFERENCES

Allan, K. (2007). *The Western classical tradition in linguistics* (2nd ed.). Sheffield, UK: Equinox Publishing

Alderson, J., & Hudson, R. (2013). The metalinguistic knowledge of undergraduate students of English language or linguistics. *Language Awareness, 22*(4), 320-337. https://doi.org/10.1080/09658416.2012.722644

Anderson, L. & Krathwohl, D. (Eds.). (2001). *A taxonomy for learning, teaching and assessing: a revision of Bloom's taxonomy of educational objectives*. New York, NY: Longman.

Berry, R. (1997). Teachers' awareness of learners' knowledge: The case of metalinguistic terminology. *Language Awareness, 6*(2-3), 136-146. https://doi.org/10.1080/09658416.1997.9959923

Berry, R. (2015). Grammar myths. *Language Awareness, 24*(1), 15-37. https://doi.org/10.1080/09658416.2013.873803

Bloom, B. (Ed.). (1956). *Taxonomy of educational objectives: the classification of educational goals. Handbook 1: cognitive domain*. New York, NY: McKay.

Bonset, H. & Rijlaarsdam, G. (2004). Mother-tongue education (L1) in the learning to-learn paradigm: Creative redevelopment of learning materials. *L1- Educational Studies in Language and Literature, 4*, 35-62. https://doi.org/10.1023/B:ESLL.0000033848.96679.e6

Borg, S. (2003). Teacher cognition in grammar teaching: A literature review. *Language Awareness, 12*(2), 96-108. https://doi.org/10.1080/09658410308667069

Borg, S. (2011). The impact of in-service education on language teachers' beliefs. *System, 39*(3), 370–380. https://doi.org/10.1016/j.system.2011.07.009

Bowen, G. (2006). Grounded theory and sensitizing concepts. *International Journal of Qualitative Methods, 5*(3), 12-23. https://doi.org/10.1177/160940690600500304

Bresnan, J., Asudeh, A., Toivonen, I., & Wechsler, S. (2016). *Lexical-functional syntax* (2nd edition). Oxford, UK: Wiley-Blackwell.

Broekhuis, H., Corver, N. & Vos, R. (2015). *The syntax of Dutch: verbs and verb phrases. Part 1*. Amsterdam, The Netherlands: Amsterdam University Press. https://doi.org/10.5117/9789089647306

Calcar, W. van (1983). *Een nieuwe grammatica voor taalbeschouwing en taalbeheersing* [A new grammar for language contemplation and language proficiency]. Leuven, Belgium: Acco.

Carter, R. (1982). *Linguistics and the teacher*. London, UK: Routledge.

Chen, H. & Myhill, D. (2016). Children talking about writing: Investigating metalinguistic understanding. *Linguistics and Education, 35*, 100-108. https://doi.org/10.1016/j.linged.2016.07.004

Christie, F. (2010). The 'Grammar Wars' in Australia. In Locke, T. (Ed.). (2010). *Beyond the grammar wars. A resource for teachers and students on developing language knowledge in the English/literacy classroom* (pp. 55-72). New York, NY: Routledge.

Coppen, P.-A. (2009). *Leren tasten in het duister* [Learning to Grope in the Dark]. Inaugural Address. Nijmegen, The Netherlands: Radboud University.

Coppen, P.-A. (2011). Emancipatie van het grammaticaonderwijs [Emancipation of Grammar Education]. *Tijdschrift Taal, 2*(3), 30–33.

Cosson, R. (2007). Mother tongue education in Brazil: A battle of two worlds. *L1–Educational Studies in Language and Literature, 7*(1), 37-52. https://doi.org/10.17239/L1ESLL-2007.07.01.04

Denham, K. & Lobeck, A. (2010). *Linguistics at schools. Language awareness in primary and secondary education*. Cambridge, UK: Cambridge University Press. https://doi.org/10.1017/CBO9780511770791

Derewianka, B. (2012). Knowledge about language in the Australian curriculum: English. *Australian Journal of Language and Literacy, 35*(1), 127-146.

Dewey, J. (1933*). How we think: A restatement of the relation of reflective thinking to the reflective process*. New York, NY: Heath and Company.

Exley, B. & Mills, K. A. (2012). Parsing the Australian English curriculum: Grammar, multimodality and cross-cultural texts. *The Australian Journal of Language and Literacy, 35*(2), 192-205.

Eynde, F. van (2015). *Predicative constructions. From the Fregean to a Montagovian Treatment*. Stanford, CA: CSLI Publications.

Fontich, X. (2014). Grammar and language reflection at school: Checking out the whats and the hows of grammar instruction. In T. Ribas, X. Fontich & O. Guasch (Eds.). *Grammar at school. Research on metalinguistic activity in language education* (pp. 255-283). Brussels, Belgium: Peter Lang.

Fontich, X. (2016). L1 Grammar instruction and writing: metalinguistic activity as a teaching and research focus. *Language and Linguistics Compass, 10*(5), 238-254. https://doi.org/10.1111/lnc3.12184

Fontich, X. & Camps, A. (2014). Towards a rationale for research into grammar teaching at schools. *Research Papers in Education, 29*(5), 598-625. https://doi.org/10.1080/02671522.2013.813579

Fontich, X. & García-Folgado, M.J. (2018). Grammar instruction in the Hispanic area: The case of Spain with attention to empirical studies on metalinguistic activity. Contribution to a special issue Special issue Working on Grammar at School in L1 Education: Empirical Research across Linguistic Regions. *L1-Educational Studies in Language and Literature, 18*, 1-39. https://doi.org/10.17239/L1ESLL-2018.18.04.02

French, R. (2010). Primary school children learning grammar: rethinking the possibilities. In Locke, T. (Ed.). (2010). *Beyond the grammar wars. A resource for teachers and students on developing language knowledge in the English/literacy classroom* (pp. 206-229). New York, NY: Routledge.

Funke, R. (2018). Working on grammar at school: empirical research from German-speaking regions. Contribution to a special issue Working on Grammar at School in L1-Education: Empirical Research across Linguistic Regions. *L1-Educational Studies in Language and Literature, 18*, 1-39. https://doi.org/10.17239/L1ESLL-2018.18.04.01

Giovanelli, M. (2015). Becoming an English language teacher: linguistic knowledge, anxieties and the shifting sense of identity. *Language and Education, 29*(5), 416-429.

https://doi.org/10.1080/09500782.2015.1031677
Giovanelli, M. (2016). Developing beginning teachers' linguistic awareness: Issues and practice in initial teacher education. In M. Giovanelli & D. Clayton (Eds.), *Knowing about language. Linguistics and the secondary English classroom* (pp. 186-197). London, UK: Routledge.
Graus, J., & P.-A. Coppen (2015). Defining grammatical difficulty: A student teacher perspective. *Language Awareness, 24*(2), 101–122. doi:10.1080/09658416.2014.994639.
Halliday, M. & Webster J. (2016). *Aspects of language and learning*. Berlin, Germany: Springer-Verlag. 10.1007/978-3-662-47821-9
Haeseryn, W., Romijn, K., Geerts, G., Rooij, J. de, & Toorn, M.C. van den (1997). *Algemene Nederlandse spraakkunst*. [General Dutch Reference Grammar]. Groningen, The Netherlands: Martinus Nijhoff uitgevers/Wolters Plantyn.
Holt-Reynolds, D. (1992). Personal history-based beliefs as relevant prior knowledge in course work. *American Educational Research Journal, 29*(2), 325 – 349. https://doi.org/10.3102/00028312029002325
Hudson, R. & Walmsley, J. (2005). The English patient: English grammar and teaching in the twentieth century. *Journal of Linguistics, 41*(3), 593 – 622. https://doi.org/10.1017/S0022226705003464
Hudson, R. (2001). Grammar-teaching and writing skills: the research evidence. *Syntax in the Schools, 17*, 1 -6.
Hudson, R. (2004). Why education needs linguistics (and vice versa). *Journal of Linguistics, 40*(1), 105-130. https://doi.org/10.1017/S0022226703002342
Hulshof, H. (2013). Onderzoek naar taalkundeonderwijs: geloof en empirie. [Research into linguistics education: beliefs and empirical evidence] In T. Janssen & T. van Strien (Eds.), *Neerlandistiek in beeld* (pp. 263-272). Amsterdam, The Netherlands: Stichting neerlandistiek VU.
Jones, P. & Chen, H. (2012). Teachers' knowledge about language: issues of pedagogy and expertise. *Australian Journal of Language and Literacy, 35*(2), 147-168.
Kember, D., Leung, D.Y. P., Jones, A., Loke, A. Y., McKay, J., Sinclair, K., Tse, H., Webb, C., Wong, F.K.Y., Wong, M. & Yeung, E. (2000). Development of a questionnaire to measure the level of reflective thinking. *Assessment & Evaluation in Higher Education, 25*(4), 381-395. https://doi.org/10.1080/713611442
Kember, D., McKayb, J., Sinclair, K. & Wong, F. K. Y. (2008). A four-category scheme for coding and assessing the level of reflection in written work. *Assessment & Evaluation in Higher Education, 33*(4), 369–379. https://doi.org/10.1080/02602930701293355
King, P.M. & Kitchener, K.S. (1994). *Developing reflective judgement: Understanding and promoting intellectual growth and critical thinking in adolescents and adults*. San Francisco, CA: Jossey-Bas Publishers. https://doi.org/10.1207/s15326985ep3901_2
King, P.M., & Kitchener, K.S. (2002). The reflective judgment model: Twenty years of research on epistemic cognition. In B.K. Hofer & P.R. Pintrich (Eds.), *Personal epistemology: The psychology of beliefs about knowledge and knowing* (pp. 37-61). Mahwah, NJ: Lawrence Erlbaum.
King, P.M. & Kitchener, K.S. (2004). Reflective judgement: Theory and research on the development of epistemic assumptions through adulthood. *Educational Psychologist, 39*(1), 5-18.
Kolln, M. & Hancock, C. (2005). The story of English grammar in United States schools. *English Teaching: Practice and Critique, 4*(3), 11-31.
Kraak, A. (2006). Homo loquens en homo scribens. Over natuur en cultuur bij de taal [Homo loquens and homo scribens. On nature and culture in language]. Amsterdam, The Netherlands: Amsterdam University Press. https://doi.org/10.5117/9789053569542
Lipman, M. (2003). *Thinking in education*. Second edition. Cambridge, UK: Cambridge University Press. https://doi.org/10.1017/CBO9780511840272
Locke, T. (Ed.). (2010). *Beyond the grammar wars. A resource for teachers and students on developing language knowledge in the English/literacy classroom*. New York, NY: Routledge.
Macken-Horarik, M., Love, K. & Horarik, S. (2018). Rethinking grammar in language arts: Insights from an Australian survey of teachers' subject knowledge. *Research in the Teaching of English, 52*(3), 288-316.
Maggioni, L. Alexander, P. & VanSledright B. (2004). At a crossroad? The development of epistemological beliefs and historical thinking. *European Journal of School Psychology, 2*(1-2), 169-197.

Manifest Nederlands op school. (2016). Downloaded on December 8 2017, from https://vakdidactiekgw.nl/wp-content/uploads/2016/01/Manifest-Nederlands-op-School.pdf.

Mercer, N. (2005). Sociocultural discourse analysis: analyzing classroom talk as a social mode of thinking. *Journal of Applied Linguistics, 1*(2), 137-168.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, CA: Jossey-Bass.

Moseley, M. et al. (2005). *Frameworks for thinking. A handbook for teaching and learning*. Cambridge: UK Cambridge University Press.

Mulder, J. (2011). Grammar in English curricula: Why should linguists care? *Language and Linguistics Compass, 5*(12), 835-847. https://doi.org/10.1111/j.1749-818X.2011.00316.x

Myhill, D. (2000). Misconceptions and difficulties in the acquisition of metalinguistic knowledge. *Language and Education, 14*(3), 151-163. https://doi.org/10.1080/09500780008666787

Myhill, D. (2003). Principled understanding? Teaching the active and passive voice. *Language and Education, 17*(5), 355-370. https://doi.org/10.1080/09500780308666856

Myhill, D. (2018). Grammar as a meaning making resource for language development. *L1-Educational Studies in Language and Literature, 18*, 1-21. https://doi.org/10.17239/L1ESLL-2018.18.04.04

Myhill, D., Jones, S., Lines, H. & Watson, A. (2012). Re-thinking grammar: the impact of embedded grammar teaching on students' writing and students' metalinguistic understanding. *Research Papers in Education, 14*(3), 151-163. https://doi.org/10.1080/02671522.2011.637640

Myhill, D., Jones, S. & Wilson, A. (2016). Writing conversations: fostering metalinguistic discussion about writing. *Research Papers in Education, 31*(3), 23-44. https://doi.org/10.1080/02671522.2016.1106694

Perini, M. (2015). *Describing verb valency. Practical and theoretical issues*. New York, NY: Springer. https://doi.org/10.1007/978-3-319-20985-2

Phipps, S. & Borg, S. (2009). Exploring tensions between teachers' grammar teaching beliefs and practices. *System, 37*(3), 380-390. https://doi.org/10.1016/j.system.2009.03.002

Ribas, T., Fontich, X. & Guasch, O. (Eds.) (2014). *Grammar at school. Research on metalinguistic activity in language education*. Brussels, Belgium: Peter Lang.

Rodgers, C. (2002). Defining reflection: Another look at Dewey and reflective thinking. *Teachers College Record, 104*(4), 842-866. https://doi.org/10.1111/1467-9620.00181

Sangster, P., Anderson, C. & O'Hara, P. (2013). Perceived and actual levels of knowledge about language amongst primary and secondary student teachers: do they know what they think they know? *Language Awareness, 22*(4), 293-319. https://doi.org/10.1080/09658416.2012.722643

Sawyer, W., & Van den Ven, P.-H. (2007). Starting points. Paradigms in mother tongue education. *L1–Educational Studies in Language and Literature, 7*(1), p. 5-20. https://doi.org/10.17239/L1ESLL-2007.07.01.06

Seuren, P. (1998). *Western linguistics. An historical introduction*. Oxford, UK: Blackwell Publishers. https://doi.org/10.1002/9781444307467

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.

Van der Aalsvoort, M., & Kroon, S. (2015). The contested introduction of linguistics in the Dutch exam. A historical curriculum study on the relationship between school subjects and academic disciplines. *L1-Educational Studies in Language and Literature, 15*, 1–20. https://doi.org/10.17239/L1ESLL2015.15.01.09

Van der Aalsvoort, M. (2016). *Vensters op vakontwikkeling. De betwiste invoering van taalkunde in het examenprogramma Nederlands havo/vwo (1988-2008)* [Windows on subject development. The contested introduction of linguistics in the exam programme Dutch havo/vwo (1988–2008)]. Doctoral dissertation. Radboud Universiteit, Nijmegen.

Van Gelderen, A. (2010). Does explicit teaching of grammar help students to become better writers? Insights from empirical research. In T. Locke (Ed.), *Beyond the grammar wars. A resource for teachers and students on developing language knowledge in the English/literacy classroom* (pp. 109–128). New York, NY: Routledge.

Van Rijt, J. (2013). Effecten van semantisch georiënteerd grammaticaonderwijs op het redekundig ontleden van brugklasleerlingen [Effects of semantically oriented grammar education on the grammatical parsing by first year students of secondary education]. *Levende Talen Tijdschrift, 2013*(1), 28–36.

Van Rijt, J. (2016). Meer Grip Op Taalkundige Structuren. De Meerwaarde Van Valentie Als Taalkundig Concept Binnen Het Grammaticaonderwijs [More Grip on Linguistic Structures. The Added Value of Valency as a Linguistic Concept in Grammar Education.]. *Levende Talen Magazine, 103*(7), 7–10.

Van Rijt, J. (2017). Als je een hek groen verft, ís het uiteindelijk ook groen: de bepaling van gesteldheid op basis van het concept 'predicatie'.[The 'bepaling van gesteldheid' based on the concept of 'predication'] In S. Vanhooren & A. Mottart (Eds). *Eenendertigste Conferentie Onderwijs Nederlands* (pp. 297-301). Gent, Belgium: Academia Press.

Van Rijt, J. & Coppen, P.-A. (2017). Bridging the gap between linguistic theory and L1 grammar education—experts' views on essential linguistic concepts. *Language Awareness, 26*(4), 360-380. https://doi.org/10.1080/09658416.2017.1410552

Van Rijt, J., De Swart, P. & Coppen, P.-A. (2018). Linguistic concepts in L1 grammar education: a systematic literature review. *Research Papers in Education*, 1-28. https://doi.org/10.1080/02671522.2018.1493742

Rijt, J. van & A. Wijnands, (2017). Taalnorm, taalwerkelijkheid en taalgevoel: de casus 'hun hebben' [Language norms, language reality and language intuitions: the case of 'hun hebben']. *Levende Talen Magazine, 104*(7), 4-8.

Velzen, J. van (2016). Complex problem solving in L1 education: Senior high school students' knowledge of the language problem-solving process. *The Journal of Educational Research, 110*(6), 634-641. https://doi.org/10.1080/00220671.2016.1171198.

Vygotsky, L. (1962). *Thought and lLanguage*. Cambridge, MA: The MIT Press. https://doi.org/10.1037/11193-000

Watson, A. (2015a). Conceptualisations of grammar teaching: L1 English teachers' beliefs about teaching grammar for writing. *Language Awareness 24*(1), 1-14. https://doi.org/10.1080/09658416.2013.828736

Watson, A. (2015b) The problem of grammar teaching: a case study of the relationship between a teacher's beliefs and pedagogical practice. *Language and Education, 29*(4), 332-346. https://doi.org/10.1080/09500782.2015.1016955

Watson, A. & Newman, R. (2017): Talking grammatically: L1 adolescent metalinguistic reflection on writing. *Language Awareness, 26*(4), 381-398. https://doi.org/10.1080/09658416.2017.1410554

Wijnands, A. (2016). Dat zoeken we op! Het gebruik van de ANS bij grammatica [We will look that up! Using the ANS (general Dutch reference grammar) in grammar classrooms]. In S. Vanhoorn & A. Mottart (Eds.), *Dertigste conferentie onderwijs Nederlands* (pp. 348–354). Gent, Belgium: Academia Press.

ANALYZED TEXTBOOKS

Kraaijeveld, R. et al. (2007). *Op Niveau*, 1 vmbo-kgt. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2008). *Op Niveau*, 2 vmbo-bk. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2009). *Op Niveau*, 3 vmbo-k. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2010). *Op Niveau*, 4 vmbo-k. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2007). *Op Niveau*, 1 havo/vwo. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2008). *Op Niveau*, 2 havo/vwo. Amersfoort: Thieme Meulenhoff.
Kraaijeveld, R. et al. (2009). *Op Niveau*, 3 vwo. Amersfoort: Thieme Meulenhoff.
Wijnands, A. et al. (2011). *Nieuw Nederlands*, 1 vmbo kgt. Groningen: Noordhoff Uitgevers.
Wijnands, A. et al. (2012). *Nieuw Nederlands*, 2 vmbo kgt. Groningen: Noordhoff Uitgevers.
Wijnands, A. et al. (2013). *Nieuw Nederlands*, 3 vmbo (basis)kader. Groningen: Noordhoff Uitgevers.
Wijnands, A. et al. (2014). *Nieuw Nederlands*, 4 vmbo (basis)kader. Groningen: Noordhoff Uitgevers.
Steenbergen, W. et al. (2011). *Nieuw Nederlands*, 1 vwo. Groningen: Noordhoff Uitgevers.
Steenbergen, W. et al. (2012). *Nieuw Nederlands*, 2 vwo. Groningen: Noordhoff Uitgevers.
Steenbergen, W. et al. (2014). *Nieuw Nederlands*, 3 vwo. Groningen: Noordhoff Uitgevers.

APPENDIX

Overview of the items (with means and standard deviations) used in the first section of the questionnaire regarding Reflective Judgement (Kind & Kitchener, 1994) based on Maggionni et al. (2004). Translations from Dutch by the authors.

PRE-REFLECTIVE THINKING			
	M	*SD*	*N*
To be good in grammar, students mainly have to remember rules-of-thumb.	3.02	1.23	110
In grammar, understanding the idea behind the rule-of-thumb is unnecessary.*	2.46	1.16	110
To be good in grammar is to know when to apply which rules.	3.82	1.15	110
In grammar teaching, emphasis should be given more to 'how language works' than to 'how language should be used'.**	2.70	1.14	110
Teachers shouldn't ask their students what they think of a linguistic matter, they should only verify they know the appropriate rule.	1.95	0.97	110
Good analytical capacity is sufficient for learning grammar well.	3.16	1.03	110

* This item was deleted from the questionnaire because Cronbach's alpha revealed the item behaved differently from other items (cf. footnote in method section).

** This item has been mirrored.

QUASI-REFLECTIVE THINKING			
	M	*SD*	*N*
Teachers have to confront students with different possible analyses of sentences to show that grammatical analysis is not clear-cut.	3.51	1.24	110
Strong students know that many sentences cannot be analyzed unambiguously.	3.58	1.03	110
Students have to be aware that linguistic matters cannot be analyzed in a clear-cut way.	3.94	0.99	110
Grammar should not be taught as a closed system: some linguistic matters are clear-cut, whereas other matters can be differently interpreted by different individuals.	3.76	1.06	110
When consulting a linguistic source, it is important to know whether reasoning occurs from the prescriptive norm, the language intuitions of the author or from the language as used in real life.	3.65	1.09	110
Because the prescriptive norm changes continuously, it doesn't matter that students don't strictly apply this norm.	2.79	1.09	110

REFLECTIVE THINKING			
	M	*SD*	*N*
Consulting linguistic sources is an important strategy for teaching grammar.	3.06	1.09	110
Knowing how to analyze a sentence is as important for students as it is for linguists.	2.95	1.30	110
For their grammatical development, it is essential that students learn how to interpret linguistic sources.	3.08	1.02	110
Students must learn how to cope with different analyses of grammatical issues.	3.54	1.07	110
Students have to learn how to underpin a grammatical analysis with arguments.	3.73	1.20	110
Textbooks must stimulate students to substantiate the analysis of sentences with arguments.	3.84	1.07	110
Students consulting linguistic sources learn that many utterances cannot be unambiguously analyzed grammatically.	3.65	0.85	110