

TEACHING LINGUISTICS

Pedagogical linguistics: Connecting formal linguistics to language teaching

ANDREAS TROTZKE

University of Konstanz

This article reports on the beginning of a new pan-European enterprise called pedagogical linguistics, which can be distinguished from related approaches on several grounds. Crucially, pedagogical linguistics centers on teaching structural properties of ‘language’, not just properties of specific languages. Although this crosslinguistic perspective on language is already part of language practitioners’ training, student teachers are often not able to draw the connection between formal linguistic training and their teaching in a multilingual classroom. Pedagogical linguistics addresses this lack of awareness and therefore aims at raising ‘linguistic’ awareness (in addition to language awareness) by highlighting the relevance of formal structural concepts for language pedagogy.*

Keywords: descriptive linguistics, Europe, formal linguistics, language pedagogy, multilingualism, pedagogical linguistics

1. INTRODUCTION. Applying insights from linguistic research to language teaching and teacher education is anything but new—especially within the European linguistics community, which has increasingly focused on issues of multilingualism, on establishing common language-assessment tools across European countries (most notably the ‘Common European Framework of Reference for Languages’ (CEFR)),¹ and on ideas about how to improve language teaching and policies for refugees and migrants.

This article introduces the *Language* readership to a new pan-European enterprise that is referred to as PEDAGOGICAL LINGUISTICS and that bridges the gap between linguistic research and language teaching by using empirical insights and theoretical tools coming from formal (a.k.a. descriptive) linguistics. The goal of the following sections is to sketch the issues addressed by this fast-growing community, and to indicate how and to what extent it differs from such related notions as applied linguistics or educational linguistics (§2). Based on this background, the article then describes the main innovations of pedagogical linguistics (§3.1) and presents an empirical study on the attitudes and performance of a group of student teachers in Germany in the context of teaching crosslinguistic patterns in a multilingual classroom (§3.2). Given the results of this study, I illustrate that raising ‘linguistic’ (and not only ‘language’) awareness should be a crucial component of pedagogical linguistics (§3.3). The article concludes by sketching future challenges and the directions both linguistics and language pedagogy might take to enable a lasting integration of both disciplines (§4).

2. BACKGROUND: PEDAGOGICAL LINGUISTICS AND ITS KIN. Over the last ten years or so, studies have again and again confirmed that there is a considerable research/practice divide at the interface between linguistic research and language pedagogy (e.g. Borg 2010, Marsden & Kaspruwicz 2017, Medgyes 2017a, and many more). Those studies

* I thank Germany’s Ministry of Education and Research (BMBF) for financial support within the project *edu⁴*, which is part of Germany’s nationwide political enterprise for reforming modern teacher education, ‘Qualitätsoffensive Lehrerbildung’ (<https://www.qualitaetsoffensive-lehrerbildung.de>). I also thank João Costa, who combines his linguistic expertise with the role of Secretary of State of Education in Portugal in unequalled ways, and my fellow pedagogical linguists Cécile de Cat, Tanja Kupisch, Tom Rankin, and Jason Rothman for invaluable input and collaboration throughout the years.

¹ <https://www.coe.int/en/web/common-european-framework-reference-languages>

have empirically shown that teachers refrain from consulting current linguistic research for reasons such as time constraints, insufficient access to online databases, or insufficient knowledge about linguistic terminology (Marsden & Kasproicz 2017). Also, many sources that teachers actually do consult and that they think represent proper linguistic research are often of low quality, according to common standards and measures like the Social Sciences Citation Index, which helps define a field of inquiry and sets standards for areas such as linguistics and language acquisition research. This situation, with its potential confusions and ambiguities, has already led researchers to conclude that ‘the findings of academic research are bound to be no less misleading and unreliable than teachers’ experience and intuitions’ (Medgyes 2017b:509) and that, consequently, there is nothing to gain from bridging the gap between linguistic research and language-pedagogy practitioners.

As also pointed out by this line of research, one of the many reasons for this gap between theory and practice is that no unified set of linguistic notions and/or an undisputed blueprint for the creation of educational textbooks has been established and consolidated among European linguists. The CEFR does not provide anything like that. Moreover, since it does not offer ready-made solutions and concrete tools for particular classroom settings, it has to be carefully interpreted when adapted to communicative needs, language abilities, and educational backgrounds in different learner communities (e.g. high schools vs. adult migrants).

Given this lack of a common way to approach and teach languages in European classrooms, a growing community of European linguists has recently started to rethink the conceptual foundations used in European language classrooms, as well as the actual pedagogical needs, given recent insights from theoretical acquisition research. There are several indications that this community is growing fast and that individual efforts are merging into a bigger network of activities (see Trotzke & Kupisch 2020, Trotzke & Rankin 2020 for recent overviews).² Through the newly founded international journal *Pedagogical Linguistics*,³ those activities have already had some resonance in non-European contexts as well, and the notion of pedagogical linguistics has been used in further domains of inquiry (e.g. Bardovi-Harlig 2020).

By emphasizing its general goal of cross-pollination between linguistics and language pedagogy, this community sits alongside a large amount of work that tries to bridge the gap between what is known in linguistics about both the language and literacy development of adults (including second language learning) and common teaching methodologies. In fact, many influential linguistic paradigms already aim at bridging the gap between theory and practice in this domain, and it is fair to say that most of them come from what can be referred to as ‘functional’ strands of linguistics, including a lot of work originating in cognitive linguistics and psycholinguistics (see e.g. Littlemore 2009, De Houwer & Ortega 2019, and Oakhill 2023 for influential approaches and overviews).

At the level of methodological macrostrategies, the reason that functional linguistic approaches had more and more impact on language teaching can be traced back easily.

² The following national initiatives and networks bring together prominent stakeholders and are already involved in combining forces across European countries: the Teacher Training Initiative (*Lehramtsinitiative*) of the German Linguistic Society (DGfS), the Education Committee of the Linguistics Association of Great Britain (LAGB); and the Catalan initiative GrOC (Gramàtica Orientada a les Competències), which organizes regular meetings and courses that are accessible to academic and nonacademic stakeholders all around Spain and Portugal. Moreover, several European networks such as the European Second Language Association (EuroSLA) are concerned with applying insights from linguistics to pedagogy, and some of its representatives are active in the field and in networking activities of pedagogical linguistics, too.

³ <https://benjamins.com/catalog/pl>

In a large-scale review of several approaches within the field of language pedagogy, Whong (2011) points out that modern teacher education has shifted from the rigorous study of language structure to a focus on the communicative and sociolinguistic underpinnings of teaching languages in the classroom. In particular, the predominant teaching philosophy for all education and proficiency levels has been established as (and still is) the COMMUNICATIVE LANGUAGE TEACHING approach (Richards & Rogers 2001), which centers on communicative skills in language education and which goes hand in hand with a ‘social turn’ in the research area of second language acquisition (Block 2003).⁴

This development in second language teaching is paralleled by a similar shift away from the study of grammar in native language settings (i.e. in classrooms where a language is taught to its native speakers). In those settings, too, the study of language structure and explicit grammar has become increasingly marginal, because it is mostly considered to be relevant only to stylistic matters in the context of advancing the students’ writing skills (Fontich & Camps 2014). Accordingly, the teaching of grammar and formal properties of language is motivated by improving peripheral aspects of language use and literacy development (van Rijt & Copen 2021), and this way of dealing with and communicating formal aspects of language in the classroom is often based on prescriptive notions of grammar, meaning that grammar is introduced as basically being about writing something ‘correctly’ (read: according to some ‘standard’ language) or ‘incorrectly’. This conception of grammar is of course at odds with any linguistic approach to language structure, and thus the gap between formal linguistics and language pedagogy is not only present in second language classrooms, as pointed out by Whong (2011) and many others, but also prevailing in native language settings.

However, there is no such gap when we consider the domain of teaching communicative competencies in language classrooms: due to the ‘social turn’ mentioned above, and the corresponding decline of teaching formal grammar in both second- and native-language teaching settings, the application of linguistic notions to language teaching inspired by functionalist approaches to linguistics has in fact worked out quite well and has had an increasing impact—and it is fair to say that the field of applied linguistics grew out of such applications. As a result, the state of the art in applied linguistics is to address a range of general societal issues involving language and communication, while one of the original concerns of linguistics, namely gaining insights about language structure and applying those to language pedagogy, has moved away from the focus of attention. Nowadays, applied linguistics is a very broad and general discipline; in order to refer to the more specific goal of applying linguistics to language pedagogy, many scholars have therefore established the term ‘educational linguistics’ (see Hult 2008 for the historical development of this field). More specifically, Hult (2008:17–18) states that:

[t]he individual educational linguist, trained in any number of combinations of ... relevant areas of study, might have her or his home in a variety of different departments, including anthropology, applied linguistics, area studies, education, English, foreign languages, linguistics, psychology, and sociology. Common to all educational linguists, though, is training in critical thinking of a transdisciplinary nature ... (Hult 2008:17–18)

Given this notion of an educational linguist, it follows that more sociology-oriented research areas such as language policy and language planning are a crucial part of educational linguistics, too (see also Spolsky 2005, Spolsky & Hult 2008, Hult 2018).

A less sociology-oriented approach in the field of applied linguistics that is conceptually closer to a focus on language structure is so-called INSTRUCTED SECOND LANGUAGE

⁴ Developments such as ‘task-based language learning’ have likewise used a broad communicative approach to teaching (Ellis 2003).

ACQUISITION (e.g. Loewen & Sato 2017, DeKeyser & Prieto-Botana 2019). This type of research measures and evaluates the impact of specific methods and linguistic teaching materials in second language learning by means of experimental methodology. It builds on the insight that explicit grammar teaching can indeed be effective (see relevant meta-analyses such as Norris & Ortega 2000). In a nutshell, the methodology of instructed second language acquisition is to systematically revise and manipulate existing teaching methods (according to linguistic acquisition research) in the second language classroom, thereby exploring how different manipulations facilitate the learning of a second language.

However, the research/practice divide mentioned at the outset of this section remains and has particularly been noted for work within the instructed second language acquisition framework: it is in fact pointed out by the very same research groups that conduct this type of instruction-oriented classroom research (Sato & Loewen 2019). Again, one of the reasons for this remaining gap noted in the literature is that no unified set of linguistic notions and terminology exists that would be accessible for language practitioners and that would provide the theoretical foundation for manipulations within the instructed second language acquisition approach.

Given all of this background on related disciplines and enterprises, recent work within the community of pedagogical linguistics is trying a new path by reshifting and enhancing the focus of language teaching to language structure and by pointing out the relevance of linguistic notions already taught to current student teachers for their future teaching in multilingual classrooms.

3. DESCRIPTION OF INNOVATION: RETHINKING FOCUS ON FORM.

3.1. FOCUS ON FORM AND MULTILINGUALISM. Pedagogical linguistics builds on the observation that the notion of discrete language-teaching methods like communicative language teaching has been increasingly problematized (Kumaravadivelu 1994, 2006a, Thornbury 2013). It has been observed that clear development from stable, distinct methods was likely never the case (Larsen-Freeman 2000). In a postmethod era, particular approaches and methodologies are changed and appropriated by teachers in line with local sociopolitical conditions and their own knowledge, experience, and beliefs. Kumaravadivelu proposes that in this era teachers' pedagogical choices are grounded in macrostrategies 'derived from the current theoretical, practical, and experiential knowledge base' (Kumaravadivelu 2006b:69).⁵ Pedagogical linguistics acknowledges this postmethod thinking and proposes that interfacing between linguistics and language teachers and teacher training should therefore shift its focus from concrete teaching methodologies to fostering the best possible THEORETICAL FOUNDATION for teachers, who can then develop and appropriate their own macrostrategies for effective teaching and learning within their particular local contexts, which nowadays are often multilingual.

In particular, pedagogical linguistics is driven by the premise that, in an increasingly multilingual world, a theoretical foundation on the basic structure of 'language' is needed more than ever in both native and second language classroom settings, and at all educational levels. This is the key motivation of recent relevant work coming from formal linguistics, particularly within the generative framework, where scholars have recently advocated for formal and descriptive linguistics to reach out to and

⁵ I thank Tom Rankin for pointing me to this discussion and the relevant literature.

engage more actively with the field of language pedagogy (see Whong et al. 2013, Gil & Rastelli 2018, Rothman & Slabakova 2018, Marsden & Slabakova 2019, Slabakova et al. 2020).⁶ There are even approaches like VanPatten's PROCESSING INSTRUCTION that very systematically translate universal insights from formal (psycho)linguistics into language pedagogy (VanPatten 1996, VanPatten & Rothman 2015).

This recent work is united in proposing the notion of 'grammatical knowledge' for the theoretical foundation of 'language', thereby referring to the cognitive notion of language that is shared by all theoretical linguistics frameworks. In this sense, 'grammatical knowledge' is the topic of all descriptive and formal frameworks. Crucially, since the goal of those frameworks is to explore a cognitive capacity, they aim at structural analyses that hold across languages (see Haspelmath 2010 for this notion of 'descriptive framework' and relevant discussion). No matter which language theory and corresponding formal descriptive tools are used, frameworks such as generative grammar, construction grammar, and many others aim to account for the psychological underpinnings of human language within human cognition more generally. Whether one captures this reality in terms of distinguishing between language 'competence' and 'performance' (Chomsky 1965) or by using other concepts, any approach in theoretical linguistics after the cognitive revolution in the late 1950s emphasizes that 'it is essential to consider language as a cognitive (mental) system' (Goldberg 2006:4).

All in all, viewing language from a cognitive perspective thus means that we not only see differences between languages, but also put a premium on common features across languages in our structural descriptions. This then is the main advantage of using a theoretical foundation for language teaching that comes from formal linguistics: its inherently crosslinguistic orientation is particularly relevant for dealing with the increasing multilingualism in our society in general, and in our classrooms in particular. According to recent statistics, more than half of the world's population can be considered bilingual (Bialystok et al. 2012), and 54% of all Europeans are AT LEAST bilingual (35% of all Europeans have even acquired three or four languages; see Eurobarometer 2012). Europe is thus a prime example of a multilingual continent, with its cultural diversity and migration history.⁷ This development means that an increasing number of children are growing up bi- or multilingual and that those children with their various language systems and competencies enter school and attend language classes. Importantly, they bring a multicompetence with them, which is not just the sum of their multiple language competencies living alongside one another, but a cognitive capacity in its own right—enabling individuals to use and develop their linguistic repertoires creatively

⁶ Other formal and descriptive frameworks such as construction grammar have made such attempts as well, and have likewise proposed several ways of applying theoretical linguistic concepts to language teaching (e.g. Tyler 2012, Boers 2013, De Knop & Gilquin 2016, Tyler et al. 2018, Wong et al. 2018).

⁷ The United States is of course a multilingual society too, but as far as bilingual individuals are concerned, Europe seems to significantly outnumber the US (e.g. according to the American Community Survey 2022 (US Census Bureau 2022), 21.6% of the US population is bilingual). Note that multilingualism has been politically fostered in Europe for quite some time now. Since at least 2007, the official line is that students in Europe should become more 'plurilingual' and learn at least two other European languages in addition to their native language (Council of Europe 2007). Language diversity is thus considered an essential cultural heritage, and a positive attitude toward other languages is considered a prerequisite for intercultural dialogue, respect, and eventually also stability and peace in Europe. This philosophy has been particularly emphasized in the context of current migration movements in Europe and within initiatives such as ProLanguage or the pan-European project MultiMind (<https://www.multilingualmind.eu>), coordinated at the University of Konstanz, Germany.

and dynamically in the sense of plurilingualism (see Piccardo et al. 2022). In this context, it is also worth pointing out that crosslinguistic influences and intermediate and interlanguage states do not have to be treated as errors, but rather can be explored as potentially interesting linguistic phenomena and developmental stages. This thinking coincides with similar ideas of TRANSLANGUAGING or superdiversity in language education (see MacSwan 2017 and Mallinson & Hudley 2018 for relevant outreach activities in the US context).⁸

Specifically, data produced by low- or nonliterate language users of a standard language (e.g. adult migrants in Germany who come from Arabic countries and are low- or nonliterate in standard German) will inform our ideas about pedagogy and the extent to which both pedagogy and linguistics should use ‘standard languages’ to define literacy and educational status. This perspective pays attention to the fact that notions of language and language pedagogy entertained by any given society might be the cause of future (up to now unforeseen) societal problems, because fulfilling a certain ‘standard’ is, in many societal contexts, essential for access to cultural and material resources within a society.

How we deal with ‘standard’ vs. ‘nonstandard’ language use in our classrooms also holds a twist for formal linguistics itself. Note that in much research in linguistics, researchers mainly focus on ‘pastoral language learning populations’ (Ortega 2005). That is, just like in any other area of human psychology, participants often belong to an unrepresentative subset of people (the ‘weirdest’ people in the world: WEIRD standing for Western, educated, industrialized, rich, and democratic societies; see Henrich et al. 2010). In this context, the crosslinguistic perspective of pedagogical linguistics points to the question of how we conceptualize and think about language variation in our societies. Linguists, and particularly linguists working on formal properties of language, for the most part EMBRACE language variation (e.g. Shlonsky 2010).

In particular, a prominent topic in formal (a.k.a. descriptive) linguistics is identifying and analyzing the rules behind dialectal and sociolectal varieties of a language. In descriptive linguistics, there is thus no ‘correct’ or ‘standard’ version of a language, and all varieties are treated on a par, with interesting patterns in their own right. This is in sharp contrast to language classrooms, where we often talk about only one specific variety of a language (the ‘standard’ version) or, even worse, where variation is dealt with as a ‘deviant’ version of some standard. This notion of language conveyed to students in their education creates a bias in the way they conceptualize language, and we can hypothesize that this bias also heavily influences how they behave in linguistic studies that test their competencies in some language variety. In other words, participants in linguistic studies are often influenced by their theoretical foundations and notions of ‘language’ and therefore reject data they would otherwise use in their everyday language. This indicates that the perspective of pedagogical linguistics also includes how the science of linguistics itself can be shaped by language education (see also §4 below).

⁸ I hasten to add that the empirical phenomenon of classroom ‘translanguaging’ (and its corresponding theory) is a major shift in the conceptual underpinnings of language teaching in general and thus a central feature of the ‘multilingual turn’ in language classrooms (see Prada & Turnbull 2018 for an overview and history of the relevant concepts, and Wei 2018 for transdisciplinary perspectives). Accordingly, it goes far beyond a mere ‘openness of language’ (thanks to a referee for insisting on this point). However, in this article I cannot discuss the relevant concepts, distinctions, and debates around translanguaging in detail (see e.g. Wei & García 2022 for current debates and political implications). My aim merely is to indicate that the crosslinguistic approach of pedagogical linguistics dovetails nicely with ideas about language teaching that have been put forward in the context of classroom translanguaging.

The nonstandard and plurilingual background found in current language classrooms is at odds with traditional pedagogical concepts and methods (e.g. audio-lingual method, grammar-translation method, but also many approaches within the communicative approach to language teaching; see above); those more traditional accounts assume linguistically homogenous learning groups in the classroom (e.g. a monolingual group of German native speakers learning English or French in Germany). However, it is obvious that multilingualism and dynamic plurilingualism in the language classroom require a different type of language teaching than those homogenous groups. Given a broader spectrum of proficiency and language profiles, priority must be given to individual learning conditions and internal differentiation. While macrostrategies for effective teaching must thus be chosen and implemented based on particular local contexts (in accordance with postmethod thinking), the theoretical foundations of how we introduce and teach ‘language’ should be the same, according to proponents of pedagogical linguistics.

In this context, two recent programmatic articles on pedagogical linguistics essentially propose to revive the well-known focus-on-form approach in language teaching, but with the innovation of rethinking this approach within a crosslinguistic perspective (Hudson 2020 and Widdowson 2020). Traditionally, focus on form has been a pedagogical approach where learners are explicitly referred to language structures and generalizations for a particular grammar. Those generalizations should refer to language components that learners are already actively using in their communication (see Long 1991, Long & Robinson 1998 for seminal work). In contrast to those early focus-on-form accounts, Widdowson (2020:40–41) proposes that focus on form within pedagogical linguistics should always be conducted crosslinguistically:

Teaching has failed, I would argue, because it is fixated on the objective of teaching competence in **a particular language** with relative disregard of the natural process of learning **language**. Foreign language teaching and learning—the order of words itself implying a unilateral dependency—is generally taken to mean the learning of a specific L2—a separate language like French, Arabic, Greek, English—each quite different from the L1 but all alike in being foreign. An alternative pedagogy would define the subject as teaching language, not teaching a language, which would mean that teaching would accommodate to learning and not the other way round, and defining the pedagogic objective in reference to the learning process as the development of the capability for languaging.

As a matter of fact, many topics alluded to in Widdowson’s (2020) statement are already part of any student teachers’ curriculum (e.g. What does it mean—psychologically—to learn ‘language’? How can we teach the structural aspects of ‘language’, and not just specific properties of languages?). However, many language practitioners still do not see the relevance of formal linguistics and linguistic theory for their actual teaching. In the following section, this situation is addressed in more detail based on two empirical studies on student teachers in Germany.

3.2. STUDENT TEACHERS’ STANCE ON MULTILINGUALISM AND THEIR COMPETENCE IN FORMAL LINGUISTICS. The following two studies compared the thoughts of a group of student teachers in Germany about multilingual classrooms (both general attitudes and self-perceptions about teaching in such a context) with the actual competencies of those student teachers in the domain of formal linguistic terminology. All student teachers were enrolled in the German language program at the University of Cologne, Germany, with the goal of becoming language teachers in L1 classrooms in the German school system. Questionnaires were presented online via the platform SoSci Survey (Leiner 2014), with two separate links. Participants were told that the two questionnaires concerned two separate studies, and thus were not aware that the results of the

two questionnaires would be compared. Participants could choose for themselves the order in which to complete the questionnaires.

Twenty-four student teachers completed the two questionnaires (nineteen female, five male; mean age: 23.6); all were self-declared native speakers of German. Students received credits for their participation and gave written consent for the use of their anonymized data for scientific research. Due to technical difficulties, the data of one participant had to be excluded from the questionnaire on multilingualism.

In the questionnaire on multilingualism, the participants had to rate two groups of statements: one on attitudes about multilingualism, the other on the student teachers' self-perception of their competence to address multilingualism in a language classroom. Statements were modeled according to Leist-Villis 2017, a general guide for designing surveys on multilingualism in Germany. The first group, on attitudes, contained two types of statements: ATTITUDE/POSITIVE and ATTITUDE/NEGATIVE, with six items per type (i.e. twelve statements in total; see Appendix A for the full list). The following examples illustrate each statement type.

(1) a. ATTITUDE/POSITIVE

Sprachmischungen sind Zeichen für den lebendigen und kreativen Umgang mit zwei oder mehr Sprachen.

'Mixing languages is a sign of a dynamic and creative approach to dealing with two or more languages.'

b. ATTITUDE/NEGATIVE

Die Schülerinnen und Schüler sollten ihre Lernzeit dazu nutzen, gutes Deutsch zu lernen—und nicht auch noch ihre Familiensprache.

'Students should use their time to learn proper German—and not waste any time on non-German home languages.'

The second group of statements, about competence, contained two types as well: COMPETENCE/POSITIVE and COMPETENCE/NEGATIVE. Participants had to rate two items per type, resulting in four statements in total (see Appendix A). Here are two examples illustrating this group of statements.

(2) a. COMPETENCE/POSITIVE

Ich denke, dass ich das nötige Vokabular habe, um mehrere Sprachen im Schulalltag zu thematisieren.

'I think my knowledge of relevant terms and concepts is enough to discuss multiple languages in everyday school life.'

b. COMPETENCE/NEGATIVE

Ich fühle mich nicht ausreichend vorbereitet, um eine andere Sprache außer Deutsch im Unterricht zu thematisieren.

'I don't feel equipped to discuss any other language than German in my classes.'

Participants had to rate the statements on a five-point Likert scale, where 1 stood for 'is not accurate at all', 5 for 'absolutely accurate', and the midpoint 3 for 'unsure'. Results for the statements on attitudes about multilingualism are presented in Figure 1. Results of a one-way ANOVA of EVALUATION (i.e. positive vs. negative) on rating show a main effect that is highly significant ($F(1,11) = 87.05, p < 0.001$), with mean ratings on positive statements ranging between 'accurate' and 'absolutely accurate' (4.2), and ratings on negative statements between 'not accurate' and 'unsure' (2.3).

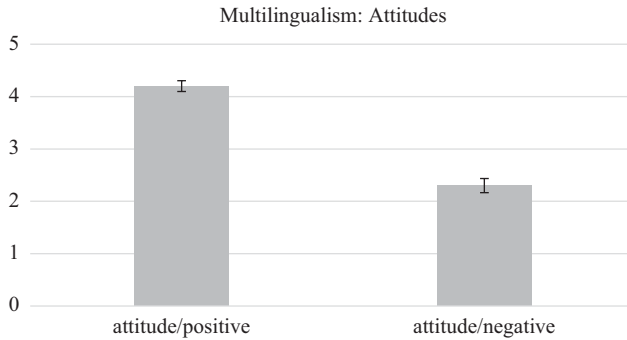


FIGURE 1. Attitudes to multilingualism: mean ratings per statement type; whiskers represent *SEs*.

Mean ratings for the statements on the student teachers' self-perceived competence to address multilingualism in a language classroom are presented in Figure 2. Results of a one-way ANOVA of evaluation (i.e. positive vs. negative) on rating show no significant effect ($F(1,20) = 3.79, p > 0.05$); mean ratings of both positive statements (3.5) and negative statements (3.0) indicate that participants were rather unsure in this domain.

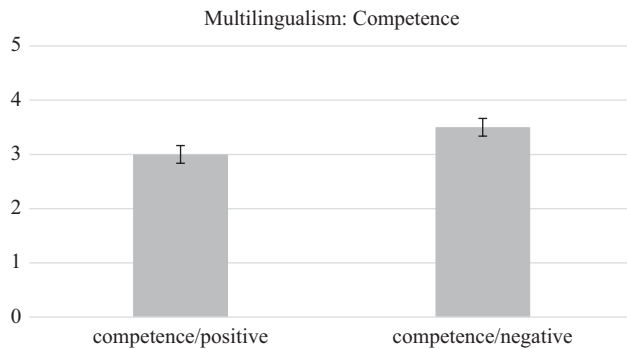


FIGURE 2. Self-perception of competence in teaching in multilingual classrooms: mean ratings per statement type; whiskers represent *SEs*.

All in all, the results for the two groups of statements about multilingualism indicate that student teachers overall have a positive attitude toward multilingualism in the language classroom, but they are unsure of whether they are well prepared to address it in their teaching. With those results in mind, let us now turn to the second questionnaire, completed by the same group of participants.

The second questionnaire targeted the student teachers' actual competencies in the domain of formal linguistic terminology. The questionnaire adopted items from the so-called TEST OF GRAMMATICAL UNDERSTANDING (TGU) developed by van Rijt et al. (2021, 2022). This test is a tool for measuring the degree of grammatical understanding and employs four categories of explanations for structural generalizations in the domain

of grammar. The four categories are: FULL UNDERSTANDING, BLIND CONCEPT USE, NO CONCEPT USE, and PARTIAL UNDERSTANDING; all four alternatives are exemplified in 3 (see van Rijt et al. 2021:11–12 and van Rijt et al. 2022, and see Appendix B for original items and relevant translations).

(3) QUESTION ABOUT GRAMMAR

Warum kann man ‚ein Butterbrot‘ im Satz ‚Markus hat ein Butterbrot gegessen‘ weglassen, aber im Satz ‚Markus hat ein Butterbrot gemacht‘ nicht?

‘Why can you leave out “a sandwich” in the sentence “Markus has eaten a sandwich”, whereas you cannot do this in “Markus has made a sandwich”?’

a. [full understanding]

Das Verb ‚machen‘ selektiert obligatorisch ein direktes Objekt.

‘The verb “to make” selects a mandatory direct object.’

b. [blind concept use]

Das Hilfsverb ‚hat‘ erfordert manchmal ein direktes Objekt.

‘The auxiliary verb “has” sometimes requires a direct object.’

c. [no concept use]

Man kann ‚machen‘ nicht benutzen, ohne anzugeben, was man macht.

‘You can’t say what you make without saying what you are making.’

d. [partial understanding]

Das direkte Objekt ‚ein Butterbrot‘ kann manchmal weggelassen werden und manchmal nicht.

‘The direct object “a sandwich” can sometimes be left out, and sometimes not.’

In the questionnaire, participants had to judge each of the four alternatives on a four-point scale, as follows: 1 ‘wrong’, 2 ‘probably wrong’, 3 ‘probably correct’, 4 ‘correct’. They were asked to provide their judgments in the context of three different questions about grammar; accordingly, they had to judge twelve alternative explanations in total (see Appendix B for full list). The categories of explanation (full, partial, blind, no concept) were randomly ordered for each of the three questions. All grammatical phenomena (and their explanations) addressed patterns that hold crosslinguistically (such as syntactic argument selection; see example 3 above), and not language-specific/ idiosyncratic quirks of German grammar.

Mean judgments of the alternative grammatical explanations are presented in Figure 3. Results of a one-way ANOVA of GRAMMATICAL UNDERSTANDING (i.e. full, partial, blind, or no concept) on judgment show a main effect that is highly significant ($F(3,22) = 12.50$, $p < 0.001$). Importantly, participants were as confident about the technical linguistic explanation (which, according to the methodology of the TGU, signaled full understanding) as they were about the explanation in layman’s terms (i.e. no concept use), with mean judgments of 2.9 and 2.6, respectively; paired t -tests show that the difference between full understanding and no concept use is not significant ($p > 0.05$), whereas the differences are significant between the other alternatives. For the most part, participants rejected the blind (and incorrect) concept use (1.9).

Let us now take stock and put together the results from the two studies. The questionnaire on multilingualism showed that the student teachers overall have a strongly positive attitude toward multilingualism, but they do not feel confident about teaching

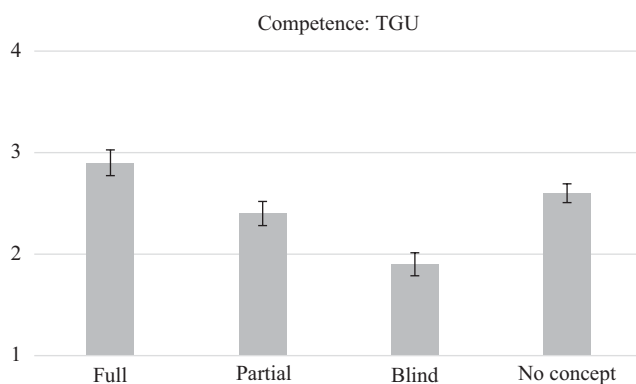


FIGURE 3. Mean ratings on the ‘Test of grammatical understanding’ (TGU; van Rij et al. 2021, 2022); whiskers represent *SEs*.

in a multilingual classroom because they are rather unsure of whether they possess the necessary linguistic knowledge to do so. However, the second questionnaire, on the students’ actual level of grammatical understanding, revealed that they were as confident about technical linguistic explanations as they were about explanations in layman’s terms. In other words, their performance on using linguistic explanations was rather good, and they reliably rejected incorrect explanations (which were also couched in linguistic terminology to potentially confuse participants).

Given that all items in the questionnaire on grammatical understanding referred to linguistic patterns that hold crosslinguistically (and could therefore potentially be applied across languages), the results indicate that the student teachers already have a good grasp of the linguistic means they could employ to address crosslinguistic patterns in a multilingual classroom. However, the same group of student teachers expressed a lack of confidence in exactly that domain in the first questionnaire on multilingualism. Given this discrepancy, the two studies suggest that one major issue for pedagogical linguistics to address is the lack of LINGUISTIC AWARENESS (in addition to the well-known and more general challenge of raising LANGUAGE AWARENESS; see §4 below). In other words, student teachers already receive a good amount of formal linguistic training in their education, but they often are not fully aware of the relevance this training has for their actual teaching in a multilingual classroom. In the following section, I briefly illustrate that relevance in the context of some pertinent examples from the multilingual society of Germany.

3.3. RAISING LANGUAGE AWARENESS BY RAISING LINGUISTIC AWARENESS. There are many good examples in the formal literature of how to address and improve the crosslinguistic capability of ‘*linguaging*’, mentioned by Widdowson (2020) in the quote above, in multilingual classrooms. For instance, an excellent illustration from second-language English is Hirakawa’s (2013) study on the distinction between unergative and unaccusative verbs. This distinction has played a significant role in generative formal theory, at least since the seminal work by Burzio (1986). However, it has mostly been ignored in language teaching. In particular, Hirakawa deals with the observation that learners of English with various first languages often passivize intransitive verbs in a way that is not possible with unergative verbs (e.g. *the earthquake was happened last night*). Hirakawa’s study shows convincingly that explicit knowledge about the structural

difference between unergative and unaccusative intransitive verbs indeed effectively helps learners to avoid such mistakes. This type of work demonstrates that fundamental generalizations from formal linguistics, which are not usually mentioned in textbooks for language teaching (but are taught in relevant linguistics classes to student teachers), have a significant and positive effect on learning a foreign language as soon as this generalization is explicitly discussed and taught in the classroom.

Turning again to multilingual classrooms in Europe, we can say that the presence of many different heritage languages enables exciting opportunities for crosslinguistic exercises and reflections, which can improve the capability of ‘*linguaging*’ mentioned above and thereby the learning progress of students as a whole. Let us take Germany: Germany’s most prominent migration languages are Russian and Turkish; the literature assumes there to be about 4.5 million speakers with a Turkish background in Germany (Bayram & Wright 2018) and about 2.5 million speakers with a Russian background (Olfert & Schmitz 2018).

Let us first turn to heritage speakers with a Russian background and sketch one example of how to reflect on linguistic structure in this particular multilingual context. Part of any student teacher’s training is a basic course on syntax, and one of the most fundamental notions they learn in a German context is the notion of V2 languages (and how they differ from other types such as SVO languages). German’s V2 property is particularly relevant for comparing Russian and German and explaining (and addressing) well-known learning problems. Look at the following Russian and German examples (Naumovich 2017:125–26).

- (4) a. Ja **varju** sejčas sup. (Russian)
 I cook now soup
 ‘Now I’m cooking a soup.’
- b. Ich **koche** jetzt eine Suppe. (German)
 I cook now a soup
 ‘Now I’m cooking a soup.’
- (5) a. Sup **varju** ja sejčas. (Russian)
 soup cook I now
 ‘As for the soup, I’m cooking it now.’
- b. Die Suppe **koche** ich jetzt. (German)
 the soup cook I now
 ‘As for the soup, I’m cooking it now.’

While both word orders in 4 and 5 are grammatical in both Russian and German, the ordering in 6a is ungrammatical in German because the finite verb is not in the second position of the clause, thereby violating the V2 constraint. However, in Russian (6b) the same ordering is perfectly fine.

- (6) a. *Jetzt ich **koche** eine Suppe.
 now I cook a soup
- b. Sejčas ja **varju** sup.
 now I cook soup

This crosslinguistic difference is well known in the literature on second language acquisition by Russian learners in Germany. For instance, Naumovich (2017) reports on systematic errors made by children with a Russian migration background; all examples in 7 violate the V2 constraint.

- (7) a. [Was macht er hier? ‘What is he doing here?']
 *Und hier er **esst**.
 and here he eats
 ‘And here, he’s eating.’
- b. [Was macht er? ‘What is he doing?']
 *Käse, ja, er auch **esst** Käse.
 cheese yes he also eats cheese
 ‘Cheese, yes, he’s also eating cheese.’
- c. *In der Pause ich **schlag** ihn zusammen.
 in the recess I beat him together
 ‘At recess, I’ll beat him up.’

Most student teachers learn the linguistic notion of German as a V2 language in the context of various theories that have been proposed (e.g. Thiersch 1978, den Besten 1983, for seminal works). However, it is not part of their curriculum to learn that this formal property of the German language lends itself to crosslinguistic comparisons (e.g. Russian vs. German) and might help to address, explain, and eventually overcome learning problems in a multilingual classroom.

Let us now briefly turn to an illustration in the context of Turkish learners of German, an example where it might be beneficial to point out the similarities between languages (and not just the differences, as illustrated above for Russian-German). Highlighting structural similarities between languages might also play a part in raising language awareness in a multilingual classroom.

Turkish uses neither word order nor intonation to distinguish between different sentence types and speech acts (8), in contrast to German (9); see Schroeder & Şimşek 2014:126–27.

- (8) a. Sen resmi **görürsun**. (SOV)
 you painting see
 ‘You’re seeing the painting.’
- b. Sen resmi **gördün** mü? (SOV; no rising intonation)
 you painting see PART
 ‘Are you seeing the painting?’
- (9) a. Du **siehst** das Bild. (V2 order)
 you see the painting
 ‘You’re seeing the painting.’
- b. **Siehst** Du das Bild? (V1 order; rising intonation)
 see you the painting
 ‘Are you seeing the painting?’

To distinguish between speech acts, Turkish uses particles like the question particle *mü* (or *mi*, *mu*, *mi*) in 8b. Interestingly, German features illocutionary particles as well—and although highly frequent in spoken and written German, learners typically struggle both with their comprehension and with using them appropriately (see Trotzke et al. 2020 for an empirical study of second language learners). Look at the following versions of 9, and note that the respective particles are restricted to either assertions (9’a) or questions (9’b).

- (9) a. Du **siehst** ja das Bild. (V2 order; assertive particle)
 you see PART the painting
 ‘You’re seeing the painting.’
- b. **Siehst** Du denn das Bild? (V1 order; rising intonation; question particle)
 see you PART the painting
 ‘Are you seeing the painting?’

As mentioned above and as indicated in 9’, several linguistic means (word order, intonation, and also particles) add up to form a particular sentence type and speech act in German. The situation is different in Turkish, where particles play a more central role in this regard. However, although particles are not obligatory as illocutionary indicators in German, they nevertheless clearly signal which speech act is performed by a particular utterance—and this is a pattern that Turkish learners are very familiar with. Like the V2 property of German, the MODAL (a.k.a. DISCOURSE) particles are part of any basic class on the German language in student teachers’ education in Germany. However, the curriculum typically does not discuss the crosslinguistic implications that might be drawn when looking at languages in a multilingual setting.

Needless to say, there are many more potential domains where the formal understanding of structural properties of language can also help with understanding and explaining problems that learners with a Russian or Turkish language background might have. Interestingly, this sometimes means distinguishing between different groups of learners and problems in a heterogenous classroom. For instance, Turkish learners often have problems with learning the German article system and the distinction between definite (e.g. *der* ‘the [SG.M]’) and indefinite (e.g. *einer* ‘a [SG.M]’) articles. This explains why those speakers often produce utterances without any articles (e.g. *Dann geht Mann in Laden*, lit. ‘Then goes man in shop’), which is documented in pedagogical classroom research (see Redder et al. 2015) and also in the sociolinguistic literature (e.g. Wiese’s 2012 notion of ‘Kiezdeutsch’). By contrast, learners whose native language has a similar article system (e.g. French learners) have no significant learning problems in this domain.

This brief discussion should suffice to indicate the great potential of connecting student teachers’ formal linguistic training to crosslinguistic comparisons and discussions in a multilingual classroom. At least for the German context, some relevant textbooks and teaching materials already on the market draw this connection for language teachers, based on concepts used in theoretical linguistics: for example, Krifka et al. 2014, Hoffmann et al. 2017, and Rothstein 2018. These are excellent examples of pedagogical linguistics, with the general goal of connecting formal and descriptive linguistics to challenges teachers are facing in current language classrooms.

4. SOCIETAL CHALLENGES AND FUTURE DIRECTIONS. I would like to end this article on a more general note, thereby highlighting to the *Language* readership the further potential of the pedagogical linguistics perspective. As we all know, the world’s educational systems face new challenges, not only in the context of an increasingly multi- and plurilingual population of language learners, but also in the context of how we, as citizens, make accurate decisions when facing so many types of linguistically conveyed information in a digital world.

The key focus of pedagogical linguistics on the formal mechanisms of ‘how language works’ is not only beneficial to multilingual learners (who would then be better able

to compare with and infer from different languages; see above). Rather, grammatical knowledge in the broad sense (i.e. including formal syntax, but also formal semantics/pragmatics) also concerns broader societal domains such as ‘good’ citizenship, because knowledge about the formal properties of language can help us to evaluate different types of information in the digital world (e.g. assertion vs. presupposition in the context of ‘fake news’). Language is key for participation in social processes, and to be aware of its main characteristics and properties is a great tool for access to cultural and material resources in any society. Again, student teachers are often already taught basic semantic and pragmatic concepts, but drawing the connections from those formal concepts to actual challenges for them and their future students in the school context is still rare and usually not part of their curriculum.

To be sure, such ‘linguistic awareness’ should in the best case result in ‘language awareness’, which advances the students’ consciousness of different forms and also functions of language. The notion of language awareness already encompasses a well-known field of inquiry in the literature (Carter 2003, Denham & Lobeck 2010, Svalberg 2016), and it is already part of the curricula in many European countries, often referred to as ‘knowledge about language’ (see e.g. Alderson & Hudson 2013, Hudson 2020 for UK curricula; Bravo 2021 for Spain; Nygård & Brøseth 2021 for Norway; and Funke 2018 for the German context). However, recent empirical studies have shown that even if ‘grammatical’ and ‘linguistic’ knowledge as such is considered an important subject by teachers, those teachers struggle to see the relevance of the crosslinguistic and cognitive notion of grammar that exists in the language sciences (see Bell 2016, Döring 2020, and Elsnér 2021 for such studies).

Last but not least, let me mention an objective of pedagogical linguistics that concerns a long-term shift in institutional infrastructure and that follows from the ideas sketched in §3.1 above: pedagogical linguistics tries to restore the bridge between linguistics and pedagogy that existed in Europe until the nineteenth century. Interestingly, there is a recent trend in several European countries to found ‘Schools of Education’ as additional administrative units inside universities (especially in central Europe). Despite the enormous academic progress that has been made in linguistics as a field since the cognitive revolution in the 1950s, this recent trend suggests that, in institutional and administrative terms, there is a continuing inclination to separate the science of linguistics from pedagogy and teacher education.

Against this recent trend, pedagogical linguistics aims to restore institutional unity between academic linguistics and language teaching. Outsourcing pedagogical expertise is not helpful in meeting the societal challenge of increasingly heterogenous classrooms. Institutional infrastructure has an enormous impact on how scholars relate to one another (and how linguistic research relates to language pedagogy). The separation of linguistics from language departments has already had a negative effect on bridging the research/practice divide, and pedagogical linguistics aims at restoring institutional settings in academic education where linguistics and language pedagogy are, again, understood as one inseparable discipline.

Note that this perspective of pedagogical linguistics also has the potential to change the conception of linguistics itself: linguistics as a discipline is fundamentally pedagogical, as also pointed out by Hudson (2020) in his programmatic conception of pedagogical linguistics. That is, pedagogical linguistics not only focuses on how linguistic concepts might affect education (in various societal contexts), but also on how education

affects linguistic studies. It is a fact that language is shaped by education, but large parts of linguistics that are concerned with the cognitive underpinnings of linguistic knowledge and language acquisition often disregard this factor in their research because it is usually considered a socioeconomic or sociolinguistic component.

Pedagogical linguistics takes education and pedagogy to be important factors and acknowledges them as a component that shapes the linguistic knowledge of individuals on a par with other aspects such as historical change or general psychological capacities and constraints. According to Hudson (2020), teaching language is fundamentally different from teaching other subjects. In other words, the teaching and the respective pedagogy will not change the object of study in subjects like mathematics, history, or physics. However, it will (and constantly does) change the linguistic knowledge of language learners and students. For instance, when we teach vocabulary, the learner's language changes because they have new words to use. To some extent, this might also hold for the capability of using more or less complex grammar. A crucial innovation of pedagogical linguistics is thus to turn the tables in current debates on literacy development, language teaching, and second language acquisition by not only asking 'What can formal linguistics do for education?' but additionally raising the complementary question 'What is education contributing to formal linguistics?'

This dual focus opens a path for developing new teaching methodologies and for ultimately seeing a genuine and lasting integration of insights from modern linguistics into language-teaching practice. This is yet another aspect where pedagogical linguistics crucially differs from previous applications of linguistics to pedagogy (§2). Pedagogical linguistics has the potential to develop and promote a conception of linguistics where linguistics and language pedagogy are one inseparable discipline.

All in all, the overarching goal of pedagogical linguistics is to establish a new scientific and societal paradigm according to which language education is further LINGUISTICALIZED and linguistics EDUCATIONALIZED. Specifically, 'language', both native and foreign, should be taught as a cognitive phenomenon whose patterns of crosslinguistic order and structure can be made visible by simple and universal analytical tools that hold for any language—including dialects and sociolects. Scientific terms such as 'universal grammar' certainly carry a heavy intellectual and ideological burden. This is one of the main reasons why pedagogical practitioners (although mostly trained in theoretical linguistics) have so far for the most part refrained from using concepts from formal linguistics in their classrooms. However, taking a step back, we see that those are merely terminological issues, which can be resolved easily (see Rankin & Whong 2020a,b for a recent proposal). Ultimately, scholars within the growing community of pedagogical linguistics aim to overcome the strong theoretical allegiance of academic research, which makes it hard for outsiders to the relevant theories to see their relevance for teaching. My hope is that this brief article can contribute to making this relevance more visible.

APPENDIX A: QUESTIONNAIRE ON MULTILINGUALISM

Full list of items for questionnaire on multilingualism (see Leist-Villis 2017); items were randomly ordered across conditions in the questionnaire.

1. ATTITUDE/POSITIVE

Sprachmischungen sind Zeichen für den lebendigen und kreativen Umgang mit zwei oder mehr Sprachen.

'Mixing languages is a sign of a dynamic and creative approach to dealing with two or more languages.'

Sprachliche Vielfalt bereichert das Leben in der Schule und Gesellschaft.

‘Linguistic diversity enriches life at school and in society as a whole.’

Die Förderung der Mehrsprachigkeit ist eine wichtige Aufgabe der Schule.

‘Fostering multilingualism is an important task of the school system.’

Die Mehrsprachigkeit mehrsprachiger Kinder ist als besondere Kompetenz anzuerkennen.

‘The multilingualism of multilingual children is a special competence worth appreciating.’

Einsprachige Kinder können von der sprachlichen Vielfalt in der Klasse profitieren.

‘Monolingual children can profit from linguistic diversity in their classrooms.’

Wenn Kinder ihre Sprachen vermischen, zeigt das, dass sie sich in beiden Sprachen zu Hause fühlen.

‘When children mix their languages, this is a sign that they feel at home in both languages.’

2. ATTITUDE/NEGATIVE

Die Schülerinnen und Schüler sollten ihre Lernzeit dazu nutzen, gutes Deutsch zu lernen—und nicht auch noch ihre Familiensprache.

‘Students should use their time to learn proper German—and not waste any time on non-German home languages.’

Wenn Kinder ihre Sprachen vermischen, zeigt das, dass sie keine Sprache richtig beherrschen.

‘When children mix their languages, this shows that they have not mastered any of those languages properly.’

Wenn Kinder ihre Sprachen vermischen, zeigt das, dass sie mit zwei Sprachen überfordert sind.

‘When children mix their languages, this shows that they are unable to cope with two languages.’

Es wäre gut, wenn in Familien mit Migrationshintergrund mehr Deutsch gesprochen werden würde.

‘It would be good if members of a family with migrant background would speak German with each other more often.’

Spricht ein Kind nur Deutsch, so wird es im Allgemeinen die deutsche Sprache besser beherrschen als Kinder, die auch noch andere Sprachen sprechen.

‘If a child only speaks German, then this child will most probably master the German language more successfully than children who also speak additional languages.’

Bei einem Kind mit Englisch als Familiensprache ist es sinnvoller, die Familiensprache zu fördern, als bei einem Kind mit Türkisch als Familiensprache.

‘If a child is raised in an English-speaking family, it makes more sense to foster the home language than in cases where a child is raised in a Turkish-speaking family.’

3. COMPETENCE/POSITIVE

Ich denke, dass ich das nötige Vokabular habe, um mehrere Sprachen im Schulalltag zu thematisieren.

‘I think my knowledge of relevant terms and concepts is enough to discuss multiple languages in everyday school life.’

Ich habe in meinem Studium bereits linguistische Grundlagen erworben, um mehrere Sprachen miteinander zu vergleichen.

‘In my university education, I have already acquired the linguistic foundations that enable me to compare languages with each other.’

4. COMPETENCE/NEGATIVE

Ich fühle mich nicht ausreichend vorbereitet, um eine andere Sprache außer Deutsch im Unterricht zu thematisieren.

‘I don’t feel equipped to discuss any other language than German in my classes.’

Mein linguistisches Studium bereitet mich nicht ausreichend auf ein mehrsprachiges Klassenzimmer vor.

‘My linguistic education prepares me insufficiently for teaching in a multilingual classroom.’

APPENDIX B: QUESTIONNAIRE ON COMPETENCIES

Full list of items for questionnaire on actual competencies in linguistic terminology; items include English translations adopted from the TGU test by van Rijt (2021, 2022); see §3.2 above for discussion. All twelve items of four conditions were randomly ordered and the respective questions about grammar were repeated for each individual item.

1. [Question about grammar]

Warum kann man ‚ein Butterbrot‘ im Satz ‚Markus hat ein Butterbrot gegessen‘ weglassen, aber im Satz ‚Markus hat ein Butterbrot gemacht‘ nicht?

‘Why can you leave out “a sandwich” in the sentence “Markus has eaten a sandwich”, whereas you cannot do this in “Markus has made a sandwich”?’

- a. [full understanding]
Das Verb ‚machen‘ selektiert obligatorisch ein direktes Objekt.
‘The verb “to make” selects a mandatory direct object.’
- b. [blind concept use]
Das Hilfsverb ‚hat‘ erfordert manchmal ein direktes Objekt.
‘The auxiliary verb “has” sometimes requires a direct object.’
- c. [no concept use]
Man kann ‚machen‘ nicht benutzen, ohne anzugeben, was man macht.
‘You can’t say what you make without saying what you are making.’
- d. [partial understanding]
Das direkte Objekt ‚ein Butterbrot‘ kann manchmal weggelassen werden und manchmal nicht.
‘The direct object “a sandwich” can sometimes be left out, and sometimes not.’
2. [Question about grammar]
Ihr Professor bittet Sie, einen grammatischen Satz nach dem folgenden Reihenfolgemuster zu bilden.
Was können Sie im Vorfeld bereits über diesen Satz sagen?
1 Indirektes Objekt – 2 Finites Verb – 3 Subjekt – 4 Direktes Objekt – 5 Adverbial – 6 Adverbial
‘Your professor asks you to construct a grammatical sentence using the ordering pattern below. What can you say about this sentence in advance?’
‘1 indirect object – 2 finite verb – 3 subject – 4 direct object – 5 adverbial – 6 adverbial’
- a. [full understanding]
Als finites Verb könnte man ‚geben‘ einsetzen, weil dieses Verb sowohl ein direktes als auch ein indirektes Objekt verlangt.
‘The finite verb could be “to give” because that verb asks for a direct and an indirect object.’
- b. [blind concept use]
Der Satz ist nicht möglich, da es nicht zwei Adverbiale in einem Satz geben kann.
‘The sentence is impossible because there can’t be two adverbials in one sentence.’
- c. [no concept use]
Der Satz besteht minimal aus sechs Wörtern, weil es sechs Stellen zu besetzen gibt.
‘The sentence consists of minimally six words because there are six spaces to use.’
- d. [partial understanding]
Der Satz ist ungewöhnlich, weil in der ersten Position ein indirektes Objekt und nicht das Subjekt steht.
‘The sentence is unusual because it has the indirect object in sentence first position rather than the subject.’
3. [Question about grammar]
Warum kann man sagen ‚Ich weiß, wer das getan hat‘, aber nicht: ‚Ich denke, wer das getan hat‘?
‘Why can you say “Ich weiß, wer das getan hat” (I know who did it), but not “Ich denke, wer das getan hat” (I think who did it)?’
- a. [full understanding]
Weil das Verb ‚denken‘ keinen eingebetteten Fragesatz als direktes Objekt erlaubt.
‘Because the verb *denken* (to think) does not select an embedded question as its direct object.’
- b. [blind concept use]
Weil das Prädikat am Ende des Satzes im Perfekt steht.
‘Because the predicate at the end is in the present perfect.’
- c. [no concept use]
Weil man einer Sache nicht sicher sein kann, wenn man über sie nachdenkt.
‘Because you are not completely sure about something if you are thinking about it.’
- d. [partial understanding]
Weil man kein Interrogativpronomen im zweiten Satz verwenden kann.
‘Because you can’t have an interrogative pronoun in the second sentence.’

REFERENCES

- ALDERSON, J. CHARLES, and RICHARD HUDSON. 2013. The metalinguistic knowledge of undergraduate students of English language or linguistics. *Language Awareness* 22(4). 320–37. DOI: 10.1080/09658416.2012.722644.
- BARDOVI-HARLIG, KATHLEEN. 2020. Pedagogical linguistics: A view from L2 pragmatics. *Pedagogical Linguistics* 1(1).44–65. DOI: 10.1075/pl.19013.bar.

- BAYRAM, FATI, and CLARE WRIGHT. 2018. Turkish heritage language acquisition and maintenance in Germany. *Handbook of research and practice in heritage language education*, ed. by Peter Pericles Trifonas and Themistoklis Aravossitas, 481–502. Dordrecht: Springer. DOI: 10.1007/978-3-319-38893-9_49-1.
- BELL, HUW. 2016. Teacher knowledge and beliefs about grammar: A case study of an English primary school. *English in Education* 50(2).148–63. DOI: 10.1111/eie.12100.
- BIALYSTOK, ELLEN; FERGUS I. M. CRAIK; and GIGI LUK. 2012. Bilingualism: Consequences for mind and brain. *Trends in Cognitive Sciences* 16(4).240–50. DOI: 10.1016/j.tics.2012.03.001.
- BLOCK, DAVID. 2003. *The social turn in second language acquisition*. Edinburgh: Edinburgh University Press. DOI: 10.1515/9781474464505.
- BOERS, FRANK. 2013. Cognitive linguistic approaches to teaching vocabulary: Assessment and integration. *Language Teaching* 46(2).208–24. DOI: 10.1017/S0261444811000450.
- BORG, SIMON. 2010. Language teacher research engagement. *Language Teaching* 43(4).391–429. DOI: 10.1017/S0261444810000170.
- BRAVO, ANA. 2021. Students' errors in L1 Spanish grammar from the perspective of formal linguistics. *Pedagogical Linguistics* 2(2).153–74. DOI: 10.1075/pl.21004.bra.
- BURZIO, LUIGI. 1986. *Italian syntax: A government-binding approach*. Dordrecht: Reidel.
- CARTER, RONALD. 2003. Language awareness. *ELT Journal* 57(1).64–65. DOI: 10.1093/elt/57.1.64.
- CHOMSKY, NOAM. 1965. *Aspects of the theory of syntax*. Cambridge, MA: MIT Press.
- COUNCIL OF EUROPE. 2007. From linguistic diversity to plurilingual education: *Guide for the development of language education policies in Europe*. Strasbourg: Council of Europe. Online: <https://www.coe.int/en/web/language-policy/from-linguistic-diversity-to-plurilingual-education-guide-for-the-development-of-language-education-policies-in-europe>.
- DE HOUWER, ANNICK, and LOURDES ORTEGA. 2019. Learning, using, and unlearning more than one language. *The Cambridge handbook of bilingualism*, ed. by Annick De Houwer and Lourdes Ortega, 1–12. Cambridge: Cambridge University Press. DOI: 10.1017/9781316831922.001.
- DE KNOP, SABINE, and GAËTANELLE GILQUIN (eds.) 2016. *Applied construction grammar*. Berlin: Mouton de Gruyter. DOI: 10.1515/9783110458268.
- DEKEYSER, ROBERT M., and GORETTI PRIETO-BOTANA. 2019. Current research on instructed second language learning: A bird's eye view. *Doing SLA research with implications for the classroom: Reconciling methodological demands and pedagogical applicability*, ed. by Robert M. DeKeyser and Goretti Prieto-Botana, 1–7. Amsterdam: John Benjamins. DOI: 10.1075/lllt.52.01dek.
- DEN BESTEN, HANS. 1983. On the interaction of root transformations and lexical deletive rules. *On the formal syntax of the Westgermania*, ed. by Werner Abraham, 47–131. Amsterdam: John Benjamins. DOI: 10.1075/la.3.03bes.
- DENHAM, KRISTIN, and ANNE LOBECK (eds.) 2010. *Linguistics at school: Language awareness in primary and secondary education*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511770791.
- DÖRING, SANDRA. 2020. Shaking students' beliefs about grammar: Some thoughts on the academic education of future language teachers. *Formal linguistics and language education: New empirical perspectives*, ed. by Andreas Trotzke and Tanja Kupisch, 91–110. Cham: Springer. DOI: 10.1007/978-3-030-39257-4_6.
- ELLIS, ROD. 2003. *Task-based language learning and teaching*. Oxford: Oxford University Press.
- ELSNER, DANIELA. 2021. Knowledge about grammar and the role of epistemological beliefs. *Pedagogical Linguistics* 2(2).107–28. DOI: 10.1075/pl.21003.els.
- EUROBAROMETER. 2012. Public opinion in the European Union (First results from Eurobarometer 78). Brussels: European Commission. DOI: 10.4232/1.12061.
- FONTICH, XAVIER, and ANNA CAMPS. 2014. Towards a rationale for research into grammar teaching in schools. *Research Papers in Education* 29(5).598–625. DOI: 10.1080/02671522.2013.813579.

- FUNKE, REINOLD. 2018. Working on grammar at school: Empirical research from German-speaking regions. *L1-Educational Studies in Language and Literature* 18.1–39. DOI: 10.17239/LIESLL-2018.18.04.05.
- GIL, KOOK-HEE, and STEFANO RASTELLI (eds.) 2018. *Second language teaching and generative linguistics*. (Special issue of *Instructed Second Language Acquisition* 2(2).) Online: <https://journal.equinoxpub.com/ISLA/issue/view/21>.
- GOLDBERG, ADELE E. 2006. *Constructions at work: The nature of generalization in language*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199268511.001.0001.
- HASPELMATH, MARTIN. 2010. Framework-free grammatical theory. *The Oxford handbook of linguistic analysis*, ed. by Bernd Heine and Heiko Narrog, 341–65. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780199544004.013.0014.
- HENRICH, JOSEPH; STEVEN J. HEINE; and ARA NORENZAYAN. 2010. Most people are not WEIRD. *Nature* 466.29. DOI: 10.1038/466029a.
- HIRAKAWA, MAKIKO. 2013. Alternations and argument structure in second language English: Knowledge of two types of intransitive verbs. *Universal grammar and the second language classroom*, ed. by Melinda Whong, Kook-Hee Gil, and Heather Marsden, 117–37. Cham: Springer. DOI: 10.1007/978-94-007-6362-3_7.
- HOFFMANN, LUDGER; SHINICHI KAMEYAMA; MONIKA RIEDEL; PEMBE SAHINER; and NADJA WULF (eds.) 2017. *Deutsch als Zweitsprache: Ein Handbuch für die Lehrerbildung*. Berlin: Erich Schmidt.
- HUDSON, RICHARD. 2020. Towards a pedagogical linguistics. *Pedagogical Linguistics* 1(1). 8–33. DOI: 10.1075/pl.19011.hud.
- HULT, FRANCIS M. 2008. The history and development of educational linguistics. In Spolsky & Hult, 10–24. DOI: 10.1002/9780470694138.ch2.
- HULT, FRANCIS M. 2018. Language policy and planning and linguistic landscapes. *The Oxford handbook of language policy and planning*, ed. by James W. Tollefson and Miguel Pérez-Milans, 333–51. Oxford: Oxford University Press. DOI: 10.1093/oxfordhb/9780190458898.013.35.
- KRIFKA, MANFRED; JOANNA BŁASZCZAK; ANNETTE LESSMÖLLMANN; ANDRÉ MEINUNGER; BARBARA STIEBELS; ROSEMARIE TRACY; and HUBERT TRUCKENBRODT (eds.) 2014. *Das mehrsprachige Klassenzimmer: Über die Muttersprachen unserer Schüler*. Berlin: Springer. DOI: 10.1007/978-3-642-34315-5.
- KUMARAVADIVELU, BALA. 1994. The postmethod condition: (E)merging strategies for second/foreign language teaching. *TESOL Quarterly* 28(1).27–48. DOI: 10.2307/3587197.
- KUMARAVADIVELU, BALA. 2006a. *Understanding language teaching: From method to post-method*. Mahwah, NJ: Lawrence Erlbaum. DOI: 10.4324/9781410615725.
- KUMARAVADIVELU, BALA. 2006b. TESOL methods: Changing tracks, challenging trends. *TESOL Quarterly* 40(1).59–81. DOI: 10.2307/40264511.
- LARSEN-FREEMAN, DIANE. 2000. *Techniques and principles in language teaching*. 2nd edn. Oxford: Oxford University Press.
- LEINER, DOMINIK J. 2014. SoSci Survey. Version 2.6.00-i. Online: <https://www.socisurvey.de/en/index>.
- LEIST-VILLIS, ANJA. 2017. Einstellungen pädagogischer Fachkräfte zu Mehrsprachigkeit: Ein Erhebungsinstrument. Bonn: freisprachigkeit.net. Online: <http://zweisprachigkeit.net/Leist-Villis%202017%20Einstellungen%20zu%20Mehrsprachigkeit%20Ein%20Erhebungsinstrument>.
- LITTLEMORE, JEANNETTE. 2009. *Applying cognitive linguistics to second language learning and teaching*. Basingstoke: Palgrave Macmillan. DOI: 10.1057/9780230245259.
- LOEWEN, SHAWN, and MASATOSHI SATO. 2017. Instructed second language acquisition (ISLA): An overview. *The Routledge handbook of instructed second language acquisition*, ed. by Shawn Loewen and Masatoshi Sato, 1–12. New York: Routledge.
- LONG, MICHAEL. 1991. Focus on form: A design feature in language teaching methodology. *Foreign language research in cross-cultural perspective*, ed. by Kees de Bot, Ralph Ginsberg, and Claire Kramsch, 39–52. Amsterdam: John Benjamins.
- LONG, MICHAEL, and PETER ROBINSON. 1998. Focus on form: Theory, research and practice. *Focus on form in classroom second language acquisition*, ed. by Catherine Doughty and Jessica Williams, 15–41. Cambridge: Cambridge University Press.

- MACSWAN, JEFF. 2017. A multilingual perspective on translanguaging. *American Educational Research Journal* 54(1).167–201. DOI: 10.3102/0002831216683935.
- MALLINSON, CHRISTINE, and ANNE H. CHARITY HUDLEY. 2018. Balancing the communication equation: An outreach and engagement model for using sociolinguistics to enhance culturally and linguistically sustaining K–12 STEM education. *Language* 94.e191–e215. DOI: 10.1353/lan.2018.0048.
- MARSDEN, EMMA, and ROWENA KASPROWICZ. 2017. Foreign language educators' exposure to research: Reported experiences, exposure via citations, and a proposal for action. *Modern Language Journal* 101.613–42. DOI: 10.1111/modl.12426.
- MARSDEN, HEATHER, and ROUMYANA SLABAKOVA. 2019. Grammatical meaning and the second language classroom: Introduction. *Language Teaching Research* 23.147–57. DOI: 10.1177/1362168817752718.
- MEDGYES, PÉTER. 2017a. The (ir)relevance of academic research for the language teacher. *ELT Journal* 71(4).491–98. DOI: 10.1093/elt/ccx034.
- MEDGYES, PÉTER. 2017b. A response to Amos Paran. *ELT Journal* 71(4).509–10. DOI: 10.1093/elt/ccx035.
- NAUMOVICH, OLGA. 2017. Russisch. In Hoffmann et al., 114–29.
- NORRIS, JOHN M., and LOURDES ORTEGA. 2000. Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language Learning* 50(4).417–528. DOI: 10.1111/0023-8333.00136.
- NYGÅRD, MARI, and HEIDI BRØSETH. 2021. Norwegian teacher students' conceptions of grammar. *Pedagogical Linguistics* 2(2).129–52. DOI: 10.1075/pl.21005.nyg.
- OAKHILL, JANE. 2023. Children's text comprehension: From theory & research to support & intervention. *Pedagogical Linguistics* 4(1).1–25. DOI: 10.1075/pl.21015.oak.
- OLFERT, HELENA, and ANKE SCHMITZ. 2018. Heritage language education in Germany: A focus on Turkish and Russian from primary to higher education. *Handbook of research and practice in heritage language education*, ed. by Peter Pericles Trifonas and Themistoklis Aravossitas, 397–415. Dordrecht: Springer. DOI: 10.1007/978-3-319-38893-9_25-2.
- ORTEGA, LOURDES. 2005. Methodology, epistemology, and ethics in instructed SLA research: An introduction. *The Modern Language Journal* 89(3).317–27. DOI: 10.1111/j.1540-4781.2005.00307.x.
- PICCARDO, ENRICA; ALINE GERMAIN-RUTHERFORD; and GEOFF LAWRENCE. 2022. An introduction to plurilingualism and this handbook. *The Routledge handbook of plurilingual language education*, ed. by Enrica Piccardo, Aline Germain-Rutherford, and Geoff Lawrence, 1–15. New York: Routledge.
- PRADA, JOSH, and BLAKE TURNBULL. 2018. The role of translanguaging in the multilingual turn: Driving philosophical and conceptual renewal in language education. *Euro.American Journal of Applied Linguistics and Languages* 5(2).8–23. DOI: 10.21283/2376905X.9.151.
- RANKIN, TOM, and MELINDA WHONG. 2020a. Grammatical concepts for pedagogical grammar. *Formal linguistics and language education: New empirical perspectives*, ed. by Andreas Trotzke and Tanja Kupisch, 21–41. Cham: Springer. DOI: 10.1007/978-3-030-39257-4_3.
- RANKIN, TOM, and MELINDA WHONG. 2020b. *Grammar: A linguists' guide for language teachers*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108623360.
- REDDER, ANGELIKA; JOHANNES NAUMANN; and ROSEMARIE TRACY (eds.) 2015. *Forschungsinitiative Sprachdiagnostik und Sprachförderung: Ergebnisse*. Münster: Waxmann.
- RICHARDS, JACK C., and THEODORE S. RODGERS. 2001. *Approaches and methods in language teaching*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511667305.
- ROTHMAN, JASON, and ROUMYANA SLABAKOVA. 2018. The generative approach to SLA and its place in modern second language studies. *Studies in Second Language Acquisition* 40(2).417–42. DOI: 10.1017/S0272263117000134.
- ROTHSTEIN, BJÖRN (ed.) 2018. *Sprachvergleich in der Schule*. Baltmannsweiler: Schneider.
- SATO, MASATOSHI, and SHAWN LOEWEN. 2019. Do teachers care about research? The research-pedagogy dialogue. *ELT Journal* 73.1–10. DOI: 10.1093/elt/ccy048.
- SCHROEDER, CHRISTOPH, and YAZGÜL ŞİMŞEK. 2014. Das Türkische. *Das mehrsprachige Klassenzimmer: Über die Muttersprachen unserer Schüler*. In Krifka et al., 115–33.

- SHLONSKY, UR. 2010. The cartographic enterprise in syntax. *Language and Linguistics Compass* 4(6).417–29. DOI: 10.1111/j.1749-818X.2010.00202.x.
- SLABAKOVA, ROUMYANA; TANIA LEAL; AMBER DUDLEY; and MICAH STACK. 2020. *Generative second language acquisition*. Cambridge: Cambridge University Press. DOI: 10.1017/9781108762380.
- SPOLSKY, BERNARD. 2005. Is language policy applied linguistics? *Directions in applied linguistics*, ed. by Paul Bruthiaux, Dwight Atkinson, William Eggington, William Grabe, and Vaidehi Ramanathan, 26–36. Clevedon: Multilingual Matters. DOI: 10.21832/9781853598500-004.
- SPOLSKY, BERNARD, and FRANCIS M. HULT (eds.) 2008. *The handbook of educational linguistics*. Oxford: Blackwell. DOI: 10.1002/9780470694138.
- SVALBERG, AGNETA M-L. 2016. Language awareness research: Where we are now. *Language Awareness* 25(1–2).1–13. DOI: 10.1080/09658416.2015.1122027.
- THIERSCH, CRAIG L. 1978. *Topics in German syntax*. Cambridge, MA: MIT dissertation. Online: <http://hdl.handle.net/1721.1/16327>.
- THORNBURY, SCOTT. 2013. Language teaching methodology. *The Routledge handbook of applied linguistics*, ed. by James Simpson, 185–99. London: Routledge.
- TROTZKE, ANDREAS; ERMENEGILDO BIDESE; and MANUELA C. MORONI. 2020. German discourse particles in the second language classroom: Teasing apart learning problems at the syntax-pragmatics interface. *Pedagogical Linguistics* 1(2).184–210. DOI: 10.1075/pl.20008.tro.
- TROTZKE, ANDREAS, and TANJA KUPISCH (eds.) 2020. *Formal linguistics and language education: New empirical perspectives*. Cham: Springer. DOI: 10.1007/978-3-030-39257-4.
- TROTZKE, ANDREAS, and TOM RANKIN. 2020. Introduction to Pedagogical Linguistics. *Pedagogical Linguistics* 1(1).1–7. DOI: 10.1075/pl.19015.tro.
- TYLER, ANDREA E. 2012. *Cognitive linguistics and second language learning: Theoretical basics and experimental evidence*. London: Routledge.
- TYLER, ANDREA E.; LOURDES ORTEGA; MARIKO UNO; and HAE IN PARK (eds.) 2018. *Usage-inspired L2 instruction: Researched pedagogy*. Amsterdam: John Benjamins. DOI: 10.1075/lllt.49.
- US CENSUS BUREAU. 2022. American community survey. DP02: Selected social characteristics in the United States—language spoken at home. Washington, DC: US Census Bureau. Online: <https://data.census.gov/table?tid=ACSDP5Y2019.DP02&hidePreview=true>.
- VAN RIJT, JIMMY H. M., and PETER-ARNO J. M. COPPEN. 2021. The conceptual importance of grammar: Knowledge-related rationales for grammar teaching. *Pedagogical Linguistics* 2(2).175–99. DOI: 10.1075/pl.21008.van.
- VAN RIJT, JIMMY H. M.; HANS HULSHOF; and PETER-ARNO J. M. COPPEN. 2021. ‘X is the odd one out, because the other two are more about the farmland’—Dutch L1 student teachers’ struggles to reason about grammar in odd one out tasks. *Studies in Educational Evaluation* 70:101007. DOI: 10.1016/j.stueduc.2021.101007.
- VAN RIJT, JIMMY H. M.; DEBRA MYHILL; SVEN DE MAEYER; and PETER-ARNO J. M. COPPEN. 2022. Linguistic metaconcepts can improve grammatical understanding in L1 education: Evidence from a Dutch quasi-experimental study. *PLOS ONE* 17:e0263123. DOI: 10.1371/journal.pone.0263123.
- VANPATTEN, BILL. 1996. *Input processing and grammar instruction in second language acquisition*. Norwood, NJ: Ablex.
- VANPATTEN, BILL, and JASON ROTHMAN. 2015. What does current generative theory have to say about the explicit-implicit debate? *Explicit and implicit learning of languages*, ed. by Patrick Rebuschat, 91–116. Amsterdam: John Benjamins.
- WEI, LI. 2018. Translanguaging as a practical theory of language. *Applied Linguistics* 39.9–30. DOI: 10.1093/applin/amx039.
- WEI, LI, and OFELIA GARCÍA. 2022. Not a first language but one repertoire: Translanguaging as a decolonizing project. *RELC Journal* 53(2).313–24. DOI: 10.1177/00336882221092841.
- WHONG, MELINDA. 2011. *Language teaching: Linguistic theory in practice*. Edinburgh: Edinburgh University Press.
- WHONG, MELINDA; KOOK-HEE GIL; and HEATHER MARSDEN (eds.) 2013. *Universal grammar and the second language classroom*. Dordrecht: Springer. DOI: 10.1007/978-94-007-6362-3.

- WIDDOWSON, HENRY. 2020. Linguistics, language teaching objectives and the language learning process. *Pedagogical Linguistics* 1(1).34–43. DOI: 10.1075/pl.19014.wid.
- WIESE, HEIKE. 2012. *Kiezdeutsch: Ein neuer Dialekt entsteht*. Munich: Beck.
- WONG, MAN HO IVY; HELEN ZHAO; and BRIAN MACWHINNEY. 2018. A cognitive linguistics application for second language pedagogy: The English preposition tutor. *Language Learning* 68(2).438–68. DOI: 10.1111/lang.12278.

[andreas.trotzke@uni-konstanz.de]

[Received 15 January 2022;
revision invited 26 April 2022;
revision received 29 November 2022;
accepted pending revisions 16 February 2023;
revision received 23 February 2023;
accepted 30 March 2023]