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**Paper:**
1. Introduction

Generative second language acquisition (GenSLA) research tends to take for granted the position that consciously learned second language (L2) knowledge cannot become unconsciously acquired knowledge (Krashen, 1977; Schwartz, 1993). Indeed, such a position is unproblematic and even irrelevant for most research into the development of knowledge of subtle linguistic properties or poverty of the stimulus phenomena. However recent GenSLA research (e.g., Slabakova, 2008; Sorace & Filiaci, 2006; White, 2003) has investigated questions of which linguistic properties are acquired effortlessly, and which are subject to persistent acquisition problems. A question that follows from such research, which has identified certain properties (e.g., syntactic principles) as easily acquired while others (e.g., morphology, the integration of pragmatic knowledge) are less readily acquired, concerns how classroom instruction affects the development of these properties. This necessarily takes us into the realm of what is learned, which, in turn, requires a clear understanding of the learning-acquisition distinction.

This paper explores the learning-acquisition distinction by looking at a selection of recent GenSLA research addressing the role of classroom instruction in L2 knowledge. Research into classroom instruction is more typically conducted within what we will (imprecisely, but conveniently for the present purposes) term ‘non-generative’ frameworks. Within non-generative SLA research, the terms ‘explicit’ and ‘implicit’ are used to distinguish conscious v. unconscious linguistic knowledge. We begin, therefore, by looking more closely at some assumptions and terminology, asking what the relationship is between acquired and implicit knowledge, on the one hand, and learned and explicit knowledge on the other (Section 2). This exploration of terminology concludes that despite fundamental differences between the generative v. non-generative paradigms in their assumptions about language, there are areas of agreement. With this in mind, the paper aims to show how the context of the language classroom can serve as a motivation for a common research agenda for classroom SLA, which would be of benefit both to language teachers and learners, as well as to other SLA researchers. Section 3 details three recent GenSLA studies that (variously) engage with classroom instruction and the relationship between learning and acquisition. In Sections 4-5, we conclude that GenSLA findings have much to offer in terms of property theoretic questions of what can be acquired; that the field of GenSLA could benefit from non-generative approaches to develop transition theoretic questions about how language develops; and that a collaborative classroom language acquisition research agenda should prioritise investigation of the relationship between acquisition and learning in L2 performance.

2. Conceptual considerations

Krashen (e.g., 1981; 1985) made the now well-known proposal that acquired L2 knowledge and learned L2 knowledge are distinct. Acquired L2 knowledge is knowledge that has become part of a learner’s unconscious linguistic competence in the target language. Learned L2 knowledge, on the other hand, is knowledge that the learner has gained through conscious effort, such as memorised lists of
irregular forms, rules about when to use the simple past compared with the imperfect, or unanalysed rote-learned phrases for deployment in specific contexts. This distinction appears to be uncontroversial throughout L2 acquisition research, regardless of theoretical framework. For example, Ellis (2005:307) points out that Krashen’s acquisition-learning distinction echoes the distinction made in psychology between implicit knowledge and explicit knowledge. Within generative SLA research, Schwartz (1993) specifies that acquired L2 knowledge is linguistic competence in the Chomskyian/Fodorian sense: it is constrained by Universal Grammar and it is part of a domain-specific language module within the mind. By contrast, learned linguistic knowledge is the result of general cognitive processes, such as logic and memorisation techniques.

Generative and non-generative researchers alike acknowledge that both acquired/implicit and learned/explicit L2 knowledge can play a role in L2 performance. While accepting that the two approaches disagree on the mental architecture underlying these two types of knowledge, we emphasise here the shared assumption that there are two kinds: conscious metalinguistic knowledge v. underlying tacit knowledge. In addition to positing two types of knowledge, within both SLA research frameworks there is an assumption that the underlying tacit knowledge (rather than conscious metalinguistic knowledge) represents some kind of target. In generative SLA research, it is the target in the sense that key research questions have centred around whether L2 learners can attain the same kind of linguistic competence in their L2 as native speakers possess in their L1. Similarly, in pedagogical SLA research, implicit, procedural L2 knowledge is the target in the sense of it being what classroom instruction aims to facilitate. This tacit knowledge is characterised as automatic, and in purely pedagogical terms, is the basis for fluency, which is a central aim of communicative language teaching. Considering generative and non-generative approaches to L2 acquisition together then, a clear common interest emerges. Both paradigms have a distinction: L2 knowledge that represents unconscious metalinguistic knowledge (explicit/learned) and L2 knowledge that represents underlying tacit knowledge (implicit/acquired). Given these two types of knowledge, it is the latter that each paradigm looks to as the target for L2 knowledge.

In light of such harmony and agreement, why is it time to revisit the acquisition-learning debate? The reason begins with the fundamental theoretic divide—despite apparent common ground—between generative and non-generative SLA research, with regard to the issue of interface between the two types of knowledge. The divide centres on the assumption in generative linguistics that core linguistic knowledge is encapsulated inside a language module within the brain, compared with the assumption in non-generative approaches that linguistic knowledge is epistemologically the same as other types of knowledge. Within the generative framework, as Schwartz (1993) articulates, it is impossible that learned knowledge (in the sense of metalinguistic information) could serve as input to grammar-building (i.e., the development of acquired knowledge). This is because grammar-building is motivated by linguistic input in the form of strings that the interlanguage grammar within the language module either can already represent, or that it cannot represent and which therefore serve to motivate grammar restructuring. Thus (drawing on Schwartz, 1993:157), although metalinguistic reasoning on the basis of information such as ‘This sentence [in the context] is ungrammatical’ may result in learning a fact about the L2, the hypothesised language module cannot use the content of this fact as a trigger for change to the underlying grammar. For the language module, This sentence is ungrammatical is simply another string, of the form [subject-copula-adjective]. If the interlanguage grammar can already represent strings of this form, there is nothing to change; if it cannot, then the fact itself cannot effect a change in the interlanguage. In short, Schwartz proposes a ‘no-interface’ position between acquisition (the process of grammar building within the language module) and learning (the development of metalinguistic knowledge about language). This leads to the position that explicit instruction about language cannot affect linguistic competence.

By contrast, non-modular approaches to SLA, including most pedagogical research at present, assume that learned knowledge will affect a learner’s unconscious competence. Ellis (2007:23) argues strongly for the existence of two types of knowledge, saying ‘explicit and implicit knowledge of language are distinct and dissociated they involve different types of representation, they are substantiated in separate parts of the brain.’ The quote continues: ‘and yet they can come into mutual influence in processing.’ Though this does not necessarily mean that explicit knowledge becomes implicit, it is interesting that Ellis then cites the adage, ‘practice makes perfect’ suggesting that explicit instruction in the form of practice—suitably customised to the task—can affect implicit knowledge. Furthermore, he makes reference to ‘the ways that this conscious processing can result in the training of unconscious,
automatic, zombie sensorimotor agents for L2 processing’ (Ellis, 2007:32). Thus, even though Ellis (2005:307) points out (following Paradis, 2004) that ‘explicit knowledge does not become implicit knowledge’, he argues nonetheless for interfaces between the two types of knowledge, which are mediated by working memory, attention, processing factors, and other cognitive mechanisms.

While the differences in mental architecture seem irreconcilable, they do not mean complete incompatibility between approaches, especially when taking the needs of the classroom into account. ‘Practice makes perfect’ can also be understood from the no interface position. Consider again the utterance This sentence is ungrammatical. While metalinguistic knowledge based on the content of the utterance cannot lead directly to growth of implicit knowledge, if the ungrammatical sentence that it refers to is corrected explicitly as a result of reflection, the corrected sentence is available as input to the implicit stores of knowledge, whether the sentence is repeated to oneself in order to practice it, or recast in a correct form. In other words, conscious practice has the potential to increase the amount of primary linguistic data in such a way that knowledge that is explicit might also, in time, become known implicitly. It is in this way that Schwartz (1993) and Ellis (2007) can be seen as compatible. Yet, even though the two positions can be seen as compatible in this regard, it should not be understood that implicit and acquired knowledge are identical. Acquired knowledge of language is a type of implicit knowledge, but not all implicit knowledge is acquired. This point was made long ago by Darwin (1871/2004:76): ‘[Language] differs [...] widely from all ordinary arts, for man has an instinctive tendency to speak, as we see in the babble of our young children; whilst no child has an instinctive tendency to brew, bake, or write.’

While both paradigms accept there are two types of knowledge, there are key differences in the understanding of the nature of acquired/implicit knowledge which have led the two research frameworks to follow separate agendas. For an approach that sees explicit knowledge as a route to implicit, the classroom is a logical context for researching L2 development. Generative research, by contrast, has been primarily concerned with questions of acquired knowledge. Decades of research have led to the conclusion that development is not uniform across different domains of language; this has resulted in discussions about what can be acquired and what cannot be acquired (e.g., Lardiere (1998); Slabakova (2008); Sorace & Filiaci (2006); White (2003); a.o.). From considerations of what cannot be acquired, it is a small step to then ask: what can be learned? As illustrated in a recent volume, Universal Grammar and the Second Language Classroom (Whong, Gil & Marsden, 2013), generative SLA has also come to the classroom to ask questions of language learning. In the next section, we address the relationship between acquired and learned L2 knowledge within the context of classroom instruction, by discussing findings from a selection of generative studies that use classroom instruction as a main investigative variable.

3. Research in the second language classroom

The classroom research programme that grew out of the seminal work of Michael Long (1981; 1996) has produced a large body of research asking a range of questions to do with types of instruction and student-teacher interaction. In light of the sheer volume of research, the past decade has seen a series of meta-analyses following the model of Norris and Ortega (2000). While focus on the classroom has not been the concern of the bulk of GenSLA research, we note that generative research regularly depends on classroom learners as the source for data in research. Thus, there is surely a need for a strand of GenSLA research that investigates how the fact of being a classroom learner affects L2 development. In particular, since the classroom (usually) provides plentiful metalinguistic information, and since there is a pedagogical assumption that learned/explicit knowledge will develop (in addition to acquired/implicit knowledge), consideration of the relationship between learned and acquired knowledge seems important. The three studies outlined in this section address this relationship in one way or another.

Rothman (2008) is interested in the effect of classroom instruction on L2 development. Investigating the use of perfective v. imperfective aspect by L1 English learners of L2 Spanish, Rothman notes that classroom instruction includes generalisations along the lines of ‘use the imperfective in habitual contexts, such as after siempre “always” or mientras “while” ’ even though such rules are, in fact, not fully generalisable: there are cases, depending on the meaning that is intended, where the perfective, and not the imperfective, should be used, even after ‘triggers’ for the imperfective, such as siempre or mientras. This fact is readily explained within a generative account of aspect, but classroom instruction is (naturally) not based on generative syntax. The findings of Rothman’s experimental study suggest that,
in production tasks, instructed learners of Spanish make errors with the perfective v. imperfective that are clearly traceable to typical classroom rules, even though (as previous research by Montrul & Slabakova (2003), among others, has shown) they demonstrate target-like competence in comprehension tasks. This contrasts with uninstructed learners, who do not make such errors.\(^1\) Core to Rothman’s argument is the existence of two types of knowledge, learned knowledge and linguistic competence. Yet, he goes beyond the mere distinction to propose that the two types of knowledge compete in production (his ‘Competing Systems Hypothesis’), with learned rules at times overriding acquired syntax in a way that results in non-target behaviour.

One logical implication that Rothman identifies for his findings is that language teaching would benefit from a more accurate linguistic foundation, whether through more informed teacher training or textbooks and materials that reflect developments in linguistic research. Increased linguistic awareness among teachers would allow for the teaching of rules that do not conflict with the (eventual) underlying competence. This insight informs research by Gil, Marsden & Whong (to appear) that investigates an area of language for which textbook explanations provide an overgeneralised rule rather than a rule capturing adequate linguistic generalisations. The aim was to explore the effect of explicit instruction on a very specific and subtle property of language not normally taught in the classroom. This topic was explored in response to earlier work by Marsden (2008, 2009) and Gil & Marsden (2010) which showed that learners at advanced proficiency levels, as opposed to those at lower levels, demonstrate acquired knowledge of subtle properties of quantifiers (every, any) that are not instantiated in the learners’ L1, not evident from the input, and not covered by explicit instruction. Gil et al. (to appear) ask whether explicit instruction can facilitate target-like performance in less advanced learners, with respect to properties of the quantifier any. L2 speakers of English were explicitly taught the grammaticality of any in two types of licensing environment: syntactic licensing and pragmatic licensing. Instruction about the use of any in affirmative sentences included explanation of both grammatical and ungrammatical examples, such as the following:

(1) Did you write any emails?
(2) She wrote any emails.
(3) *Ned hoped that anyone had heard his message.
(4) He regretted that he had eaten anything.

The key generalisation about any (with the sense of an existential quantifier) is that it is grammatical only in contexts that do not correspond to fact.\(^2\) This naturally explains the grammatical occurrence of any in (1) and ungrammatical instances of any in (2) and (3). The exception to this generalisation is shown in (4). Example (4) should be grammatical given the above generalisation, but any is ‘rescued’ by the negative inference that arises from the verb regret (‘He wished that he had NOT eaten anything’). Thus any in (4) is made grammatical via pragmatic interpretation. Gil et al. found that Chinese-speaking learners who received this instruction differentiated significantly between grammatical and ungrammatical sentences such as (3) and (4) at an immediate post-test, whereas learners who had not received instruction did not. However, at a delayed post-test, five months after the completion of the instruction period, the instructed learners no longer differentiated significantly between the grammatical and ungrammatical types, and for Type (4) the rate of non-target-like rejection increased. By contrast, learners were consistently accurate on sentences such as (2), where any is ruled out by the generalisation provided.

At first glance, this finding seems to be at odds with the implication from Rothman (2008) that more linguistically informed teaching should benefit learners. In fact, however, the notion of competing learned rules may play a role in accounting for the apparent knowledge attrition at the delayed post-test. As Gil, Marsden & Whong (2011) point out, English language teaching materials tend to include instruction along the lines that any should be used in questions and with negation. Thus, a rule to this effect may have already formed part of the learners’ explicit knowledge of English, before they encountered the more fine-grained instruction including (1)-(4) above. Gil et al. (to appear) acknowledge limitations in terms of the quantity of and type of teaching and practice in their study. The increase in non-target-like rejection of (4) from the immediate to the delayed post-test could thus be due to the previously learned rule (‘use

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\(^1\) It was not clear in Rothman (2008) whether the two groups of learners were of equal proficiency.

\(^2\) Giannakidou (1997) offers a linguistic account of the distribution of any by using the notion of nonveridicality.
any in questions or negated sentences’) superceding the newer and less established rules presented during the experiment. Rothman’s (2008) specific proposal is that learned knowledge and acquired knowledge compete. Although the study by Gil et al. cannot bear directly on this proposal due to the lack of clear evidence of acquisition, the findings are compatible with the premise that learned knowledge plays a role in L2 performance.

The absence of a lasting effect of instruction was also the finding in the well known study by White (1991), in which learners were successful in L2 English adverb placement immediately after teaching, but one year later, had reverted to pre-teaching levels of accuracy. These studies thus contrast with the general finding of meta-analyses of classroom research (e.g. Norris & Ortega, 2000) which identify an advantage for explicit instruction in bringing about target-like performance. The meta-analyses also point out, however, that studies with a delayed post-test at more than just a few weeks after the end of teaching are rather rare. One explanation for the apparent benefit of explicit instruction found in studies with post-tests close to the end of teaching could be that the tests measured only learned knowledge. The findings of the delayed post-tests in Gil et al. (to appear) and White (1991) show that such learning does not necessarily lead to acquisition. We turn now to an investigation of the effect of explicit instruction from the different perspective of neurolinguistics.

Yusa et al. (2011) investigate whether instruction about a novel grammatical structure can be extended to structures not covered by the instruction, and if so, whether there is a measurable neurolinguistic effect. Yusa et al. taught Japanese-speaking learners of English about subject-auxiliary inversion in monoclausal negative inversion constructions, such as (5) below. The participants’ knowledge of negative inversion was measured by means of a grammaticality judgement task taken as a pre-test before instruction began, and again as a post-test, after the instruction, which was provided over a one-month period. The grammaticality judgement task included negative inversion in complex sentences containing relative clauses, such as (6) and (7), which had not been covered by the instruction:

(5) Never will I eat sushi.
(6) Never are those students who will fail a test hardworking in class.
(7) *Never will those students who fail a test are hardworking in class.

While completing the grammaticality judgement task, the participants also underwent fMRI scans so that any change in neurological activity could be measured. A control group of L2 English learners who did not receive any instruction about negative inversion also took part in the pre-test and post-test. The results showed that the instructed group became significantly more accurate on the GJT from the pre-test to the post-test, while the performance of the uninstructed group did not change. Moreover, the neuro-imaging data of the instructed group showed a significant increase in activation of the area of the brain associated with acquisition of syntax (the left front inferior gyrus) from pre-test to post-test. Again, there was no change in the data of the uninstructed group.

Yusa et al. argue that these findings provide evidence that classroom instruction can lead to neurological change in the domains associated with syntactic competence. Nonetheless, it is not necessarily the case that these findings pose a challenge for the ‘no interface’ position of Schwartz (1993). This is because the instruction, as well as providing metalinguistic information about how to form a monoclausal negative inversion construction, would also serve to provide primary linguistic input in the form of examples of negative inversion. Arguably, this primary linguistic data should be sufficient to motivate the necessary grammar-building that leads to the interlanguage grammar being able to represent negative inversion—even in the complex sentences used in the GJT but not included in the instruction.

To summarise, there are generative researchers who are exploring questions of learning in addition to acquisition. That there is a distinction between conscious metalinguistic knowledge and underlying tacit knowledge is seen as uncontroversial. However, the relationship between the two types of knowledge is far from clear. For Rothman (2008), learned knowledge and acquired knowledge may compete in L2 production; Gil et al. (to appear) may be seen as further evidence for competition; and for Yusa et al. (2011) explicit instruction can lead to neurological change associated with acquisition. In all of these studies, there are effects from instruction on learner knowledge, but in none of them is there evidence that rules out a no interface position, as there is no way to identify which type of knowledge is developing, nor a way to control for development in response to different types of input, whether primary linguistic
data or metalinguistic input. While the question of interface is important for anyone wanting to argue for a particular mental architecture for language, it is less clear that this question is important for those engaged in teaching and learning language, in the sense that the top priority for teachers and learners is performance regardless of the type of knowledge that the performance comes from. In the next section, we argue that both generative SLA theory and language teaching practice would benefit from a research strand that abstracts away from the learning-acquisition distinction.

4. Generative SLA and the language classroom

Classroom instruction can now be seen as important to the GenSLA agenda because of the way the field has developed. With the traditional goal in GenSLA of capturing interlanguage competence in the form of underlying linguistic representations, properties that are not taught were a key focus of investigation. But the classroom is not irrelevant when the focus shifts to investigation of what can be acquired in relation to what is (or is not) taught, as in the studies we considered in the preceding section. One concern, however is that the important role that the classroom plays in language development is not the message that GenSLA has communicated—or even fully acknowledged to itself—to date. In this section we argue that both GenSLA as a field, and the language teaching world would benefit from increased levels of engagement. If nothing else, there are dangers in not engaging. At present there is a disconnect between the field of SLA, broadly defined, and GenSLA. This may be traced to the fundamental differences between theoretical assumptions underlying research (outlined in Section 2), but it is a cause for concern if the debate between the approaches is no longer an active debate. This is especially worrying if the conclusion of the no interface stance is that teaching is irrelevant, particularly if colleagues who are responsible for teacher training hold this view. There is the real danger that GenSLA research is seen as irrelevant in language education.

Yet the argument for engagement is motivated not just by a desire to contribute to pedagogy, but by an attempt to enhance GenSLA as well. GenSLA is known to be a predominantly property-theoretic approach (Gregg, 1993). The lack of an accompanying transition theory means that there is no clear understanding of how language knowledge develops, nor clarity on the relationship between the two types of language knowledge, as discussed earlier in this paper. We support the view that GenSLA needs to include in its remit investigation of how both learned metalinguistic knowledge and tacit acquired knowledge affect performance, as a way of developing a transition theory; and we suggest that the place to start is research on how language develops. Non-generative approaches to SLA have long been interested in this topic, placing questions of processing at the heart of their research agenda. There are a number of theoretical models that look to a single processor as central to the development of language, regardless of whether that knowledge is implicit or explicit. The claim that language develops via processing is an idea with a long history. Ellis (2007) cites Hebb (1949) and Craik & Lockhart (1972) as well as more current approaches including Piñemann (1998); to which we would add Input Processing Theory by VanPatten (1996, 2004), and a proposal of modular processing by Sharwood Smith & Truscott (to appear). As opposed to traditional generative interest in the properties of the interlanguage at each developmental stage, these approaches are interested in how an interlanguage develops, looking to the operation of language processing for an explanation.

Until recently, there has been a difference in the role of processing within generative and non-generative SLA research. While non-generative approaches have tended to consider processing as central to understanding language development, within GenSLA, the use of processing has been limited to the realm of research method, as a way of tapping into the properties of learner language (e.g., Juffs, 2005). Attempts by VanPatten and Sharwood Smith & Truscott to explore processing in terms of how language develops have not seen large uptake in the GenSLA agenda. Thus, there remains a gap in GenSLA research in terms of transition-theoretic questions of language development. At the same time, there is a property-theoretic gap in classroom research, with existing teaching materials reflecting an absence of sufficient awareness of linguistic generalisations beyond what is found in pedagogical grammars (e.g., Bruhn de Garavito, 2013; Rothman, 2008). Given that GenSLA has developed an incredibly fine-grained understanding of linguistic generalisations, it is poised to begin filling this gap. Both practicing teachers and classroom researchers would benefit from the understanding of linguistic generalisations that have emerged within generative research in recent decades.
Another contribution would be to address a problem that has been identified within language research from a pedagogical orientation. As noted by Hulstijn (2005), much of the research on instruction results in a conflation of input with subsequent knowledge. Type-of-instruction studies investigate input, with the main question a comparison of implicit and explicit instruction. Yet, this kind of research can only show effectiveness by measuring learner knowledge. Unfortunately, this often means that research with hypotheses about explicit/implicit instruction often leads to claims about (explicit and implicit) knowledge. In other words, within a study asking if explicit instruction is more effective than implicit, there are conclusions about explicit/implicit knowledge whether the research method differentiated between types of knowledge or not. This is especially problematic for an approach that is interested in the difference between two types of knowledge. Even for non-generative approaches which have not been as concerned with distinguishing between types of knowledge, the acceptance of tacit, underlying knowledge as the primary target for learners means that type of knowledge is, in fact, important. This is an area in which GenSLA may prove useful. In short, there is much to be gained from a return to the fundamental interest in the acquisition-learning distinction, especially one that is coupled with emphasis on property-theoretic concerns.

5. Conclusion

This paper began by exploring the relationship between acquisition and learning as a consequence of developments within GenSLA, which has seen growing interest in what can be acquired in the context of what was or was not taught. While current research does not challenge or contradict the traditional no interface position, we suggest that more exploration of the question of interface would be useful for pushing the GenSLA agenda towards transition-theoretic considerations to augment the existing property-theoretic orientation of the agenda. This will inevitably lead to more research on the role of different types of language input, requiring engagement with the large body of existing research on the role of explicit instruction in language learning. We see this as a welcome development with potential benefits for both theory and practice. We also note that such engagement is easier than might be assumed given current trends within SLA. As GenSLA extends to include research on learning, it is apparent that there may be more agreement between paradigms than generally assumed. Both assume two types of knowledge, and both agree on the type of knowledge which is the target. From this starting point, the language classroom may provide the basis for a common research agenda across paradigms.

Such a development would surely be welcome for language teaching, as the property-theoretic nature of the GenSLA perspective would have much to contribute in terms of linguistic expertise. In return, GenSLA would benefit from considerations of how language develops, thereby developing a transition theory that accounts for different types of input. In this way, SLA, broadly defined would provide a consistent and useful message for classroom instructors. Keeping acquired/implicit knowledge as the key aim of instruction, there is still reason why teachers should provide both explicit explanation of language and plenty of natural input. A shared agenda might be able to explore which properties of language require which type of input, and create a better understanding of how the different types of knowledge develop.

References


