

Beyond Drills: Optimizing Grammar Practice for Transfer

Majid Nikouee and Takashi Oba

This article explores how principles from cognitive psychology, particularly transfer-appropriate processing (TAP) and skill acquisition theory, can inform the design of grammar practice in second language (L2) instruction. While grammar instruction often emphasizes declarative knowledge, enabling learners to use grammatical forms accurately and fluently in spontaneous communication requires a shift toward procedural knowledge developed through meaningful, repeated practice. Drawing on TAP, we argue that grammar activities should simulate the cognitive demands of real-world language use to promote transfer. We review key distinctions in the transfer of learning across skills, contexts, and tasks and highlight how practice conditions such as task modality, communicative relevance, and cognitive complexity affect the transferability of grammatical knowledge. We also discuss the role of “desirable difficulties” in optimizing grammar practice, proposing that varied, distributed, and strategically scaffolded activities enhance retrieval and fluency. The article concludes by describing two classroom-based studies, which demonstrate how TAP-informed practice can support learners’ oral grammatical accuracy. We contend that L2 teachers should reconsider traditional grammar exercises in favour of communicative, context-rich tasks that better prepare learners for authentic use. Our aim is to bridge the gap between theory and classroom practice to improve the effectiveness of L2 grammar instruction.

Cet article explore la manière dont les principes de la psychologie cognitive, en particulier le traitement approprié au transfert (TAT) et la théorie de l’acquisition des compétences, peuvent informer la conception de la pratique de la grammaire dans l’enseignement d’une langue seconde (L2). Alors que l’enseignement de la grammaire met souvent l’accent sur les connaissances déclaratives, permettre aux apprenants d’utiliser les formes grammaticales avec précision et fluidité dans la communication spontanée nécessite un changement vers des connaissances procédurales développées à travers une pratique répétée et axée sur le sens. En nous inspirant du TAT, nous soutenons que les activités grammaticales devraient simuler les exigences cognitives de l’utilisation de la langue dans des situations réelles afin de promouvoir le transfert. Nous passons en revue les principales distinctions en matière de transfert de l’apprentissage entre les compétences, les contextes et les tâches, et nous soulignons comment les conditions de pratique, telles que la modalité de la tâche, la pertinence communicative et la complexité cognitive affectent la transférabilité des connaissances grammaticales. Nous discutons également du rôle des « difficultés souhaitables » dans l’optimisation de la pratique de la grammaire, en proposant que des activités variées, ordonnées et stratégiquement encadrées améliorent la récupération et la

fluidité. L'article se termine par la description de deux études menées en classe, qui démontrent comment la pratique informée par le TAT peut soutenir la précision des apprenants en grammaire orale. Nous soutenons que les enseignants de L2 devraient reconsidérer les exercices traditionnels de grammaire en faveur de tâches communicatives riches en contexte, qui préparent mieux les apprenants à un usage authentique de la langue. Notre objectif est de combler le fossé entre la théorie et la pratique en classe afin d'améliorer l'efficacité de l'enseignement de la grammaire en L2.

Keywords: form–meaning connection, grammar practice, skill acquisition theory, transfer-appropriate processing

All teachers, whether they are aware of it or not, are concerned with transfer of learning from the classroom to the real world. The communicative speaking tasks performed in the classroom are intended to prepare students to be able to express their meaning in comprehensible English during interactions in their daily lives. Similarly, reading activities in class should develop skills that are usable for reading whatever texts are found in the learner's environment. In these cases, instructional activities provide opportunities to practice skills (i.e., speaking and reading) that are potentially transferable to later real-world use. According to cognitive psychologists, this transferability comes from the fact that the processes involved during practice are similar to those underlying real-world use. However, regarding grammar, the relationship between what happens inside and outside the classroom is more complicated. This article provides an overview of ideas from cognitive psychology that offer conceptual tools to guide teachers' design of practice activities with the goal of promoting transfer of learning. We begin by defining transfer of learning and related concepts and considering their pedagogical relevance for adult ESL teachers. We end by describing how each of us has attempted to investigate, in different instructional contexts, the impact of transfer-appropriate processing to teaching the past tense in English.

A Skill Acquisition Perspective

Grammar teaching, according to Ellis (2006), "involves any instructional technique that draws learners' attention to some specific grammatical form in such a way that it helps them either to understand it metalinguistically and/or process it in comprehension and/or production so they can internalize it" (p. 84). When internalized, grammatical knowledge allows learners to produce grammatically accurate language fluently in spontaneous communication. According to skill acquisition theory, such knowledge is the result of proceduralization of declarative knowledge through practice. In skill acquisition theory, a new skill is first acquired through declarative knowledge—that is, factual knowledge about *what to do*. This stage involves consciously thinking through steps, rules, or instructions (e.g., a beginner driver thinking, "Now I press the clutch, then shift to first gear"). It should be noted that in this paper, declarative knowledge and explicit knowledge are used interchangeably. With extensive and repeated practice, declarative knowledge gradually becomes proceduralized, meaning it is converted into procedural knowledge of *how to do things* that can be applied automatically and without conscious thought (DeKeyser, 2015; Lyster & Sato, 2013; Shiffrin & Schneider, 1977).

Turning to grammar instruction, we need to consider what grammar practice should look like in order for it to transform declarative knowledge into procedural knowledge. The amount of practice plays

a critical role in this transformation; research suggests that achieving proceduralization requires extensive practice over time. DeKeyser (2007) emphasizes that skill development is highly practice-dependent, and without sufficient quantity, learners are unlikely to reach the level of automaticity needed for fluent use. However, even a large amount of decontextualized drilling typical of audiolingual classrooms (Lightbown, 1983), or written fill-in-the-blank exercises (Hosenfeld, 1976) does not appear to be effective for proceduralization. This suggests that the quantity of practice alone is insufficient to ensure successful learning outcomes; the quality of practice, particularly its contextualization and communicative relevance, is equally crucial. As Lightbown (2000) noted, practice can play a beneficial role if it is “meaningful, thoughtful, and effortful” (p. 443). We argue that a deeper consideration of the nature of transfer of learning is required.

Different Types of Transfer

In second language acquisition (SLA) research, the word *transfer* covers a range of meanings, from cross-linguistic influence (i.e., interference) to transfer of learning from one skill to another (DeKeyser, 1997, 2007), from one context to another (James, 2018), or from one task to another (DeKeyser, 2018). The effectiveness of such transfer depends not only on quantity but also on quality, as both are believed to promote transfer-appropriate processing (TAP). In the following subsections, we explain what is meant by transfer-appropriate processing and transfer of learning across skills, contexts, and tasks.

Transfer-Appropriate Processing

The concept of transfer-appropriate processing (TAP) offers a useful way of thinking about the quality of practice. This notion underscores the importance of aligning learning activities with the contexts in which knowledge will be applied. Specifically, it is theorized that information learned in a specific context is encoded in a context-sensitive manner; successful retrieval of this information occurs when the conditions (or cues) during learning closely match those during retrieval (i.e., the so-called “time of test”) (Segalowitz & Lightbown, 1999; Tulving, 1983). With respect to L2 learning, TAP suggests that grammar practice should simulate real-life language use in some ways in order to maximize the likelihood of successful transfer.

Transfer of Learning across Skills

It is well known that learners’ cognitive resources compete when they are required to engage in multiple activities simultaneously (Barcroft, 2006; VanPatten, 1990). To help learners process grammatical knowledge more efficiently, VanPatten (1990) argues that engaging in comprehension-only activities promotes form–meaning connections. VanPatten suggests a way of integrating grammar instruction through processing input, or what is called processing instruction (PI). In this approach, learners are initially exposed to explicit instruction and engaged in a series of structured input activities (such as referential and affective activities) with non-verbal/minimally verbal response (VanPatten, 2002). He emphasizes the use of comprehension-based practice in grammar instruction, claiming that it promotes the development of grammatical accuracy in both comprehension and production modes.

However, this claim has been challenged by other researchers. For example, DeKeyser and Sokalski (1996) found that production-based practice led to greater gains in grammatical accuracy in production tasks, suggesting that the mode of practice matters. In this vein, SLA research has examined the skill-specificity of automatization. De Jong (2005) found that performance gains from comprehension-based training in Spanish did not readily transfer to production tasks. These and other findings suggest that developing grammatical accuracy in production may require dedicated production practice, besides

comprehension-based activities (De Jong, 2005; Tanaka, 2001). It should be emphasized that despite their divergent views, both camps in the SLA literature generally caution against the use of decontextualized written grammar exercises as a means to develop oral fluency and accuracy.

Transfer of Learning across Contexts

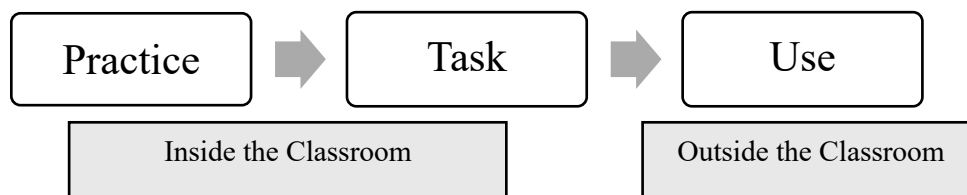
Transfer can occur from one teaching context or course to another, although the extent and effectiveness of this transfer vary. James (2006) discovered that positive transfer from an EAP course to other university courses was limited and influenced by factors such as the similarity between activities and content. In a comprehensive review of 41 studies, James (2014) concluded that while positive transfer of the skills acquired through EAP courses is possible across other academic courses, it occurs only under certain conditions. Additionally, he observed limited transfer of general academic writing skills from an ESL writing course to academic writing tasks, with the degree of transfer affected by the alignment between course outcomes and task requirements (James, 2009).

Transfer of Learning across Tasks

Finally, transfer of learning across tasks is closely associated with TAP. Such transfer effects have been identified in studies on phonological features (Okuno & Hardison, 2016; Saito, 2013) and L2 vocabulary (Barcroft, 2002; Shintani & Ellis, 2014). However, research on this type of transfer in the context of L2 grammar remains scarce. Figure 1 depicts our view of transfer of learning across tasks, in which grammar practice has an enabling function so that targeted grammar is first practiced in context, then produced during communicative tasks in the classroom, and eventually is available for accurate use in the real world (Ranta, 2015).

Figure 1

The Role of Grammar Practice in Transfer of Learning



Transfer across tasks is influenced by transfer distance, conceptualized as near and far transfer. Near transfer occurs when retrieval tasks demand similar skills and strategies as those used in practice tasks, while far transfer takes place in different contexts, utilizing skills developed during practice (Perkins & Salomon, 1992). Cognitive psychology provides robust evidence for near transfer, with moderate support for far transfer (Sala & Gobet, 2017; Scherer et al., 2020).

There is limited research in the SLA literature on transfer distance. DeKeyser (2018) argues that near transfer occurs through procedural knowledge transferring to similar tasks, and far transfer through declarative knowledge applying to different contexts. An example of near transfer is when a learner who has practiced using the simple past in a classroom activity about describing past holidays is later asked to write a short story in the same tense. Because the communicative purpose and grammatical structures are

closely aligned, the learner can apply previously practiced verb forms (e.g., *went, ate, saw*) automatically, without further instruction. In contrast, far transfer occurs when a learner studies, for example, explicit rules about subject-verb agreement in the present tense (e.g., “She runs,” not “She run”) and is later required to apply this knowledge in a different context—such as writing an academic report. Since the new task is structurally and stylistically distinct from the learning context, successful transfer depends on the learner’s ability to recall and adapt their declarative knowledge. However, the distinction between the conditions of near and far transfer is speculative, and further research is needed to verify their underlying mechanisms.

A TAP Perspective on the Design of Grammar Practice

Understanding how grammar practice can most effectively support L2 development requires an examination of the cognitive processes involved in real-time language use. From the perspective of TAP, grammar instruction should not merely focus on the explicit teaching of rules but should also engage learners in processing tasks that closely resemble those involved in actual language production. In other words, if the goal is for learners to use grammatical structures fluently in spontaneous communication, then practice activities must target the same mental operations that underlie real-life speech production. This section draws on Levelt’s (1989) speech production model to clarify the processes underlying fluent speech and then discusses the concept of desirable difficulty to highlight how the quality and challenge of practice activities influence the development of procedural knowledge.

Speech Production

Performing an oral task, whether in one’s first or second language, involves three key stages: conceptualization, formulation, and articulation (de Bot, 1992; Levelt, 1989). During the conceptualization phase, learners find and organize information to develop a preverbal message. This message is then transmitted to the formulator, encoding the information grammatically and phonologically. The formulation stage produces a phonetic plan, which the articulator then expresses externally. In L2 learning, the formulation stage is particularly significant because it involves retrieving lexical and grammatical knowledge from long-term memory to encode the preverbal message. De Bot (1992) argued that learners have a separate formulator for L2 oral production. This formulator must be accessed automatically for learners to function communicatively in real-life situations. Only through extensive, deliberate practice targeting the behaviour of encoding messages grammatically can automatized skills that are transferable to authentic L2 contexts develop (Lightbown, 2008).

In classroom settings, opportunities for extensive practice have traditionally been created through decontextualized drills (DeKeyser & Criado, 2013). The key challenge, however, lies in designing communicative practice activities that promote automatization and integrating them effectively into instruction (Segalowitz, 2003). Drawing on Levelt’s (1989) speech production model, Kormos (2013) suggests that many syntactic rules in L2 learners remain in declarative form and do not function automatically. Therefore, controlled or guided grammar-focused activities, what Ranta (2015) calls “enabling grammar activities” (p. 6), should be implemented prior to freer communicative tasks to promote more spontaneous and fluent language use (Lyster, 2007; Ranta & Lyster, 2018).

Deliberate Difficulty

From the cognitive perspective, optimal L2 practice conditions that produce transferable grammar knowledge combine grammar explanation with a range of increasingly challenging form-focused practice

activities. Rather than relying solely on mechanical drills or leaving learners to practice independently in uncontrolled situations, effective practice involves opportunities to work on meaning, form, and form–meaning mappings in varied contexts (Lightbown, 2008). Additionally, increasing the cognitive complexity of practice activities—demanding more form–meaning connections—mimics real-life situations, enhancing the transferability of practice effects (DeKeyser, 2018). According to Suzuki et al. (2019), gradually increasing practice difficulty to match learners’ skill levels facilitates learning by providing an appropriate level of challenge throughout training.

Research on memory, particularly regarding encoding and retrieval, supports the idea that incorporating “desirable difficulties” into classroom learning enhances the effectiveness of L2 instruction (Bjork & Linn, 2006, p. 1). To implement desirable difficulties, Bjork and Linn (2006) recommend strategies such as varying practice conditions and distributing language elements and practice types over time (i.e., interleaving). In line with the skill-specificity nature of automatization, selecting appropriate practice modes (e.g., comprehension-based or production-based) based on learners’ goals can better support their ability to retrieve and use grammatical forms accurately and fluently across different contexts. Varying practice conditions, such as incorporating both comprehension-based and production-based practice, along with controlled and freer communicative practice, can better prepare learners for complex real-world scenarios. Additionally, distributing language features and practice over time allows learners to review, reintegrate, and internalize knowledge.

Pedagogical Applications of TAP

In this article, we have argued that if the instructional goal of an L2 class is to develop students' ability to speak not only fluently but also accurately, grammar practice activities should differ from traditional exercises, which are typically written and decontextualized. Instead, as Gatbonton and Segalowitz (1998) suggested, effective practice activities are genuinely communicative and inherently repetitive. An example of an activity that provides communicative repetition is the well-known “Find Someone Who” activity in which learners ask for the same information from each of their classmates. To illustrate the pedagogical application of TAP in greater detail, we describe the studies that each of us conducted as part of our doctoral research, both of which dealt with the learning of the English past tense.

Oba (2018): A Study of Japanese EFL Learners

For his doctoral study, Oba (2018) conducted a four-month-long classroom study in Japan to investigate the effects of form-focused practice, with and without corrective feedback (CF), on Japanese secondary-school learners’ learning of the English past tense. Two experimental groups (practice with/without CF) engaged in various form-focused practice activities, such as “Find Someone Who,” which required learners to use target forms repeatedly in context. These activities were followed by freer communicative tasks, such as “The Alibi Game,” with and without corrective feedback. A third experimental group participated in form-unfocused practice, which involved using a range of grammatical structures in context, followed by the same communicative activities. A control group continued with regular L2 lessons. Learners’ L2 development was assessed using error correction tests (measuring explicit knowledge) and oral and written production tests (assessing automatized explicit knowledge). Additionally, learners’ perceptions of the lessons were evaluated through a questionnaire. The results showed that the two form-focused practice groups scored significantly higher on the written and oral post-tests compared to the other groups, with no significant difference between them. Furthermore, the questionnaire results indicated that most participants in the experimental groups found the activities helpful for improving their accuracy.

The findings indicate that engaging in repetitive and varied form-focused practice across multiple conditions helped learners gain control over the target structure and use it effectively in subsequent communicative tasks. The form-focused practice included activities such as dialogue-based pair work and whole-class interviews (e.g., “Find Someone Who”), which gradually prepared learners for more open-ended tasks like “The Alibi Game” and “Celebrity Interview.” These activities required learners to retrieve and apply grammatical knowledge under time and contextual pressure, supporting the proceduralization of explicit knowledge. Rather than rehearsing rules in isolation, learners practiced using the structure in real-time speech, which likely helped them produce past-tense forms more accurately during task performance. The frequent, short sessions (about 15 minutes per lesson), distributed across lessons, provided repeated and contextualized opportunities for use, reinforcing form–meaning connections. The communicative and varied nature of the practice also supported learners’ goals and willingness to communicate, enhancing motivation and fostering a sense of preparedness and achievement.

Nikouee (2021): A Study of EAP Students in Canada

In his study, Nikouee (2021) explored the effects of pre-task practice activities on Mandarin learners’ acquisition of the English past tense during task performance. Participants, enrolled in an EAP program in Canada, were randomly assigned to either the Transfer-Appropriate Practice (TAPRA) group or the Traditional Practice group. After receiving explicit instruction on the past tense, the TAPRA group engaged in a variety of aural/oral communicative practice activities, such as guided conversation and picture-guided narrative tasks, followed by focused communication tasks over three consecutive days. The Traditional Practice group completed written grammar exercises, like gap-fills and sentence completions, before performing the same communicative task over the same period. Nikouee used a version of the Alibi Game. The participants’ explicit knowledge of L2 grammar was assessed via written error tests, while their automatized explicit knowledge was measured through oral elicited imitation tests. Results indicated no significant differences in overall complexity, accuracy, or target-like use of the past tense between the two groups; however, the TAPRA group demonstrated significantly greater overall fluency, measured as the mean length of run, during the focused task. Moreover, exit questionnaire responses revealed that learners generally viewed the pre-task practice activities and main tasks favourably, with particularly positive attitudes toward the TAPRA activities. These findings suggest that TAPRA activities may be more effective than traditional grammar exercises in enabling learners to manage the trade-off relationship between accuracy and fluency during oral production, given the limited processing capacity of L2 learners.

The experimental treatments in both of our studies provided repeated opportunities for practicing target forms in context, thereby facilitating the transfer of learners’ grammatical knowledge to use in subsequent freer communicative activities. It is important to note that in both studies, the learners had previous knowledge of the target grammar, the past tense. We should not expect learners who have no knowledge of a given grammatical structure to be able to use it accurately during task performance after a short period of grammar practice, no matter how well designed.

Conclusion

In this article, we have provided an introductory overview of selected concepts from cognitive psychology—namely, TAP, skill acquisition perspectives, and Levelt’s (1989) speech production model, as applied to L2 teaching and learning. Drawing on insights from skill acquisition theory and speech production mechanisms, we have argued that effective grammar practice should be form-focused, contextualized, and repeated extensively under varied conditions and levels of difficulty. Such practice

should also align with learners' communicative goals in order to promote the development of procedural knowledge that can transfer across tasks and contexts.

For reasons of space, we have limited our discussion to the nature of effective practice and conditions that support the transfer of grammatical knowledge, particularly in production-based activities. Other relevant topics, such as individual learner differences (e.g., cognitive abilities and affective factors), practice modes (e.g., comprehension-based practice), and the role of corrective feedback, lie beyond the scope of this paper but merit further investigation.

Applying the ideas of transfer of learning and of TAP involves thinking about the design of L2 grammar practice in new ways. We have illustrated how this is possible in our own studies, in which we operationalized TAP and empirically investigated its impact. The concept of TAP provides valuable insights into the design of effective grammar instruction for adult ESL teachers' education. By aligning classroom activities with the cognitive demands of real-world language use, educators can enhance the transferability of grammatical knowledge, enabling learners to use L2 structures more accurately and fluently in authentic contexts. Incorporating desirable difficulties, focusing on form–meaning mapping, and ensuring a match between learning and retrieval contexts are essential strategies for optimizing grammar instruction. As research continues to explore the application of TAP in L2 learning, it becomes increasingly clear that the quality of practice is as important as its quantity, with the ultimate goal of preparing learners for successful communication in the target language.

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