

Article

Where SLA and Language Education Meet: The Transfer from Task-Based Needs Analysis to Task Design

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Abstract: This theoretical article sets a goal to investigate how task-based needs analysis (TBNA) as part of instructed second language acquisition (ISLA) may mediate between constructs and concepts in second language acquisition (SLA) and task-based design. It is claimed that as an instantiation of instructed second language acquisition (ISLA), TBNA in task-based language teaching (TBLT) may bring together decision-making during task design and what is known about SLA products and processes. The article then explores some of the key SLA concepts in ISLA around the constructs of input, intake, knowledge, and output and relates them to task-based research. Thirdly, TBNA is defined and analyzed in terms of how it may inform task and syllabus design. Finally, SLA constructs are directly associated with pedagogic task design that springs from TBNA. After a close inspection of all dimensions of TBNA, the article concludes that task design based on detailed TBNA has indeed the potential to bring reality into instruction through thorough task descriptions and methods, as well as to trigger well-known and specific processes that bring SLA and language education closer.

Keywords: task-based language teaching; task-based needs analysis; second language acquisition theories



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1. Introduction

SLA and language education have often been at odds with each other. Back at the beginning of this century, Long [1] already suggested that: “Most SLA theories and most SLA theorists are not primarily interested in language teaching, and in some cases not at all interested” (p. 17). In the same fashion, Gregg [2] reminded us that “. . . the connections between SLA theory and L2 instruction are indirect, complex, and tenuous at best when they are not non-existent.” (p. 153). This may be the case because the goal of SLA theorists is to identify what is *necessary* and *sufficient* in order to acquire a second or foreign language, while the goal of language teachers and theorists is to identify the most *efficient* practices, procedures, and conditions that will quickly and effortlessly lead to language learning [1,3].

In between those two fields with apparently divergent goals, instructed SLA (ISLA) tries to shed light on how SLA products and processes, as well as any practices tapping into them, may be associated with second language instruction. As defined by Loewen in the Encyclopedia of Applied Linguistics [4]: “Instructed second language acquisition (ISLA) is a subfield of second language acquisition (SLA) that investigates any type of second language (L2) learning or acquisition that occurs as a result of the manipulation of the L2 learning context or processes.” (Second Language Acquisition section). A well-consolidated line of research within ISLA originates from the task-based language teaching (TBLT) approach, which we take as an instantiation of language education in this article. Since its conception, TBLT has been a research-based teaching approach (a ‘researched pedagogy’ in [5]) with strong underlying principles that have primarily, although not exclusively, fed on cognitive-interactionist SLA theories and constructs to explain L2 performance and development. The TBLT research agenda has evolved from the early studies in interaction [6] in the early 90s and performance studies in the mid-90s [7,8], and in the 2000s, with a main interest

in complexity, fluency, and accuracy to the design of tasks for the acquisition of different dimensions of language. In theoretical terms, the field has moved from almost exclusively interaction and performance theories as reflected in the work by Long, Gass, Robinson, Skehan, and Ellis, to investigating the interface between TBLT and other neighboring areas of interest, such as computer-assisted language learning constructs and concepts [9] as well as theory coming from pragmatics [10] and phonetics and phonology theories [11], writing studies [12,13], and multimedia learning [14], among others, all of which have enriched the TBLT field in the last two decades.

Task-Based Needs Analysis

Out of the many aspects that TBLT is concerned with, here, we focus on needs analysis as a first and crucial step into program development, since the decisions about what to teach determine every other aspect of syllabus construction such as our pedagogical choices, methodological approach, or testing. In this article, we claim that the connections between SLA and TBLT may be specified, mediated, and informed by task-based needs analysis (TBNA). TBNA is a professional, in-depth inquiry into what learners need to learn, and it will identify the specific tasks, the skills, and the language associated with them, which a particular community of learners needs to be able to perform in their second or foreign language(s). Briefly, needs analysis is about ‘what’ learners need to learn. Task design informed by methodological principles and pedagogical procedures (and so the ‘how’) will follow, and it will be adjusted to try to alter the mental processes involved in second language acquisition with the hope of facilitating and accelerating the progress of learners’ interlanguage systems. Task-based needs analysis (TBNA), often the first step in task-based syllabus design, is at the very core of TBLT, and it is responsible for bringing reality into instruction.

We will claim that by carefully identifying and describing the tasks that need to be taught, task-based design may be supported and facilitated in combination with task-based methodological principles and pedagogical procedures, thus bridging the gap between what is the reality of second language use and second language instruction. Even if task-based needs analysis does not say anything directly about the mental processes that engaging in pedagogic task performance may entail, and how these may eventually lead to acquisition, needs analysis can be a powerful and reliable source of information for decision-making for pedagogic task design and instruction that will tap into what we know about second language acquisition.

In order to reflect on the mediating role of task-based needs analysis between SLA and language instruction, we will first define some key concepts emerging from SLA that are particularly associated with language education in general and with TBLT in particular. Such concepts will revolve around the products and processes associated with input, intake, knowledge, and output. We will then zoom in on how, as part of TBLT, task-based needs analysis can inform pedagogic task design. Then, we will try to bring together SLA processes and task design, and we will conclude with some final reflection on what is left to be resolved.

2. SLA, Instructed SLA, and Task-Based Language Teaching (TBLT)

Numerous handbooks, books, and articles have defined the goals and scope of SLA as a field [15–19], among others. It will suffice to say here that SLA is a consolidated, diverse, and growing research area exploring the learning and loss of second languages by people of all ages and with distinct individual differences (e.g., motivation, cognitive abilities, or purposes). In both formal and informal contexts, including second and foreign language contexts as well as lingua franca settings, SLA research is interested in both individual and whole community learning. The issues and topics SLA researchers are interested in are many and varied and may depend on whether theoretical accounts are linguistic, cognitive, or social in nature [20].

While drawing on SLA theories in general, the field of ISLA has been particularly interested in concepts and constructs that are more closely related to language instruction, and so in SLA products and processes involved in input, output, and interaction, the role of instruction and feedback, the intentional/incidental and the implicit/explicit debates in relation to L2 learning, and learners' individual differences, among many others. Less directly related but highly relevant to teachers are issues of transfer, the Critical Period, developmental sequences, rule-based and memory-based features of the linguistic system, or ultimate attainment. Yet, as Long [21] pointed out: "SLA theories may provide insight into putatively universal methodological principles, in other words, while saying little or nothing about the inevitable particularity of appropriate classroom pedagogical principles, in which the local practitioner, not the SLA theorist, should always be the expert" (p. 19).

As opposed to focus-on-form approaches that organize syllabi around linguistic units or focus-on-meaning approaches that do so around conceptual or subject-matter units, the central argument in focus-on-form approaches in general and task-based language teaching (TBLT), in particular, is that through the performance of real-life communicative tasks, a second language (L2) can be best acquired [3,22–24]. A pedagogic task is defined here as a differentiated process that connects with real-life activity, with a specific goal and a series of steps, which draws on learners' cognitive and communicative resources for its completion. One key reason for that is that communicative task performance may lead learners to notice and retain certain aspects of the language they are using, and this may cause changes in and development of their interlanguage systems. TBLT theory and research have been concerned with the conditions under which learners learn new forms, and when and how they acquire them. In terms of pedagogy, research into tasks can help in the identification of those task characteristics that may influence language processing for comprehension, production, and learning, hence providing empirical evidence for the pedagogic task and materials design. It has been shown that teachers and syllabus designers may design and generate conditions of performance that will gear learners' attention toward specific aspects of the language and, in this way, promote opportunities for learning and development of their interlanguage system and their overall communicative competence.

What are key SLA constructs and processes related to input, intake, knowledge, and output? How does TBLT integrate those processes? In the following sections, we will review some of the key concepts and processes (in italics) coming out of second language acquisition theories and their association with TBLT as an option in ISLA.

2.1. *Constructs and Processes Related to Input, Intake, Knowledge, and Output: From SLA Theories to TBLT*

2.1.1. Input

There is a clear consensus that *input* is essential to learning [25]. Exposure to input has been shown to trigger both micro-processes and macro-processes [26]. Examples of the former include *noticing* [27], and *cognitive comparison* [26], which are conceptualized as occurring with awareness, by means of which certain elements of the input receive selective attention and are briefly and momentarily compared to whatever other knowledge the learner may possess. Just mere exposure to input in any of its forms (e.g., text, video, audio, or a combination of them, or conversation) will enable learners to select and begin to process certain elements in the input. Input selection will depend on multiple factors such as the learner's developmental readiness, their internal syllabus, their communicative needs, perceived task demands, L2 proficiency, L1 features and L1-L2 distance, processing capabilities, motivation, task construal, and agency, among many other factors or combinations of factors (for a review, see [28,29]).

Language learners may be exposed to second language "potentially processable language data" or input outside the classroom by chance or in the classroom by design [30]. In the latter case, the amount, quality, and access to input can vary considerably across teaching approaches, practices, and contexts [23,30]. Nonetheless, many EFL learners in regular classrooms around the world receive minimal amounts of input with only a few

hours per week, typically in a decontextualized manner and without enough opportunities for actual communicative practice, and with access being limited to mostly the classroom setting. By its nature, input is external to the learner, and what learners notice and further process will depend on two main sets of factors: one, the characteristics of linguistic elements in the input (e.g., frequency, saliency, communicative value of the forms—what Nick Ellis calls the ‘usual suspects’) and, two, what the learner brings to the task (e.g., what they are ready to learn according to their internal syllabus and proficiency in the L2, the interplay between their communicative needs and perceived task demands, their interest and motivation and agency among many other factors or combinations of factors). Exposure to comprehensible input (e.g., input that is at learners’ reach), preferably modified by means of elaborated input that facilitates understanding of new or difficult items (as opposed to simplified input that eliminates them), has been claimed as crucial to learning [3]. More recently, SLA research has brought to the forefront the importance of multimodal input, which is clearly a part of our everyday experience through audiovisual products such as TV series or video games mostly outside but more and more often inside the classroom. Theories of multimodal input [31] and dual-coding [32] are often cited as support to the idea that multimodal input is a positive contributor to second language development in the areas of grammar, vocabulary, formulaic sequences, pragmatics, and phonetics. Such theories have advanced the idea that input processed through one channel (e.g., audio) can be reinforced, without interference, by input processed through a different channel (e.g., text in captions). In addition to positive evidence, negative evidence in the form of corrective feedback (e.g., ranging from telling learners directly that they are wrong to indirectly and implicitly prompting self-corrections) has been claimed to also contribute to second language acquisition [33]. Evidence of the effectiveness of corrective feedback has been shown in both the oral [34] and written [35] modes. The debate is ongoing regarding the degree of explicitness that is required with direct, explicit explanations on one end, and indirect and more implicit recasts on the other.

In sum, not everything learners are exposed to gets selected to be processed, and even when they notice certain elements from the input, there is no guarantee what they have extracted from the input will be processed any further. As we learned from [36], for noticed features in the input to be processed in more depth, input needs to become *intake*.

2.1.2. From Input to Intake

While micro-processes happen with some degree of awareness, underlying macro-processes are also activated during exposure to input. For instance, input internalization or *intake* and *intake processing* is a process by which a subset of data in the linguistic input is held in working memory (WM) for further processing against prior knowledge [36]. According to [37], for the conversion of input into intake, *form-function mapping* is necessary, and it constitutes the continual and cumulative process of linking concepts to phonological forms and grammatical functions. Establishing form–meaning connections can be affected by different factors such as the nature of the input, learner characteristics, and the learning context and instruction [38]. As opposed to the effects of input or output on the acquisition, both from a general ISLA and a task-based perspective, intake as a product and as a process has been considerably under-researched. Other processes include *item learning* and *chunking*, where some elements may be picked from the input and taken into long-term memory as unanalyzed material for later processing [21]; *analysis*, the continual and cumulative process by which linguistic and conceptual representations become susceptible to inspection [39]; *hypothesis formation* and *testing*, which entails the generation of learner’s internal theories about how the language works [40,41].

As suggested by [13], in the context of TBLT, the input to a pre-task or task often stands as positive evidence of the target language or is presented as corrective feedback, and it is typically part of a dynamic, goal-oriented, input-output-feedback cycle whether in oral or written modes, or a combination of them. In task-based design, content and language input is typically present in text, audio, video, and their combinations (e.g.,

audiovisual material with L2 captions) in the pre-task, and it makes exposure possible with the hope that either ideas or language or both will be recycled in the performance of the main task. Ellis et al. [22] have listed some examples of pre-tasks that are carriers of such input. In them, input is subject to intervention by (1) increasing the presence of target language features through *input flooding*; (2) by highlighting certain elements in the input through *input enhancement*; (3) by facilitating comprehension and retention of new or difficult forms through *input elaboration*; (4) or by pushing learners towards the processing of specific forms that become *task essential language* without which the task cannot be completed. Input is not only provided as positive evidence but also part of the *corrective feedback* that teachers or more competent users of the language provide reactively during learners' performance of the task typically in the form of recasts, or post-actively once they have completed it. These interventions on the input (the external product) are meant to generate an effect on input processing in learners that will hopefully engage second language acquisition processes leading to development [42,43]. The link between input modification during task design and second language acquisition has been particularly proven for input enhancement (see [43] for an example of the effects of input enhancement on grammar learning), with less literature behind input flooding, input elaboration, or task essential language. By enhancing certain elements in the input (e.g., typically verb endings, individual words, sounds, or collocations) teachers and designers seek processes such as *noticing* and *cognitive comparison* to be more likely engaged during exposure, and this will lead to other processes such as *intake* (chunking or unanalyzed item learning, analysis, hypothesis testing, form-function mapping) and *knowledge processing* (internalization, restructuring, and consolidation). With some caveats, the facilitating effects of both oral and written corrective feedback on second language development has been extensively documented over the years (see for example [44]).

2.1.3. Knowledge and Knowledge Processing

Knowledge and *knowledge processing* is about internalizing, modifying, and consolidating L2 knowledge [45], and it is one of the areas that has received little attention in TBLT. *Restructuring*, the abrupt process by means of which some aspects of interlanguage become more efficiently represented in the learner's mind, may lead to *grammatization* and *syntactization* in the L2 [46], *automatization* [47], and *consolidation* [48] of memories. Certainly, TBLT research is in great need of studies in the area of knowledge processing. An explanation for this lack of studies could be that knowledge processing is not open to direct inspection, despite the considerable advances in our understanding and measurement of implicit and explicit knowledge in [49].

Regarding *output* and *output processing*, since the mid-1990s, research has made considerable efforts to measure the effects of manipulating task design features on both L2 performance (operationalized as complexity, accuracy, and fluency, or CAF [50,51] and L2 acquisition. From an acquisitional perspective, the output hypothesis [52] has posited that "the act of producing language (speaking or writing) constitutes, under certain circumstances, part of the process of second language learning" (p. 471), pushing learners from semantic processing in comprehension to more syntactic processing in production. Syntactic processing demands higher attention to linguistic forms and deeper language analysis, with potentially consequential effects on language development. The production of output is postulated to trigger the whole range of beneficial processes, such as noticing and focusing on form, hypothesis testing, metalinguistic reflection, and automatization [53–55]. What the TBLT paradigm precisely offers is the optimal context for the sustained and context-embedded type of output practices that theorists consider vital for L2 development. Noticing linguistic problems can occur in both oral and written tasks, although researchers have claimed that the written mode poses advantages for such processes to take place [13].

As opposed to more traditional approaches that have typically assumed the idea that what is taught, typically explicitly, is what gets learned, TBLT, since its origins, has aligned with SLA theories that provide evidence that second language acquisition is a

slow and complex phenomenon that requires numerous and meaningful input-output-feedback cycles over an extended period of time in order for it to come to fruition. TBLT advocates have been aware that whether all the processes we have just revised are engaged or not during task performance will depend on multiple factors. While unable to fully predict the kind of language products and processes that will be engaged during task performance; however, task-based researchers, task-based designers, and instructors have made an attempt to make the process of second language acquisition predictable and at least partially manageable through task design and instruction. In the following sections, we will claim that NA may be instrumental to such decision-making by teachers/designers and that NA may actually be useful in predicting the kinds of SLA processes that may be involved during task performance.

3. Bridging the Gap between NA and Pedagogic Task Design

Syllabus design is the instantiation of our theories about how languages are learned [23]. The way we conceptualize what language is and how it works will most likely determine the type of units that we choose to organize our syllabus around. In turn, our choice of units for our syllabus design will largely determine every other aspect of the syllabus, such as how the units will be graded and sequenced, how they will need to be designed pedagogically, the methods that we will need to use in order to teach them, as well as the assessment methods required to assess those units and evaluate the program in which they appear. If for instance, we choose content or conceptual units as in English as a medium of instruction (EMI), our sequencing will most likely be conducted with the logic of the subject matter. In math, for example, from addition to equations and algorithms, learners are presented with units increasing in the complexity and intricacy of mental operations they require. Typically, units will be pedagogically designed to make such content available to and manageable for learners, and learners will be tested on their mastery of such content. Finally, the program will be judged on the basis of whether it achieves the goals of having learners put content and language to good use outside the EMI classroom. If instead of content/conceptual units, we select linguistic units as the organizing principle of our syllabus structure, units will quite likely be organized according to some notion of 'difficulty' or 'usefulness', and pedagogic design will be tailored around the deductive or inductive teaching of those units, the mastery of those linguistic units will be assessed with language-based tests, and the effectiveness of the structural/lexical syllabus will be tested against what learners end up knowing about the L2 system. In TBLT, syllabus design has often taken a cognitive-interactive approach to syllabus construction that revolves around pedagogic tasks. Additionally, tasks are sequential and susceptible to pedagogic and/or research intervention. Tasks are dynamic processes, which are susceptible to modifications and adaptations in ever-changing social, academic, and professional environments. Although not always, the tasks that constitute task-based programs are versions of the real target tasks detected by means of systematic NA. From the detailed descriptions of such target tasks, pedagogic tasks are created that will prepare learners for the typically highly complex tasks that people need to perform in their everyday personal or professional environments. While still under debate, sequencing is often decided upon on the basis of cognitive task complexity, and tasks are taught mostly inductively in pre-task-task-post-task cycles where language is embedded in all phases of the task. Ideally, the performance of pedagogic tasks is assessed in terms of task completion and their approximation to real target task performance. Finally, program evaluation checks whether pedagogic tasks have actually helped learners prepare for real target task performance outside the classroom. While task-based NA is a professional inquiry into 'what' a specific community of learners needs to be able to do in terms of tasks, and so it is the first step into syllabus design, in [56,57], we claimed that NA may actually inform all aspects of program development.

In those two chapters [56,57], the issue of transfer from NA to task design was thoroughly investigated. It was seen that the information retrieved from careful and detailed

needs analysis can inform all other aspects of syllabus design, that is, pedagogic task selection, sequencing, pedagogic design, methodological implementation, assessment, and program evaluation. By means of multiple sources and methods, the task dimensions NA may investigate are divided into seven broad categories: (1) 'general aspects' the goals associated with the tasks, the frequency with which the task is performed, its outcome(s), task-related topics, sub-/target tasks, and how it fits into the general picture of the domain; (2) 'participants and interaction' is a dimension linked to information exchange and communication between participants involved in a task, the rules of interaction, psycholinguistic aspects, intercultural communicative aspects, and non-verbal aspects [6,58,59]; (3) the 'physical space' where tasks take place enquires into factors that have to do with the spatial and psychosocial setting of tasks [59]; (4) the 'cognitive demands' dimension tries to tap into tasks' attentional and memory demands, mental processes, and perceived difficulty of tasks, as well as the recruiting of higher and lower order skills [60,61]; (5) tasks' 'linguistic demands' include the linguistic resources necessary to complete a task [62,63]; (6) communication and technology seeks to retrieve information on the communication channels and technological tools and platforms associated with performing a task [9]; and (7) the 'other dimensions' category grouped together assessment, task support, and tasks' non-verbal aspects, attitudinal values, concepts, and norms, as well as sequence of procedures.

In terms of task selection, if the needs analysis is properly conducted [64,65], a list of target tasks and associated sub-tasks should contain information about the frequency, difficulty, and need for training (based on their importance or priority) of each of the tasks. Gilabert & Malicka [56,57] suggested 'the need for training' as a reliable choice whenever possible, defined as the time and effort that a person needs to invest in order to master task performance. An additional criterion may be the degree of perceived difficulty and complexity by domain experts, that is, people who did not know how to perform a task in the L2 and later mastered it. This type of information is collected during needs analysis, and it can greatly facilitate the decision-making process about which tasks should be selected for the syllabus. Some tasks may be perceived as difficult or higher stakes by experts and hence require more mental effort. Those target tasks may be better targets for selection than simple tasks or sub-tasks that may be more common but may not require so much training.

As for pedagogic task design, TBNA can clearly help to identify task goals, that is, the ultimate objective of the real-life task, such as 'solving a problem' or 'reaching an agreement'. The information gathered in a TBNA can inform decisions about aspects such as the number of participants and the type of performance (monologic vs. dialogic), or the information flow between them (one-way, two-way, multiple-way). Furthermore, participant observation in TBNA can help to identify the status of parties involved in professional tasks, which will help with the creation of roles based on actual psychological profiles and positions of power. Additionally, important for task design is what TBNA can say about the linguistic demands and skills called upon by tasks. The analysis may also include information about the language associated with the task in terms of specific terminology, discourse features and grammatical features, or speech acts required by the task. In focused pedagogic tasks, a specific item or a number of items may be targeted when they are known to emerge from and be required by the task, and they are typically detected and selected after several iterations of the task. During pedagogic task design of such focused tasks, target language aspects may be addressed preemptively (e.g., by means of input flooding, input enhancement, or task essential language as focus-on-form techniques) and distributed throughout the pre-task, task, and post-task phases. In unfocused tasks that do not target any specific items, the focus-on form may take the shape of recasts or other forms of reactive feedback as learners run into language problems and miscommunication [26]. From a cognitive point of view, needs analysis provides information on the attention and memory demands real-life tasks place on those performing them. TBNA should help us find out specific attributes of tasks such as the mental operations recruited to perform them, how many pieces of information need to be stored in working memory at the same time, or whether tasks are conducted under time pressure or there is time available to plan. These

attributes of real-life tasks can then be translated into pedagogical variables, which can be manipulated in task design. Very importantly for task design, TBNA should also be able to inform us of how these cognitive factors are perceived in terms of their relative difficulty by those who perform them since this will help with task sequencing. While still largely unresolved, task sequencing may be realized in terms of the cognitive complexity of tasks (as perceived by domain experts during needs analysis), by considering their linguistic difficulty [62,63].

As for task methodology, TBLT has traditionally adhered to some of the “language teaching universals” [22] that have oriented teachers when implementing tasks. The use of ‘authentic input’, which TBNA can help with during sample collection and associated discourse analysis of the language included in those samples. Additionally, TBNA can help with decisions as to what kind of focus-on form (i.e., techniques such as input elaboration, input flooding, input enhancement, and task essential language) may be associated with each task or each phase of the task (e.g., input flooding in the input included in the pre-task and recasts for the task phase [26]). It may also help advance and predict the difficulties learners may encounter with language and that will require corrective feedback [66] and hence prepare for them. Needs analysis may also help with the pedagogical options to be chosen during the pre-task (e.g., strategic planning or modelling) as well as the task (e.g., by providing information about the number of participants involved in a task, their roles and status, as well as how information may flow among participants and the divergence or convergence of their goals).

TBNA can also contribute to task-based assessment. Semi-structured interviews and task performance observations may provide useful information about what the performance standards of tasks are. As Malicka et al. [67] suggest, assessment tasks that build on insights obtained from TBNA have the potential to mirror authentic situations and are therefore valid indices of candidate preparedness to deal with requirements of tasks encountered in real-life situations.

But what can help us bridge the gap between SLA and decision-making in language education?

4. Bridging the Gap between SLA and Pedagogic Task Design

In Section 1, we looked at the connection between SLA theories, ISLA, and TBLT. In Section 2, we explored the connections between SLA, ISLA, and TBLT. In Section 3, we saw how TBNA may inform pedagogic task design, and in this section, we explore how TBNA may establish the link between SLA constructs and pedagogic design, and how it may help out with decision-making decisions during task design. It is important to stress that the point here is not to make a claim that needs analysis will be able to inform exactly about what SLA processes will be activated as a consequence of design but, rather, to speculate from a theoretical standpoint about which processes design will most likely trigger and to what variable extent. This will be achieved by carefully considering what we know about SLA products and processes as well as what we have learned about TBNA and task-based design over the year as discussed in Sections 2 and 3.

What aspects of the *input* do we decide will be targeted during task design and, hence, instruction? What SLA processes can be associated with each of our design decisions as mediated by needs analysis? As we saw in Section 3, TBNA analysis can help extract information about content, skills, and language that may be relevant to the performance of the task. Whether the focus falls more clearly on the content or the form will depend on the perspective and context we are designing tasks for. If designing tasks for a CLIL program, the emphasis on the task may lean towards the mastery of content even if language is also targeted as part of the design. If instead, tasks are being designed for a program conceived from a strong version of TBLT that includes a TBNA, the focus-on form will be more in balance with the focus on content. TBNA can extract very specific information about what language is associated with each task, and it can do so in at least four different ways. Firstly, semi-structured interviews where domain experts are asked to describe the

kind of language that each task requires and that they typically describe in ‘non-linguistic’ jargon. Researchers must interpret such descriptions and classify them into standardized categories (e.g., vocabulary, pragmatic moves, or formulaic sequences) that they can use as a reference for pedagogic task design. Secondly, non-participating observations may also help researchers describe tasks and their associated language with high precision. Usually, observations are assigned to some of the tasks identified through semi-structured interviews. Lastly, we can also use discourse analysis where samples are collected and analyzed to minute detail (see [68] for an outstanding example of discourse analysis by L2 Korean learners). Such an analysis can provide information about contextual factors, typical choices, and specific language associated with the performance of a task. In the fourth place, we can use recordings or annotations of multiple iterations of the task in order to determine what language L2 learners make attempts at using, or the language they report they do not have but would like to use, during task performance. All of these methods that can potentially be used during TBNA will help with the selection of target linguistic features that are relevant to each task. In this way, resources and efforts will be most efficiently directed to the language that matters for a specific task completion without teaching too much irrelevant language or too little important and task-oriented language. Without losing track of the learner’s volition and agency at picking features from the input, this is a design and instructional attempt at initiating the noticing of what matters for the successful completion of the task.

Once linguistic features have been accurately and precisely selected, this can be coupled with the input transformation techniques we saw in Section 2.1. This applies to focused tasks since unfocused tasks would not make any predictions or include any preemptive attention to any particular language during design and would deal with it reactively [22]. Techniques include input flooding, input enhancement, input elaboration, and task essential language in order to bring attention to items that will be necessary to process and partially internalize during the pre-task in order to perform the main task. From a theoretical standpoint, by flooding the text with more examples of the target features we guarantee that a given feature does not appear just once (or a small number of times), is maybe *noticed*, and then goes (as is often the case when noticing happens right in the middle of a conversation), but rather that we have more than one chance of moving it from mere registration to some degree of cognitive comparison (in [26]) and initial *form-function mapping* [37]. This also applies to input enhancement, which will gear attention to the target features over others. As we saw, also in Section 2.1., there are plenty of factors that may explain what learners will end up noticing, but the use of input modification techniques, by themselves or in combination, may help secure at least partial noticing. Although typically applied in the pre-task phase of the task, such techniques and the SLA processes they potentially trigger may be distributed throughout the different phases of the task. In sum, while in unfocused tasks, the focus-on form is left to happen exclusively incidentally, TBNA can inform design in focused tasks in such a way that certain items are targeted. Detected task-related linguistic items during needs analysis can be potentially matched against the same or different linguistic items that emerge from several iterations of the task. Finally, by applying focus-on-form techniques, they will be hopefully processed as they incidentally arise during task implementation by engaging input and intake processing processes, such as noticing mechanisms, cognitive comparison, and form-function mapping.

However, for *input* to become *intake* and so for more in-depth processes to be engaged, conditions that allow for further processing beyond simple registration or noticing will need to be created. Still, at a low level of processing, item learning and non-systematized chunking may be allowed if WM is liberated and enough attention and memory resources are made available. The TBLT literature has provided us with several ways to reduce task demands and reduce cognitive load. Here, we include three ways in which demands on WM may be reduced. Firstly, the inclusion of pre-task planning time in task design has been shown to liberate resources by providing learners with enough time to process the input [69] before task performance in order to predict what they will be saying and doing,

even practice and train for it, and engage with the input at ease before task performance. Creating pedagogic tasks with conditions that approximate real task performance is, of course, of utmost importance since pre-task planning time may not always be available. TBNA is conducive to obtaining information about performance conditions associated with each task. A second option in task design is that of exact task repetition [70], by which going from usually input in the pre-task to output in the task and then going through the same cycle a second time increases familiarity and liberates resources that will allow underlying processes to be engaged and to be stretched or pushed to greater depths. Revisiting the input after the first attempt at performing the task has an impact on the second attempt at performance. A third option is that of multimodal input, in which WM load is reduced by reinforcing audio input (often hard to process at certain levels of proficiency) with written input, which may help with auditory word recognition, segmentation, and mapping of phonemes to orthographical form, all of which can be grouped into the SLA process form-function mapping [71].

Finally, for learners to recruit enough resources from intake and knowledge processing, *output* practice needs to be part of the design of tasks. As we learned from Swain's [72] Output Hypothesis, engaging in output production will serve the function of noticing/triggering by having learners realize the gaps in their knowledge and the discrepancies between what they want to say. [73] delved into the conditions that contribute to such noticing. Output will also lead learners into generating and testing their hypothesis about how the language works, and so the conversation in the L2 will be a testing ground for learners that will help them keep good uses of the language and reject ungrammatical or pragmatically inadequate moves, among others. Hypothesis generation and testing entail a much more in-depth and sophisticated processing of language. Through oral and written interaction, learners may generate output on which they also receive feedback, often in the form of correct input samples or models against which to contrast their own incorrect or immature productions. It is predictable that ongoing input-output-feedback will also trigger analysis (in Bialystok's terms) and some basic rule formation and eventually lead to internalization, restructuring, and modification [45].

5. Conclusions and Areas for Future Research Bringing SLA and TBLT Together

In this article, we have advanced the claim that TBNA can mediate what we know about task design and the SLA processes it may activate and generate. We first tackled the relationship between SLA, ISLA, and TBLT, and we said that TBLT is one of the options ISLA that draws heavily on SLA constructs and concepts that are particularly relevant to all aspects of task-based syllabus design. We then zoomed in on constructs and processes related to input, intake, knowledge, and output that are relevant to TBLT. We saw that input is the basic product that, when exposed to it under appropriate conditions, will initiate a series of input processing mechanisms such as noticing and cognitive comparison. Under certain conditions, input can become intake and therefore engage more in-depth processing. We then revised some of the functions of output that may push learners to move beyond noticing in order to generate and test hypotheses. In Section 3, we explored how TBNA may, directly and indirectly, inform pedagogic task design and all aspects of syllabus design. In Section 4, the issue of how SLA processes and task design and instruction may be put together was brought into focus, and suggestions were made as to how TBNA affecting pedagogic design may tap into SLA processes.

As a teaching and research approach drawing on SLA knowledge and hence as an instantiation of ISLA, TBLT tries to build points of connection between what is known about SLA products and processes and what we know about task design and instruction. As part of syllabus design, TBNA can be instrumental to all other aspects of syllabus design. It is obvious that TBNA does not solve all aspects of tasks and syllabus design. The unresolved issue of linguistic difficulty and morphologically complex languages are two examples of that. Such languages add extra processing to the understanding and use of certain forms and so they may shift the balance between content and form. In turn, this may have

consequences for task design and how learners may need to engage in SLA processes [63]. In addition, unresolved is the issue of task sequencing still haunting the field. Despite some initial attempts at tackling the complex issue of sequencing, no model exists that will help us [74]. The exact combination of information about the internal complexity of tasks, their perceived cognitive difficulty, as well as their actual and perceived linguistic demands has not been achieved for appropriate and efficient sequencing. As it is, we cannot currently make any robust predictions about SLA processes in relation to sequencing, which should be sufficiently interesting material for subsequent research.

Over the last two decades, TBNA has certainly proven itself worthy of informing task and syllabus design in meaningful and sophisticated ways. While realistically it takes some initial time and effort at the start of program development, we would like to claim that investing such time and effort has an enormous payoff for design and development. By conceptualizing TBNA in the way that we have suggested in this article, by linking ISLA concepts and constructs to pedagogical task design, we hope to be taking a decisive step in integrating reality into instruction, and hence bringing SLA and language education closer.

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