



## Research Innovations in Technology-Oriented Task-Based Language Teaching: A Library Research

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**Abstract-** The current study has been designed to review past researches in technology-oriented task-based language teaching. The field of technology-oriented task-based language teaching has emerged as a recent and significant research area in applied linguistics. It has an increasing body of research that will help us to consolidate findings and further address critical questions at the integration of technology and task-based teaching and learning in the future. The study objectives defining and distinguishing goal activities into general activity categories is the first phase towards designing a TOTBLT curriculum. These activities must also be structured so that they are likely to evoke learner's interest that has considered to be beneficial to language learning, yet also adhering to the TBLT's ecological legitimacy and authenticity criteria. Finally, learner engagement can differ predictably depending on task structure, difficulty, and other factors. Curriculum planners and practitioners in TOTBLT must consider both language and technology roles, which are equally essential. To answer these research questions, related past researches were consulted and reviewed critically. The digital gap persists. Our duty as academics and educators to provide technical information with social justice and personal impact aspect for those who need it most. We must ensure the ethical usage of data to encourage digital learning in an inclusive fashion that is mindful of learners' educational and technical contexts.

**Keywords:** Technology, Task-based Language Teaching, Task Sequencing, Task Complexity, Tasks Implementation

### I. INTRODUCTION

CALT (computer-assisted language teaching) and TBLT (task-based language teaching) have also opened up new language learning possibilities. It has also opened up new opportunities for study in applied linguistics. The field of technology-oriented task-based language (TOTBLT) teaching has emerged as a recent and significant research area in applied linguistics. It has an increasing body of research that will help us to consolidate findings and further address critical questions at the intersection of technology and task-based teaching and learning in the future. There are hundreds of research issues and avenues of inquiry to pursue, as in any modern field of science. Several roadblocks have been selected to address to seek this sub-field in a logically sound and data-driven manner. A technology-oriented TBLT curriculum has focused on the full integration of technology and tasks (González-Lloret & Ortega, 2014). González-Lloret & Ortega, (2014) has mentioned that many situations may integrate technology used as part of the second language (L2) curriculum, a technology-oriented TBLT curriculum has based on the full implementation of technology and tasks. Tasks have been conceptualized in the TBLT literature in several ways, from communicative tasks that may complement more conventional form-focused interventions (Ellis, 2009) preferred authentic daily life activities representing real-world activities and interactions (Long, 1985, 2016). Many of the studies from the technology-oriented task-based language teaching methodology utilize activities like knowledge narration tasks, gap tasks, and agreement tasks, which may be authentic and essential for the learners based on the teaching background. Several universal standards characterize a mission, regardless of the description or version of TBLT. At a minimum, activities should be outcome-based and rely on context (rather than linguistic forms); that is, there should be a need to use the language beyond the action itself.

Technology oriented task-based language teaching should be described by five main features, according to González-Lloret and Ortega (2014): First, the task should be meaning oriented and must have clear communicative benefits and goals. Secondly, these goals must be according to the clear communicative outcomes and plans interlinked with the task. Thirdly, the students need and wants can never be ignored and multiple linguistic and non-linguistic resources must be involved in task competition. Fourthly, the learner could be able to utilise these linguistics and non-linguistic resources in real world, out of the classroom too. Lastly, the cycle of these tasks should involve the learners in personal and intellectual growth.

This current research is a review that will help define and distinguish goal activities into general activity categories, which is the first phase towards designing a TOTBLT curriculum. These activities must also be structured so that they are likely to evoke learner's interest that is considered beneficial to language learning, yet also adhering to the TBLT's ecological legitimacy and authenticity criteria. Finally, learner engagement can differ predictably depending on task structure, difficulty, and other factors. Curriculum planners and practitioners in TOTBLT must consider both language and technology roles, which are equally essential.

### **Research questions**

The research questions of the study are:

- I. What are the challenges in utilizing acceptable technology-oriented language learning tasks?
- II. How to design a technology-oriented task-based language teaching curriculum?
- III. How to engage students in technology-oriented language learning tasks?

The challenge could enable the students to utilize acceptable greetings and closings when simultaneously composing a letter or contacting customers, with the pragmatic emphasis on the degree of formality included in each. It is needed to create tasks that rely on technologies and digital capabilities in this scenario (pedagogic technology tasks). Learners can be required to use a range of digitally sign, email systems, and append records, and operate pdf files. In this situation, it's crucial to consider technology's non-neutrality and the effect that technical affordances, such as how they contribute to users' desires and capacities may affect (Blin, 2016), the existence and suitability of a specific technology for a given technology-oriented mission. Researchers using a TOTBLT methodology can concentrate on the basic affordances of a technical tool and the context in which it exists, specific activities or role styles that facilitate language learning, and how these elements communicate. In the parts that follow, both of these points will be discussed in detail and recommend study directions that might help us learn more about TOTBLT.

### **Why TOTBLT?**

The use of advanced technology has attracted researchers in every field these days, and in TBLT, it has brought a revolution. Attention has drawn to the pitfalls of technical determinism, which believes that the advent of modern technologies would inevitably result in those outcomes (Warschauer, 2004). All inventions have not been created equal. They have distinct shapes and preferences, ensuring that certain technologies are well suited to some functions while others are not.

Furthermore, there is a common misconception that technologies are passive instruments that are entirely dependent on consumers. The technological devices, like humans, will behave as active social actors (Latour, 1996). In the same way, technology has often been thought to be clean of pedagogical or philosophical prejudice. In reality, innovations are biased by nature because they have been created to achieve particular objectives (Bromley, 1998).

It is difficult to deny the application of technology in education. The creation, application and assessment in second language acquisition is incomplete without technology.

Although inspiration and novelty are valuable to the method, they are inadequate to render modern technologies successful for language learning. The introduction of technology in L2 learning is likely to result in better learner outcomes.

### **Challenges in Implementing TOTBLT**

The use of technology has its pitfalls; it is the belief that the advent of modern technologies would inevitably result in inevitable outcomes (Warschauer, 2004). Inventions have not created equal. They have distinct shapes and preferences, ensuring that certain technologies are well suited to some functions while others are not. Furthermore, there is a common misconception that technologies are passive instruments that are entirely dependent on consumers. The technological devices, like humans, will behave as active social actors (Latour, 1996). In the same way, technology has often been thought to be clean of pedagogical or philosophical prejudice. In reality, innovations are biased because they have been created to achieve very particular objectives (Bromley, 1998).

It is critical that curricular standards focused on education studies into instructed second language acquisition (SLA) direct the creation, application, and assessment of language learning technology (González-Lloret, 2017). Although inspiration and innovation are valuable to the method, they are inadequate to render modern technologies effective for language learning. The unanalyzed introduction of technology for L2 learning is unlikely to result in better learner outcomes. Instead, it can contribute to bad

performance, reduced student satisfaction, and increased dissatisfaction levels as the program differs significantly.

The ability to distinguish particular affordances of technologies for language learning is essential. As technology evolves or has been supplanted by something different. The technology's affordances are still intact and working expectedly in a principled manner (Chun, Kern, & Smith, 2016). Moreover, Chun et al. (2016) suggest a "capacious view of technology" that recognizes general concepts concerning technology and language usage, language education, and language learning, in addition to the particular affordance domains. This viewpoint necessitates the understanding that our students communicate with emerging technology in ways that are frequently more varied and sophisticated than those they experience at school (Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009). How teachers can integrate technology into their teaching is particularly relevant in TOTBLT environments where the whole activity has interconnected with the technology.

To extend the shelf-life and usefulness of CALL scholarship, Chun et al. (2016) suggest that we must characterize and learn about technology in general rather than narrow terms. To that end, they include a collection of (usually unanswered) heuristic questions to assist language teachers and researchers in integrating technology into their teaching and study objectives and evaluating its efficacy. It applies to the overarching purpose of communicating and rendering sense in the target language and comprehending new forms of discourses, social practices, and abilities to utilize and objectively analyze new and rapidly evolving technology. The following query is, "What language, history, and educational opportunities do I have?" focuses on the multiple mediums and educational tools available and how they affect how communicative activities has planned. The third issue discusses how these tools can be integrated and utilized more efficiently to achieve the defined learning targets, which is perfectly consistent with the TOTBLT framework's demand for an equal allocation of commitment to pedagogical language activities. Finally, deciding how to determine the appropriateness of particular language learning tools and the feasibility of students' usage necessitates taking into consideration the affordances of employed technology, learner (and the teacher) perceptions, and aspirations. The language learning climate must be conducive which the learner's find themselves, such as high/low resource or high/low affluence, among other considerations (Healey, Hegelheimer, Hubbard, Ioannou-Georgiou, Kessler, & Ware, 2008). One must first comprehend a technology's capabilities before justifying its usage for particular language learning objectives. However, as Hubbard (2011) points out, we must consider a technology's "fit" for the educational background, which requires both teachers and students. The degree to which a technology is consistent with a teacher's views regarding language learning has been referred to as "teacher fit."

The alignment of the proposed courseware or technologies with learner variables such as age, native language, proficiency level, learner needs and interests, and the syllabus, which outlines the learning goals and paths to attain them, is referred to as "learner suit." This idea of 'fit' is also following Thorne's (2003) concept of 'cultures of usage,' which relates to how students now choose and use interactive technologies and applications for personal and social purposes.

### **Designing TOTBLT Curriculum**

Language learning technologies can be focused on the study and consider the sense of teaching and learning. To maximize the advantages of transformative new technology, the researcher must research how these technologies' affordances interact with tasks and procedures. Teachers must be able to plan and sequence technology-oriented tasks to evoke the optimal type of learner behavior and language use and the required linguistic growth in this setting. In TBLT, task complexity and task sequencing are inextricably linked. Consequently, another area in dire need of research is how the introduction of technologies alters the issue of a job and how work difficulty is troublesome in and of itself.

The difficulty of task-based language teaching tasks is difficult to assess. According to Doughty and Long (2003), a set of instructional tasks should be sequenced centred on 'inherent, unchanging, and logically feasible task difficulty,' with task severity modifiable when required through changes in task conditions (p. 57). Skehan's Trade-Off Hypothesis (Skehan, 1998, 2009; Skehan & Foster, 2001) and Robinson's Cognition Hypothesis have been the primary subject of these guidelines (Skehan, 1998, 2009; Skehan & Foster, 2001). These models have given researchers a new perspective on task difficulty and its effect on task success.

According to Skehan's initial Trade-Off Hypothesis, functional memory and attentional capacity have been diminished (Skehan, 1998, 2009; Skehan & Foster, 2001). Precision, refinement, and fluency, he says, will fight for focus as task difficulty increases. The learner's performance precision declines when events elicit linguistically complex speech and vice versa. It's unclear if these more recent interpretations of, perhaps, simultaneous advances in refinement and precision will apply. The synchronous written CMC learning

environment can reduce the strain on working memory and thus produce a facilitating effect, arguably in terms of improved accuracy and complexity, for learners with lower working memory capacity.

There are many capital pools in Robinson's Awareness Theory. Increased work demands can help you channel your energies and give you greater control of your speech output. On the other hand, increasing the demands on resource-dispersing variables has the reverse impact on production. A more complicated cognitive challenge may result in linguistic sophistication and accuracy trade-offs on this sort of factor. We believe that a lack of rehearsal time or prior knowledge causes the task performer's attention to shift away from the linguistic code, resulting in poor performance. We agree that definitive results on any mission difficulty paradigm's validity have still awaited in the area. One of the more active research agendas in TBLT is exploring these theories, with research that has often produced mixed findings (e.g., Tavakoli & Foster, 2008; Sasayama, 2016). We recognize the need for more independent research in CALL settings using Skehan's framework. We also acknowledge that no research has been done explicitly applying Skehan's Trade-off Hypothesis to computer-mediated settings. More analysis is needed to see whether the results can extend to technology-oriented activities and environments.

### **Measuring Task Complexity in TOTBLT**

It is essential to mention here that the particular combination of task features that increase task complexity is still uncertain. What comprises increased task complexity in a technologically improved setting is currently unclear. Révész, Michel, and Gilabert (2016) sought to provide independent proof that more complicated activities did, in fact, greater cognitive demands on participants in a face-to-face analysis. They looked at three approaches for establishing the legitimacy of cognitive task sophistication manipulations: dual-task approach, arbitrary self-ratings, and professional assessments of task intensity, using three different task types: plot, diagram, and decision-making. They discovered that native and non-native speakers have poorer accuracy scores on the secondary task (in the dual-task process, which can be called an analytical measure). The high-complexity variant of the tasks has often been viewed as more cognitively challenging and, for the most part, more complicated by both native and non-native speakers. Finally, the experts determined that high-complexity activities need more mental work and are more challenging. The integration of these three variables, according to Révész et al. (2016), indicates that the more arbitrary measures of job complexity may see as legitimate surrogates for the more difficult-to-administer at quantitative scale. They further note the limitations of including just one objective variable in their design and advocate for more objective measurements to be used in the potential analysis.

The relevance of extending Robinson's Cognition Theory specifically to text-based synchronous computer-mediated communication (SCMC) environments has been disputed in the few research that has looked into it. According to Nik et al. (2012), growing task sophistication (by reducing task structure) resulted in less interactional changes. Students conducting a role with more structure created more precise language, but there were no substantial variations in the complexity or quantity of language produced, according to Nik (2010). So, the Computer-Oriented communication improved online preparation time makes for more opportunities to process one's production when writing and editing text before sending messages, which might change L2 growth.

### **Task Sequencing in TOTBLT**

More research is needed to see how activities are sequenced in online contexts based on cognitive task difficulty. In this vein, Baralt (2014) looked at four different task series to see whether Robinson's (2011) argument that assignments could be organized in the curriculum by increasing their cognitive difficulty overtime was valid. According to the scientists, this study will help us better understand the pedagogical potential of tasks for L2 learning and will provide teachers and curriculum designers with guidance for planning and sequencing tasks in an online setting. It could also affect how we think of job complexity in conventional sets.

More research is required to see how activities can be sequenced in online contexts based on the concept of cognitive task difficulty. In this vein, Baralt (2014) looked at four different task series to see whether Robinson's (2011) argument that assignments could be organized in the curriculum by increasing their cognitive difficulty overtime was valid. It could also affect how we think of job complexity in conventional settings. The use of mobile has been improved a lot in the last decade. Regular communication has been dominated by mobile applications such as Snapchat, Instagram, FaceTime, WhatsApp, and WeChat. In a smartphone environment, almost all related work into task-based learner engagement can and should be repeated.

### Student's Engagement in TOTBLT

Social media is also playing its essential role. Outside of training, Facebook may be used as an alternate pedagogical room for L2 literacy practice. Wang and Vásquez (2014) will be the focal point for the planned research. It will allow students to self-select into groups based on a common interest. Each community member should advise to post at least two queries/comments and simply comment on at least four other posts each week (using language, not just emojis). It is critical since research has shown that learners are eager to dismiss social media usage for instructional purposes that seem to be artificial. The plan will use a limited range of current Facebook community pages dedicated to a common interest. Each interest group's members will agree to use one of these group pages and then enter the group as a whole. According to the scientists, this will allow the research a more successful method for language acquisition and literacy practice. The recommendations were published in the journal "Linguistics and Literacy in Chinese" and are focused on a semester-long analysis of two classes of intermediate-level Chinese language learners.

It is crucial to use testing approaches that enable teachers and researchers to gather and analyze learner process data. Simply because technology has such capabilities does not guarantee that learners can take advantage of them. Data can be obtained by tracking learner navigation in great detail and screen recording the whole online mission. A more detailed account of Learner conduct might be needed in certain situations. Like any other study judgment, the methods and data gathered should be driven by the research questions and the researcher's abilities to collect and analyze data.

## II. CONCLUSION

A detailed study has concluded that the general fields of TOTBLT remain unanswered. It has been assumed that the science agenda will expand in a variety of exciting ways. The digital gap persists. Our duty as academics and educators is to provide technical information with social justice and personal impact aspect for those who need it most. It has also been argued that as access to vast amounts of data becomes simpler, data security and ethical data usage become more relevant. It is our duty to campaign for and ensure the ethical use of data to encourage digital learning in an inclusive fashion that is mindful of learners' educational and technical contexts. Integrating technology-oriented activities into the curriculum may have major benefits for students' futures. Multilingualism and social equity can be considered in the activities above. Based on previous researches, the most vital approach can be formulated by extending it with experiments and investigations.

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