

CHAPTER 1

INTRODUCTION

1.1.Theoretical Context

In language acquisition, task repetition practices involving extensive and deliberate tasks generate the proceduralization and automatization of the acquisition of second language (L2) knowledge (DeKeyser, 2007; Lyster & Sato, 2013). The internalization of linguistic patterns, enhancement in fluency, amalgamation of knowledge, and the ability to overcome interference is facilitated by proceduralization. Such linguistic knowledge result to L2 learners' improved language production and comprehension, known as automatization of linguistic knowledge (DeKeyser, 2007; Lyster & Sato, 2013). It is noteworthy that as a result of these task repetition practices in the learning of an L2, by scheduling and manipulating those tasks, that learning becomes more efficacious as it leads to the spacing effect (e.g., Bird, 2010; Nakata & Webb, 2016). So, researchers in the present times are concerned about the effect of scheduling and manipulation of task repetition practices, particularly in areas of L2. They conducted several studies to examine whether it directed towards the improvement in L2 interaction, pronunciation, fluency, and in retaining L2 vocabulary and grammar rules (e.g., Ahmadian, 2011; Carpenter & Mueller, 2013; de Jong & Perfetti, 2011; Miles, 2014; Nakata & Suzuki, 2019; Schneider et al., 1998, 2002; Suzuki et al., 2022 Tavakoli & Hunter, 2018; Thai & Boers, 2016).

Task scheduling methods have been a keen interest for study in L2 learning. Among those methods, two of them that caught the attention of the researchers in L2 learning are: interleaving and blocking (e.g., Kornell & Bjork, 2008; Nakata & Suzuki, 2019; Schmidt & Bjork, 1992; Soderstrom & Bjork, 2015; Suzuki, 2021; Suzuki & Sunada, 2020). The method of blocking involves only one set of tasks to be practised and then moving to the next set in an order, while interleaving involves multiple sets of tasks mixed in a simultaneous order for practice (Schmidt & Bjork, 1992). If a predictable order of difficulty and similarity of patterns are set for the three related language tasks- A, B, and C, for instance, then the

arrangement of these tasks for practice in blocking may be set in the order of AAA, BBB, and CCC. While, all these three similar language tasks if mixed and spaced for practice then the order- ABC, ABC, and ABC will be followed in case of interleaving. The language tasks undertaken for practice in a blocked schedule follow a sequence where no spaced sessions are introduced between the tasks, whereas the language tasks designed in the interleaved schedule include mixing and spacing (Nakata & Suzuki, 2019). It has been observed that in the initial phase of the interleaved practice, the utterances produced by the L2 learners were found to be faulty as their expressions had more phonological, grammatical, and lexical errors due to contextual interference (e.g., Kang & Pashler, 2012; Rohrer & Taylor, 2007; Schneider et al., 1998, 2002; Taylor & Rohrer, 2010), however, the study showed that in scheduling the L2 task repetition practice sessions, the interleaving method is more effective as it led to the long term retention of the L2 learners (Kang, 2016).

Speaking includes different components and among those components, L2 pronunciation is given little attention as it is not a widely studied area in L2 research (Munro & Derwing, 2011). With the advent of the Communicative Language Teaching approach, there has been a sudden shift in language teaching where focus and emphasis are laid much more on meaning than on form (Derwing & Munro, 2005). There is an upsurge in exploring the issues of L2 pronunciation as the Intelligibility Principle proposed by Levis (2005) gave a new dimension to L2 pronunciation where he has used the two principles- intelligibility and comprehensibility (Munro & Derwing, 1995). Over the last few years, researchers emphasized the scheduling of task repetition practices to examine its effect on the pronunciation performance of L2 learners (e.g., Carpenter & Mueller, 2013; Schneider et al., 1998, 2002). For instance, Carpenter and Muller (2013) conducted a study where they found that the participants grouped under blocked practice were able to recall more L2 pronunciation rules than those who were kept under the interleaving group. They concluded that blocked practice helped in the retention of learning L2 pronunciation rules compared to interleaving. It is worth mentioning

that blocking enables one to remember brief phonological features of the previous auditory item (Carpenter & Mueller, 2013) as knowledge of auditory-to-visual-mapping (Baddeley et al., 1975) is an important requirement in pronunciation activities.

The next component of speaking that has been broadly studied in L2 research is fluency (e.g., Freed et al., 2004; Lambert et al., 2017; Tavakoli et al., 2016). Skehen (2003) defined fluency in terms of speed, breakdown, and repetition in utterance which are its objective features. L2 learners can showcase their fundamental cognitive processes due to which fluency is considered as a doorway to L2 learners' thought processes. Fluency determines how competent the L2 learners are in executing, integrating, planning, and assembling the linguistic input (de Jong et al., 2013; Segalowitz, 2010; Tavakoli & Hunter, 2018). These studies related to L2 fluency have been characterized in terms of articulation rate, pause phenomena, turn-taking, collocation, or word sequences in speech (e.g., Saito et al., 2018; van Os et al., 2020; Saito, 2020) aiming either in classrooms by organizing short-term interventions or study-abroad settings (e.g., Freed et al., 2004; Lambert et al., 2017). Task repetition practices have been widely incorporated in L2 fluency studies. Some studies conducted on classroom-based instruction settings concerning L2 fluency found that scheduling of task repetition practices is one of the useful methods for the improvement of L2 fluency among learners (e.g., Ahmadian, 2011; de Jong & Perfetti, 2011; Suzuki, 2021; Tavakoli & Hunter, 2018; Thai & Boers, 2016). For instance, the effects of task repetition were studied by Suzuki (2021) where experimentation was conducted on 68 Japanese university students to check their English fluency performance. It was found that blocking enhanced their L2 fluency through an increase in the articulation rate and a decline in mid-clause pause duration in utterance (Suzuki, 2021).

Apart from pronunciation and fluency another significant, yet substantial attention has been given to the retention of L2 vocabulary and grammar studies (e.g.,

Lessard-Clouston, 2013; Lewis, 1993; Schmitt, 2010; Wilkin, 1972). Vocabulary has been defined by Lessard-Clouston (2013) as the words of a language, represented either as single units, phrases, or items of several words that carry a particular meaning. Wilkin (1972) called vocabulary the core or heart of a language. While, Corder (1988) defined grammar as the basic foundation of any language and the four skills inherent in it which are- listening, reading, writing, and speaking. The instructions set for L2 grammar typically emphasized the structure of a sentence and its pattern and also, the meaning use of the sentence according to varied speech situations. Both blocking (e.g., Pan et al., 2019) and interleaving (e.g., Miles, 2014; Nakata & Suzuki, 2019; Suzuki et al., 2022) yielded benefits when the effect of scheduling task repetition practices was observed. It was found that the two methods demonstrated specific advantages in retaining L2 vocabulary and grammar rules. On the contrary, Pan et al. (2019) could not report any specific benefits in their study in the initial phase using the interleaved method. They engaged the English-speaking students by developing certain retention exercises for learning Spanish grammar rules. The students were put into two conditions for that purpose- blocked and interleaved. In contrast to the initial phase of the study, the blocked practice method proved to be favourable in the post-test in the retention of L2 grammar (Pan et al. 2019).

Moreover, the stimulus appraisal (SA) theory is also taken into account for carrying out the present study. According to this theory, a quick situational assessment occurs in the human mind prior to the occurrence of an emotional experience with respect to a moment of thinking (e.g., Ellsworth, 2013; Lazarus, 1991; Roseman, 2013; Scherer, 2009). The assessment and understanding of the magnitude of the situation come quickly before the experience of the emotion of fear and the corresponding physical reaction of fight-or-flight, for example, when a bear is perceived to be close by (Arnold, 1960; Frijda, 1986; Lazarus, 1991). Based on the criteria of novelty, pleasantness, need significance, coping potential, and self/ norm compatibility, an individual's innate homeostatic, socio-static, and somatic value preferences and aversions serve as a filter to evaluate or assess a

stimulus as soon as they come into contact with a particular stimulus (Scherer, 1984). This appraisal system may have an impact on the motivational variability in the learning of an L2 by influencing the level of focus, determination, and effort an L2 learner is eager to put into language learning (Lavoué et al., 2020; Schumann, 2001). L2 classroom practices or a positive assessment of L2 may lead to L2 motivation in support of social associations because the various relation dynamics that function in an L2 classroom affect the L2 learners' sense of comfort and interest, leading to better effort in learning as well as performance (Schumann, 1998).

1.2. Statement of the Problem

Research has shown that extensive and deliberate repetition of tasks can lead to proceduralization and automatization of L2 knowledge (DeKeyser, 2007; Lyster & Sato, 2013). In addition, scheduling or manipulation of task repetition practices in L2 learning leads to the spacing effect, as observed in various studies (Bird, 2010; Nakata & Webb, 2016). Recent L2 studies have explored the effectiveness of scheduling or manipulation on L2 pronunciation (Carpenter & Mueller, 2013; Schneider et al., 1998, 2002) and fluency (de Jong & Perfetti, 2011; Tavakoli & Hunter, 2018; Thai & Boers, 2016), as well as the retention of L2 vocabulary and grammar rules (Miles, 2014; Nakata & Suzuki, 2019; Suzuki et al., 2022). Among the various task scheduling methods, blocking and interleaving are two of the most intently studied in L2 learning (Nakata & Suzuki, 2019; Soderstrom & Bjork, 2015; Suzuki, 2021; Suzuki & Sunada, 2020). In blocking, learners practice only one set of tasks, while multiple sets of tasks are practiced simultaneously in interleaving (Soderstrom & Bjork, 2015). For example, the instructor may arrange the three related language tasks of A, B, and C in a predictable order of difficulty and relatedness (AAA, BBB, and CCC) for practice in blocking. In contrast, the learners practice the same three language tasks in interleaving as ABC, ABC, and ABC by mixing and spacing the order of the tasks (Nakata & Suzuki, 2019). There is no spacing between the tasks in the blocked schedule, while there is a gap or spacing between the language tasks in the interleaved schedule. Although learners

may produce utterances with more phonological, grammatical, and lexical errors in the initial phase of interleaved practice due to contextual interference (Kang & Pashler, 2012; Schneider et al., 1998, 2002; Taylor & Rohrer, 2010), it has been reported that interleaved practice is a more effective method of scheduling L2 task repetition practice for long-term retention (Kang, 2016).

Recent studies have shown increased attention to the importance of second language (L2) pronunciation, with a focus on intelligibility and comprehensibility (Munro & Derwing, 1995) as main principles (Levis, 2005). One recent study investigated the effect of scheduling task repetition practices on L2 pronunciation performance (Carpenter & Mueller, 2013; Schneider et al., 1998, 2002). The study found that participants under blocked conditions retained more L2 pronunciation rules than those under interleaving. In L2 fluency studies, task repetition scheduling has been discussed as an effective way to improve fluency (de Jong & Perfetti, 2011; Suzuki, 2021; Tavakoli & Hunter, 2018; Thai & Boers, 2016). A study by Suzuki (2021) found that blocking increased the rate of articulation and decreased mid-clause pause duration in utterances. Additionally, studies have observed the benefits of L2 vocabulary and grammar retention through scheduling task repetition practices in blocking (Pan et al., 2019) and interleaving (Miles, 2014; Nakata & Suzuki, 2019; Suzuki et al., 2022). However, a study by Pan et al. (2019) found no specific benefits to interleaving in the initial stages of the study, with participants in the blocked condition performing better in L2 grammar retention in the post-test.

The studies on L2 pronunciation, fluency, vocabulary, and grammar have contributed to a better understanding of the issues. However, certain limitations have been observed in these studies (Carpenter & Mueller, 2013; de Jong & Perfetti, 2011; Miles, 2014; Nakata & Suzuki, 2019; Pan et al., 2019; Schneider et al., 1998, 2002; Suzuki, 2021, Suzuki et al., 2022; Tavakoli & Hunter, 2018; Thai & Boers, 2016). Firstly, the duration of training in most of these studies was short, which may have influenced the findings. Secondly, the speaking tasks selected for

practice in most studies were limited, and the participants may have resorted to rote memorization. Thirdly, most studies only administered a pre-test and post-test to assess the difference in effect, whereas additional language tests may provide important data about the variations in effect. To address these limitations, the present study aimed to measure the difference in effectiveness between blocking and interleaving on English pronunciation, fluency, and vocabulary and grammar performance of a blocked practice (BP) and an interleaved (IL) group in a three-month-long scheduled training sessions (STSs).

1.3. Research Objectives

To examine the difference in the performance as well as to measure the variations in the spoken skill proficiency of the L2 learners kept under IL and BP, the study intended to put forward the following four research objectives:

1. To measure the difference between IL and BP in their effect on English interaction, pronunciation, fluency, and vocabulary and grammar performance of the participants in the first two rounds of the scheduled training sessions (STSs).
2. To measure the difference between IL and BP in their effect on English interaction, pronunciation, fluency, and vocabulary and grammar performance of the participants in the final round of the STSs.
3. To measure the difference between IL and BP in their effect on the progression of English interaction, pronunciation, fluency, and vocabulary and grammar performance of the participants during the three rounds of the STSs.
4. To measure the difference between IL and BP in their effect on the progression of attitude and motivation of the participants towards learning English during the three rounds of the STSs.

1.4. The Research Questions of the Present Study

Considering these objectives, the following four research questions were framed for the study:

1. Is there any significant difference between IL and BP in English interaction, pronunciation, fluency, and vocabulary & grammar performance in the first two

rounds of the STSs?

2. Is there any significant difference between IL and BP in English interaction, pronunciation, fluency, and vocabulary & grammar performance in the final round of the STSs?

3. Is there any significant difference between IL and BP in English interaction, pronunciation, fluency, and vocabulary & grammar performance during the three rounds of the STSs?

4. Is there any significant difference between IL and BP in their effect on the progression of attitude and motivation of the participants towards learning English during the three rounds of the STSs?

1.5. Significance of the Study

The study may lay down certain important pedagogical implications. Firstly, the items arranged in a predictable order as per the difficulty level might be more beneficial for learning. Such an arrangement might enhance the interaction performance of the L2 learners rather than mixing all the skills through the interleaving method. Secondly, an attempt to disturb the arrangement of the predictable order for the creation of a novelty effect among the learners might not be fruitful. The introduction of the surprise element might not fit in where L2 learners would require detecting the retrieval of common structures among stimuli rather than identifying the discriminative contrast (e.g., Brunmair & Richter, 2019; Carpenter & Mueller, 2013; Dunlosky et al., 2013; Schneider et al., 1998, 2002). Lastly, the effect of desirable difficulty might lead to the long-term performance of the L2 learners if the effort is made considering the level of proficiency of the L2 learners. Thus, the initial training sessions might reduce the stress in the improvement of the interaction performance of the L2 learners in the L2 practice sessions. Moreover, the SA criterion of novelty may be difficult to maintain in a training program extending for a longer duration by a mere change in task scheduling. The novelty factor created by manipulating the sequence of language tasks may not last for a long time.

It is generally accepted that learners are taught topics or skills that are sorted in a pattern from simple to complex in academic settings. To be more specific, they thoroughly learn one skill before moving on to the next. The term blocked practice is used to describe this conventional method of learning. However, a new method has recently been studied called interleaving where all the topics are combined and arranged in a less predictable order. Studies on blocking and interleaving demonstrated that learning through the method of interleaving was significantly more effective than learning through the traditional method of practice, i.e., blocking.

In the context of L2 learning, the interleaved method has been proven to be successful. Specifically, in the learning of L2 grammar and vocabulary interleaving was found useful by numerous studies. Contrary to blocked practice, the rate of learning among the participants was faster and it also led to the improvement of their skills when kept in the interleaved condition. However, the interleaving technique hasn't been used for research on speaking skills at the tertiary level. This present study examined how English as a second language (ESL) participants improved their spoken language proficiency as a result of this new method of instruction.

An attempt was also made to examine the differences in tertiary-level speaking performance when applying either method- blocked practice and interleaving- in the task repetition sessions. By comparing the effects of the two techniques, it was possible to measure the proficiency level of the learners at the different stages of the program. The study also examined the variations in the L2 attitude and motivation of the participants over time.

To explore the importance of interleaving or its absence in L2 learning, the study also incorporated theoretical as well as practical support. It may open the door for further investigation of research in this field. Moreover, it may lead to the modelling of engaging strategies for teaching English-speaking skills that are

customized according to the needs, interests, and demands of learners at the tertiary level. The designing of an ESL course for Indian undergraduate ESL learners may also be beneficial.

1.6. Definition of the Key Terms

AMTB: The Attitude Motivation Test Battery (AMTB) was developed by Gardner to foresee L2 performance and learning outcomes and to measure the four main factors and their sub-units quantitatively. A set of statements are rated from least likely to most likely on a scale of 1-7 and, from strongly disagree to strongly agree on a 6-level Likert Scale by the participants in the test (Gardner, 2004, 2011).

Attitude: An attitude can be defined as a relatively persistent association of beliefs about a thing or a situation and, it influences one to react in a particular manner. An attitude can be unlearned so it is relatively enduring (Smith, 1971).

Blocked practice: It is a type of practice that takes place in a traditional classroom setting where students practice a set of skills that are organized according to the level of difficulty and arranged in a predictable order. Once they learn and acquire mastery over the skill through practice, they move on to the next set (Nakata & Suzuki, 2019).

CBSE: The Central Board of Secondary Education (CBSE) was established in 1929 which is the government of India's national level board of education for both public as well as private schools. The board was established by a government resolution as was an experiment in inter-state assimilation and collaboration in the area of secondary education (CBSE, 2012).

Contextual interference: The effect of contextual interference is a renowned phenomenon in motor learning. Interference occurs when multiple skills or different versions of a skill are practised during a particular practice session (Shea & Morgan, 1979).

Desirable difficulty: A learning task accompanied by a desired degree of effort is called desirable difficulty. This task enhances performance in the long term and is also termed as a learning level attained by practising a series of exercises followed

by feedback that promotes better learning and application of the skills (Derks & Bakker, 2013).

English as Second Language Learners (ESL): This term refers to the learning of English language by non-native speakers in an environment where people speak English (Nordquist, 2019). In the study, 44 ESL learners were recruited for their enhancement of English speaking skills.

Feedback (FB): A shortened version of attitude and motivation test battery has been used in this study. This shortened version is provisionally named as feedback (FB) in this dissertation for ease of reference.

Interleaving: It is the practice of mixing a set of skills and sequencing them in a way that makes learning less predictable. Interleaving may be more beneficial for learners because the skills are arranged in mixed and random order (Carpenter, 2014).

Motivation: The concept of 'motivation' and the desire to learn are interrelated to each other. The most common description of a learner's success or failure is motivation (Jodai et al., 2013).

Online Learning: It is defined as the learning experiences using various devices such as laptops, mobile phones, etc. with the help of internet in synchronous or asynchronous environments where students can study independently and engage with teachers as well as other students (Singh & Thurman, 2019). The online learning management system was adopted in the study using two Gsuite-based Google classrooms and two WhatsApp groups for immediate communication.

Second Language (L2): Any language that an individual speaks other than their first language or native language is an L2 (Nordquist, 2020). The participants expressed their desire to enhance their English speaking skills (as an L2) in the study.

Stimulus appraisal (SA): A psychological theory that states that emotions are a result of our evaluations of certain happenings that result in generating varied emotions in different people can be defined as stimulus appraisal. Our appraisal or evaluation of a situation affects an emotional or affective reaction that is based on that appraisal (Scherer et al., 2001).

Scheduled Task Sessions (STSs): A set of 48 practice sessions including 12 proficiency tests and various activities that were arranged in the sequence of blocking and interleaving based on a needs analysis of the participants.

The spacing effect: The term ‘spacing effect’ denotes the finding that learning episodes spaced out over time improve long-term memory and retention of facts rather than all taking place in massed sessions (Ebbinghaus, 1964).

Task-based Teaching Approach (TBLT): One of the many contemporary ESL teaching strategies that focuses on offering learners a goal to head forward in the form of an audio, video, report, or presentation is called a task-based teaching approach or TBLT (Kawasaki, 2021).

Tertiary level: All formal post-secondary education available in public and private colleges, universities, vocational schools, and institutes of technical training is referred to as tertiary level education/ tertiary education (Higher education, 2021). The tertiary level learners were 44 undergraduates between the ages of 18 and 19 years.

1.7. Organization of the Dissertation

There are six chapters in this dissertation. The theoretical context of the study, statement of the problem, the objectives of the study, the research questions, the significance of the study, and the definitions of the key terms are discussed in Chapter one of the dissertation.

Chapter two will be an examination of the literature related to the several researches done in the area of interleaving and blocking, and its impact on the four aspects of speaking under study- interaction, pronunciation, fluency, and vocabulary and grammar. Additionally, the effectiveness of these two task scheduling methods on the stimulus appraisal is thoroughly reviewed in this chapter.

The method of data collection will be explained elaborately in Chapter three of the study. An attempt is made to clearly illustrate the methodology section using proper tables and figures.

The results and interpretation of the data collected for the study will be presented in Chapter four. Tables and figures are used to present the findings and, the outcomes of the study from the data collected will be comprehensively explained in this chapter.

The four research questions of the current study related to the results and interpretation of the data are systematically discussed in Chapter five of the present study.

Chapter six will conclude on the findings of the research and discuss the pedagogical implications of the results, limitations of the study and recommendations for future research in this area.
