The Effects of Various Combinations of Form-Focused Instruction Techniques on the Acquisition of English Articles by Second Language Learners of English

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FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Abstract

Although English articles (the/a(n)) are two of the most frequently occurring words in the language, second language (L2) learners of English tend to exhibit extraordinary difficulty acquiring them. Uniquely resistant to instruction and often overlooked due to a lack of inherent meaning, articles are a suitable linguistic target for form-focused instruction (FFI), an approach that has demonstrated its efficacy over decades of research, across multiple domains of instructed L2 acquisition. With the aim of integrating attention to form into communicative L2 instruction, FFI encompasses numerous instructional techniques that promote various types of linguistic processing that contribute to L2 learning. The current study in particular focuses on three proactive FFI techniques—input enhancement, metalinguistic explanations, and practice—that sequentially facilitate noticing, awareness, and practice, respectively (Lyster, 2007, 2017; Ranta & Lyster, 2018). Targeting English articles, an experimental study was conducted to measure the differential effects of various combinations of the three FFI techniques, in order to examine the benefits attributable to each technique and its corresponding linguistic processing.

Forty-six L2 learners of English were randomly assigned to four conditions: input enhancement only (n = 12); input enhancement and metalinguistic explanations (n = 11); input enhancement, metalinguistic explanations, and practice (n = 11); and a control condition (n = 12). The L2 learners each completed six hours of online English lessons. The three treatment groups received instruction on English articles according to their respective condition, while the control group received general instruction with no focus on articles. The participants’ knowledge of English articles was measured by four tasks (i.e., grammaticality judgment task, metalinguistic knowledge task, elicited imitation task, and picture-description task) in a pretest, an immediate posttest, and a delayed posttest. Results showed that the group that received input enhancement
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and metalinguistic explanations exhibited clear and durable gains in the metalinguistic knowledge task after the lessons. Furthermore, a subset of participants who benefitted the most from the instructional treatment revealed two factors in common, which were their article-less native languages and a high level of participation during the lessons.

Based on these results, the present study contributes meaningfully to the current understanding of FFI and the L2 acquisition of English articles. In addition, it seeks to bring L2 research and L2 pedagogy one step closer together by offering evidence-based insights that further inform instructed L2 acquisition.
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Chapter 1: Introduction

Among the numerous approaches that have been proposed for second language (L2) instruction, form-focused instruction (FFI) has been widely acknowledged as an effective approach that promotes communicative competence and linguistic accuracy simultaneously. In addition to its theoretical coherence, extensive research on FFI has provided substantial evidence of its benefits for a wide range of L2 learning goals. The basic notion of FFI is the combination of both meaning and form in the learning environment, integrating some conscious focus on accuracy into a primarily communicative lesson. More precisely, FFI aims to focus an L2 learners’ attention on the linguistic properties of a target feature during instruction, with the intent of making that linguistic target salient to the learner and increasing its likelihood of being acquired. Hence, FFI is defined as any L2 instruction that involves some amount of implicit or explicit attention to language form (Loewen, 2020; Spada, 1997).

As suggested in its definition, FFI can be implemented with a variety of instructional techniques, which can be either pre-planned or occur spontaneously. Of these, some techniques in particular are thought to play distinct roles in facilitating specific types of linguistic processing that contribute to the acquisition of a linguistic target. Proposed by Ranta and Lyster (2018), three such FFI techniques are input enhancement, metalinguistic explanations, and practice, which respectively facilitate L2 learners’ noticing, awareness, and practice.

Input enhancement, by pre-emptively manipulating the visual presentation of specific target forms within textual input, facilitates the initial noticing of target forms. Metalinguistic explanations help establish declarative knowledge and awareness of the linguistic target by providing explicit instruction. Practice, by pushing learners to use the target form in meaningful output, aims to proceduralize the declarative knowledge of the target form. While the effects of these FFI techniques have been studied one at a time (e.g., Alsadoon & Heift, 2015; LaBrozzi,
2016; Sato & McDonough, 2019) as well as in the aggregate (e.g., Gooch et al., 2016; Lee & Lyster, 2016), no study to date has investigated the potential benefits resulting from various combinations of the three instructional techniques. Thus, the current study attempted to address this research gap.

Against this backdrop, it is hypothesized that while L2 instruction employing input enhancement may increase the noticing of the target forms, the addition of metalinguistic explanations will further increase learners’ knowledge of the linguistic target. By the same token, FFI that includes practice in addition to input enhancement and metalinguistic explanations is expected to yield even more benefits by further reinforcing learners’ knowledge. Hence, with the aim of obtaining concrete empirical evidence that can be specifically attributed to each FFI technique, the current study sought to measure the effects of three different combinations of FFI on English articles as follows: input enhancement alone, input enhancement followed by metalinguistic explanations, and input enhancement, metalinguistic explanations, then practice.

The linguistic target selected for the current study is the English article system. The definite article *the* and the indefinite article *a(n)* are two of the most frequently occurring words in the English language (Corpus of Contemporary American English, 2008-). But despite their ubiquity, articles are extremely complex and notoriously difficult to acquire for even highly advanced L2 learners of English (DeKeyser, 2005; Robinson, 2010; Spada & Tomita, 2010), and research findings seem to corroborate this notion. Hence, not only does the instruction of articles warrant inquiry into improving pedagogical practices, articles are an especially suitable linguistic target for FFI, an approach that deliberately seeks to draw attention to low-salience target forms that may otherwise go unnoticed by learners.
To test the aforementioned hypotheses, an experimental study was conducted. A total of 46 L2 learners of English were randomly assigned to one of four groups (input enhancement only; input enhancement and metalinguistic explanations; input enhancement, metalinguistic explanations, and practice; and control) and each completed six 1-hour online lessons that implemented their respective condition. The participants also completed a pretest, an immediate posttest, and a delayed posttest, each of which consisted of four tasks to measure their various knowledge of English articles.

The current study is expected to provide both the academic community of applied linguists and the professional community of L2 educators with significant theoretical and practical implications. For instance, given the distinct linguistic processing that each FFI technique promotes, a deeper understanding of the role and the amount of impact of each technique would shed light on the relative importance of each cognitive process in L2 acquisition. The current study also hopes to yield empirical evidence that informs L2 pedagogy, while preserving ecological validity by targeting a linguistic feature that truly requires further examination with respect to the limits and potentials of its instruction.

**The Structure of the Thesis**

This thesis consists of six chapters. Following the current chapter’s brief introduction of the current study, Chapter 2 presents a review of the existing research pertaining to FFI, with further elaboration on the three specific FFI techniques and their theoretical underpinnings. Then a literature review on English articles is provided, followed by the motivation and research question of the current study. Chapter 3 details all the components of the methodology of the current study, including the participants, procedure, instructional treatment, testing instruments, and data analysis. Chapter 4 reports the results of the current study in two parts. The first part
focuses on the statistical analysis of the results of all the participants, and the second part provides the findings of a secondary analysis conducted on a selected subset of participants. Chapter 5 discusses the results of the current study along with potential explanations for the outcomes. Then, overall pedagogical implications and suggestions for future research based on the limitations of the current study are provided. Chapter 6 finally concludes the thesis with a concise summary of the current study and its findings, as well as final considerations.
Chapter 2: Literature Review

This chapter summarizes a review of existing literature in the areas of FFI and English articles. The first section begins with a discussion of the overall effects of FFI found in previous L2 research then elaborates on the theoretical foundations and previous studies pertaining to each of the individual FFI techniques implemented in the current study. The second section addresses the rationale for selecting English articles as the linguistic target and outlines their linguistic characteristics, including a specific framework of articles that organizes all their uses. Then, a review of previous research conducted on the L2 instruction of articles is provided. The third section concludes the chapter by presenting the motivation of the current study and its research question.

The Effects of Form-Focused Instruction

In instructed L2 acquisition, FFI refers to language instruction that involves varying degrees of attention to form, with the objective of making a linguistic target more likely to be acquired in a generally meaning-focused setting. Spada (1997) prominently defined FFI as “any pedagogical effort which is used to draw the learners’ attention to language form either implicitly or explicitly” (p. 73), which reinforces that attention to form can be achieved in a wide variety of ways during instruction. FFI has been an area of significant interest in both L2 pedagogy and research (see Ellis, 2001), and its benefits have been extensively documented across multiple domains, such as grammar (Akakura, 2012; Shintani, 2015; Sippel, 2021; Xu & Li, 2021; Xu & Lyster, 2014; Yang & Lyster, 2010), vocabulary (Laufer & Girsai, 2008; Shintani, 2013; Sippel, 2019; Tsai, 2020), pronunciation (Gooch et al., 2016; Lee & Lyster, 2016; Saito & Lyster, 2012; Wisniewska & Mora, 2020), and pragmatics (Bardovi-Harlig et al., 2015; Nguyen et al., 2012; Sánchez-Hernández & Martínez-Flor, 2022; Takimoto, 2006). In addition, a meta-analysis of 54
studies spanning over 35 years (Kang et al., 2019) also strongly validates the effectiveness of FFI.

However, empirical evidence from classroom studies (e.g., Lyster et al., 2013; Nassaji, 2010; Sheen, 2004) indicates significant variation in the occurrence of FFI across L2 classrooms. In other words, despite the ample evidence of its effectiveness, the wide range of FFI techniques does not seem to be utilized to its full potential, highlighting a gap between research and practice in the field of instructed L2 acquisition. A way to bridge this gap may be to emphasize that “FFI is not a monolithic concept but rather a cover term for a range of pedagogical techniques” (Ranta & Lyster, 2018, p. 42). Conceptualizing FFI as the implementation of practical techniques that already exist in instructors’ pedagogical repertoires would make FFI more accessible to practitioners and encourage wider use of FFI in the L2 classroom. To this end, Ranta and Lyster (2018) provided an overview of proactive FFI techniques, based on Lyster’s (2007) operationalization of proactive and reactive FFI. On the one hand, proactive FFI is characterized as pre-planned instruction that aims to facilitate the acquisition of linguistic targets that may otherwise go unnoticed. Lyster (2007, 2017) suggests implementing proactive FFI as a sequence of instructional techniques, which specifically enables learners’ noticing, awareness, then practice of the target form. Reactive FFI, on the other hand, encompasses instructors’ spontaneous corrective feedback in response to errors made by learners in their output. Under proactive FFI, the foundation of the current study, Ranta and Lyster (2018) highlight three major categories of instructional techniques: input enhancement, metalinguistic explanations, and practice, each of which is discussed in further detail.
Input Enhancement

The Noticing Hypothesis (Schmidt, 2001) posits that the first necessary step in L2 acquisition of a linguistic feature is for learners to notice it in input and pay attention to it. Based on this theoretical underpinning, input enhancement aims to stimulate the initial noticing of target forms by L2 learners. To draw learners’ attention to a linguistic target, input enhancement employs typographical devices such as underlining, bolding, or increasing the font size of target forms within textual input, making the target forms more visually prominent and thus more likely be noticed. The desired effect of this technique is increased salience of the typographically enhanced target form, that is, for learners to regard the target form as a feature worthy of their attention.

As for the empirical efficacy of input enhancement, although some studies have reported its positive effects (Alsadoon & Heift, 2015; Labrozzi, 2016; Lee & Révész, 2018, 2020; Rassaei, 2020), a larger portion of previous research indicates limited effects of input enhancement on L2 learning (Chung & Révész, 2021; Cintrón-Valentín & García-Amaya, 2021; Lee, 2021; Lee & Huang, 2008). Further, Leow and Martin (2017) revealed that 78.3% of the studies reviewed failed to report any significant benefits of enhanced over unenhanced input. Yet, eye-tracking data indicate that input enhancement does lead to more noticing of target forms, as evidenced by learners’ longer gaze durations and rereading times (Alsadoon & Heift, 2015; Issa & Morgan-Short, 2019; Lee & Révész, 2018, 2020; Winke, 2013). Hence, the evidence is consistent with the notion that while input enhancement may effectively trigger noticing, noticing alone “does not guarantee [the target forms] will be incorporated into [learners’] developing interlanguage” (Ellis, 2001, p. 8), which has been echoed by several other studies (e.g., Meguro, 2019; Labrozzi, 2016; Rassaei, 2020; Szudarski & Carter, 2016; Winke,
In addition, the effectiveness of input enhancement can be influenced by a variety of factors, such as the format of textual enhancement (i.e., types and number of typographical cues) (Labrozzi, 2016; Simard, 2009) as well as the target form and learners’ first language (L1) backgrounds (Révész et al., 2021). Given the distinct but finite function that it seems to serve in L2 learning, numerous researchers (e.g., Han et al., 2008; Indrarathne & Kormos, 2017; Lee, 2021; Leow & Martin, 2017) have suggested that the efficacy of input enhancement would increase when implemented in conjunction with other instructional techniques, such as those introduced below.

**Metalinguistic Explanations**

Metalinguistic explanations use explicit metalanguage or exaggerated models of target language forms to provide facts and rules about a linguistic target. Skill Acquisition Theory (DeKeyser, 1998, 2001, 2015; Lyster & Sato, 2013) refers to such facts and rules as declarative knowledge—a type of knowledge that learners are aware of and can verbalize. Metalinguistic explanations establish declarative knowledge of the linguistic target and facilitate the awareness phase of Lyster’s (2007, 2017) instructional sequence, in which learners “reflect on and manipulate the target forms in a way that helps them to develop or restructure their explicit knowledge representations” (Ranta & Lyster, 2018, p. 49).

The effectiveness of metalinguistic explanations has been largely supported by previous research. In addition to the seminal meta-analyses (Norris & Ortega, 2000; Spada & Tomita, 2010) that both emphasized the positive effects of explicit instruction on L2 acquisition, numerous later studies (e.g., Akakura, 2012; Hu, 2011; Indrarathne & Kormos, 2017; Shintani & Ellis, 2013; Shintani et al., 2014, 2016; Snape et al., 2016; Umeda et al., 2019) presented compelling evidence of the role of metalinguistic explanations in improving learners’ explicit L2
knowledge. Yet, it is worth noting that of these studies, clear durable gains were seen in only three of the studies (Akakura, 2012; Shintani et al., 2016; Snape et al., 2016). The bulk of the remaining studies found that the knowledge and learning gains resulting from metalinguistic explanations remained explicit and were short-term. In other words, similar to the implications discussed in the previous section regarding input enhancement, metalinguistic explanations seem to promote awareness, but it remains tentative whether awareness on its own is sufficient for developing implicit, long-term L2 knowledge. Furthering this notion, Shintani (2019) investigated the effects of practice in addition to metalinguistic explanations, compared to metalinguistic explanations alone. The study found that metalinguistic explanations combined with practice not only yielded the greatest improvement in learner performance but also resulted in durable learner gains. This finding in particular is a case in point of Ranta and Lyster’s (2018) assertion that practice helps reinforce learners’ metalinguistic awareness by prompting the use of the target form in output, resulting in proceduralized knowledge of the linguistic target.

**Practice**

Practice, the third FFI technique in Ranta and Lyster’s (2018) typology, aims to engage learners in communicative but repetitive activities that directly require the use of the linguistic target. The idea that practice is an integral step in L2 learning is not only compatible with the Output Hypothesis (Swain, 1985, 1995), which emphasizes the role of learners’ attempts at comprehensible output, it is also supported by Skill Acquisition Theory (DeKeyser, 1998, 2001, 2015; Lyster & Sato, 2013). The latter theoretical underpinning holds that execution of a target skill turns that skill “into a behaviour, turning ‘knowledge that’ into ‘knowledge how’” (DeKeyser, 2015, p. 95), or in relevant terms, turning declarative knowledge into procedural knowledge. Following DeKeyser’s (1997) substantiation of this notion, extensive research has
also highlighted L2 knowledge as one of many types of cognitive skills (e.g., mathematics or computer programming) that can be proceduralized through practice, some instances of which are discussed below.

With respect to practice in instructed L2 acquisition, a major focus of research is the temporal distribution of practice, that is, whether practice is implemented in a mass chunk or distributed among multiple sessions, along with the extent of their spacing. The results have been mixed, with findings in favour of distributed over massed practice (Li & DeKeyser, 2019) as well as those reporting no significant benefits of either type of distribution (Bird, 2010; Rogers, 2015). Also, while Suzuki (2017) found that practice implemented more frequently (three times per week) was more effective and durable than less frequent (once per week) practice, Serrano and Huang (2018) reported more immediate gains for daily practice but more durable gains for weekly practice. Others have examined the distribution of target items within practice (i.e., same types of items practiced together or in an interleaved order), with Nakata and Suzuki (2019) revealing significant benefits of interleaved practice as well as Suzuki and Sunada (2020) reporting a hybrid of blocked and interleaved practice as the most beneficial.

While the research introduced above seems somewhat unrelated to the meaning-focused, communicative aspect of practice that FFI prioritizes, some pertinent conclusions can still be drawn from these studies. For instance, two studies that investigated the effects of various formats of practice found retrieval practice, in which participants learn something first then retrieve that knowledge, to be significantly more effective than trial-and-error (i.e., guessing then receiving corrective feedback) (Strong & Boers, 2019) or word writing practice (i.e., repeated copying of novel vocabulary) (Candry et al., 2020). In light of the evidence that learners who practiced retrieving previously established knowledge fared better than those trying to establish
that knowledge through practice, these findings indirectly support Skill Acquisition Theory (DeKeyser, 1998, 2001, 2015; Lyster & Sato, 2013) by underscoring the necessity of prior declarative knowledge for practice to be constructive.

In terms of practice as an FFI technique, it is important to differentiate communicative, meaning-focused production practice from decontextualized or highly controlled practice that is commonly associated with grammar exercises. Though both play a role in L2 acquisition, Ranta and Lyster (2018) assert that to be effective, the former type of practice should be qualitatively and quantitatively distinct from the latter, with “the potential to promote transfer-appropriate processing of the target forms by means of spontaneous and contextualized practice” (p. 48).

Lightbown (2019) also noted that while most approaches to classroom L2 instruction align with the idea that practice is essential for L2 learning, meaningful interaction and emotional engagement are critical for effective practice. Sato and McDonough (2019) illustrated this point by demonstrating the beneficial effects of contextualized practice, defined as “a type of practice that occurs in an intact classroom where learners engage in production that is transfer appropriate to authentic, communicative language” (p. 1,004). Furthermore, the positive effects of interactive practice were also revealed by McDonough and Sato (2019), further emphasizing the importance of attending to both meaning and form in L2 instruction.

The current section discussed previous research on FFI and outlined its overall usefulness as well as three specific FFI techniques (i.e., input enhancement, metalinguistic explanations, and practice), their respective theoretical rationale, and empirical evidence of their effectiveness. Taken together, the research provides a solid foundation for a sound approach to the L2 instruction of a uniquely challenging but important linguistic target, which is discussed in the following section.
Linguistic Target: English Articles

Ranta and Lyster (2018) list several criteria of properties that make a linguistic target particularly suitable for FFI. As the aim of FFI is to bring learners’ attention to language forms or patterns that would otherwise go unnoticed during meaning-focused instruction, Ranta and Lyster (2018) assert that morphosyntactic features with low salience and low communicative value are fitting targets for FFI. One linguistic target that aptly fits this characterization is the English article system.

Challenges in L2 Acquisition of English Articles

Articles encompass the definite article *the*, the indefinite article *a(n)*, and the zero (*Ø*). In oral discourse, articles are typically unstressed and difficult to discern for L2 learners (Master, 2002). Furthermore, because articles carry no inherent meaning on their own (Robinson, 2010), they hold relatively little communicative value, which is reflected in the fact that errors in article use rarely impede meaning in communication. Such characteristics make articles not only unlikely to be noticed by learners during the input processing stage (VanPatten, 1996), but also unlikely to be regarded by learners as very important to understand or use correctly (Chan, 2016). In addition to low salience and low communicative value, the difficulty in acquiring articles stems from the complex system of multiple functions that are mapped to single morphemes (i.e., *the* and *a(n)*). According to Master (2002), this complexity burdens L2 learners, who tend to rely on a one-form-one-function correspondence during earlier stages of acquisition. Hence, it is clear why articles are notoriously difficult to master for L2 learners of English, especially for those whose L1s do not have article systems (DeKeyser, 2005; Lee et al., 2018).

 Nonetheless, the acquisition of articles is and should be regarded as a high-priority objective. Articles are ubiquitous in the English language, with *the* and *a(n)* currently being first
and fourth, respectively, on the list of the most frequently occurring words according to the Corpus of Contemporary American English (2008-). Though they themselves do not carry any meaning, articles play a vital role in the expression of complex and abstract notions, requiring precise and accurate use. Even in highly advanced L2 learners of English (Butler, 2002; Master, 1997, 2002; Robinson, 2010; Sheen, 2007) who have acquired most other elements of English, article errors “reveal an imperfect control of the language” (Master, 1997, p. 216), thereby distinguishing the accurate use of articles as an indicator of true nativelike proficiency.

**Linguistic Complexity**

Researchers have attempted to capture the complexity of articles and have identified numerous classifications and uses for each type of article. For instance, definiteness, a semantic property of a noun phrase (NP) that warrants the use of the definite article *the*, has been explained as givenness (Master, 2002), presupposition (Ionin et al., 2004), and information shared by the speaker and hearer (Chung, 2009). Various uses of the definite article have been further broken down into subcategories. The first is the generic use of *the*, in which a NP signifies a species, a race, or people of a nation (Liu & Gleason, 2002), or an entire kind of a referent (Ionin et al., 2011). For example, *The lion usually hunts alone* can be used to make a general statement about lions as a kind. The other, non-generic, use of the definite article has been further categorized into subtypes based on convention, context, and modifiers accompanying the NP. In addition, numerous researchers (Chung, 2009; Hawkins, 1978; Yoo, 2009) have identified various other uses of the definite article, encompassing anaphoric (previous mention), associative, situational, and conventional (or cultural) knowledge.

In the overall realm of articles, some other semantic features of NPs to consider include specificity, concreteness, abstractness, and countability. Specificity reflects the speaker’s
knowledge and intent to refer to a particular referent that possesses “some noteworthy property” (Ionin et al., 2004, p. 5). To illustrate, *I need a car* refers to a non-specific car, whereas *I bought a car* expresses information about a specific referent (i.e., the particular car that the speaker bought). With respect to concreteness and abstractness, concrete NPs denote tangible items with physical properties, whereas abstract NPs name “a quality, an attribute, a feeling, or an idea that cannot be seen or touched” (Amuzie & Spinner, 2013, p. 416). Countability distinguishes NPs on a continuum of boundedness (Amuzie & Spinner, 2013), ranging from discrete items with clear boundaries that can be counted and pluralized (Master, 2002), such as *bottle, country, or idea*, to less countable NPs such as *plastic, safety, or equipment*.

This summary of semantic properties that guide article choice provides an overview of the sheer complexity that is stacked onto a single morphological expression. Adding to the difficulty for L2 learners, as Master (2002) asserts, is the high frequency of articles, which makes constant conscious application of rules arduous over a large quantity of input. Consequently, acquisition of articles by L2 learners remains “strongly resistant to instructional treatments” (DeKeyser, 2005, p. 5), and because the L2 instruction of articles is difficult, it is often overlooked (Robinson, 2010). Even when articles are taught, most coursebooks focus only on definiteness (Lopez & Sabir, 2019). A survey of grammar coursebooks by Yoo (2009) also revealed that while anaphoric use is the definite article function that is most highlighted in coursebooks, corpus findings indicate that it actually occurs less frequently than situational and cataphoric (i.e., postmodification) uses.

Of the many uses and characteristics of articles posited, one classification system in particular stands out as a relatively uncomplicated framework of rules that encompasses all the uses of articles in the English article system. This rule system, outlined by Bickerton (1981) and
later employed by Liu and Gleason (2002), involves two discourse features of NPs that determine article choice. As previously mentioned, articles contain no inherent meaning; the use of a specific article is determined by the semantic function of the NP that follows that article (Liu & Gleason, 2002; Master, 1990). For example, the difference between *I saw a man* and *I saw the man* lies in what *man* means in the discourse and specific context, or more specifically, whether the speaker thinks *man* is known or unknown to the hearer. According to Bickerton (1981), there are two binary discourse features that determine the semantic function of NPs: specificity and definiteness. Liu and Gleason (2002) denote specificity as “whether a noun is a *specific referent* [emphasis added] (± SR)” (p. 2) that is referring to a specific entity. The other feature of NPs, definiteness, means presumed known to the listener, whether by prior knowledge, uniqueness in the universe, uniqueness in a given setting, or “general knowledge that a named class exists” (Bickerton, 1981, p. 147). Bickerton (1981) refers to this binary discourse feature as *hearer knowledge* of a referent, notated as (± HK). Framed this way, the two binary features form four categories of semantic functions of all NPs, which Huebner (1983) presented as shown in Figure 1:

**Figure 1**

Liu and Gleason (2002) further elaborated on each of the four categories and their corresponding articles, as summarized in Table 1:

**Table 1**

<table>
<thead>
<tr>
<th>Category</th>
<th>Semantic Type</th>
<th>Article</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-SR, +HK]</td>
<td>Generics</td>
<td><em>the</em>, <em>a</em>(n), or Ø for plurals</td>
<td><em>a/the tiger is a fierce animal</em></td>
</tr>
<tr>
<td>[+SR, +HK]</td>
<td>Definite</td>
<td><em>the</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents conventionally considered unique</td>
<td><em>the Pope</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents physically present in the discourse situation</td>
<td><em>Pass the salt</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents previously mentioned in the discourse</td>
<td><em>I was showering when the water stopped</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents assumed to be known to the hearer</td>
<td><em>the principal wants to see you</em></td>
</tr>
<tr>
<td>[+SR, -HK]</td>
<td>First mention</td>
<td><em>a</em>(n) or Ø for plurals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I bought a new car</em></td>
<td></td>
</tr>
<tr>
<td>[-SR, -HK]</td>
<td>Indefinite</td>
<td><em>a</em>(n) or Ø for plurals</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>He is a doctor</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>I don’t have a pen</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Do you have a pen?</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>If I won the lottery, I would buy a yacht</em></td>
<td></td>
</tr>
</tbody>
</table>

Once the category under which a given NP falls is determined, the correct article that accompanies that NP can be narrowed down, according to Figure 1 based on Bickerton’s (1981) classification system. Rather than grappling with confusing aforementioned concepts such as definiteness, genericity, or abstractness, this system allows learners to focus only on specific referent and hearer knowledge to determine which article to use. Owing to its clear and comprehensive qualities, numerous other studies (e.g., Butler, 2002; Ionin et al., 2004; Sun, 2016) have cited or employed Bickerton’s (1981) classification system as an exemplary model, some of which are addressed below.
Research on L2 Acquisition of English Articles

Much of the recent L2 research on articles has been primarily descriptive in nature, focusing on aspects such as the order of acquisition (e.g., Chung, 2009; Lee, 2013; Liu & Gleason, 2002; Sun, 2016), the role of L1 (e.g., Crosthwaite, 2016; Ionin et al., 2008; Ionin & Montrul, 2010), learners’ knowledge of and perceptions toward articles (e.g., Butler, 2002; Chan, 2016), and existing L2 pedagogy of articles (e.g., Lopez & Sabir, 2019; Yoo, 2009). Specific characteristics that commonly cause difficulty for L2 learners have also been examined, such as noun countability (e.g., Amuzie & Spinner, 2013; Liu & Lu, 2020; Tsang, 2017). While far from exhaustive, these studies collectively indicate the enormous effort exerted toward understanding articles from the L2 acquisition perspective.

Experimental research on the instruction of articles has been relatively scarce, with mixed results. For instance, Hinenoya and Lyster (2015) compared the instruction of two different metalinguistic concepts, identifiability and accessibility, on the acquisition of definite article usages. While the group that received metalinguistic instruction on accessibility, which emphasized conceptual connections, significantly outperformed the group receiving instruction on identifiability, which focused on more traditional semantic concepts, both groups benefitted from the metalinguistic instructional treatment, with gains durable two weeks later. Akakura (2012), after three instructional sessions providing metalinguistic explanations on the generic and non-generic use of articles to upper-intermediate and advanced L2 learners, reported robust effects of instruction, which were durable six weeks later. Similarly, Snape et al. (2016), who provided nine weekly lessons of metalinguistic explanations on the same linguistic target to learners of the same proficiency as those in Akakura (2012), revealed that learners who received instruction including metalinguistic explanations significantly outperformed the control group,
with the explicit knowledge lasting for 12 weeks. However, when the same group of participants in Snape et al. (2016) were tested again one year later in Umeda et al. (2019), no long-term effects of the original instruction were found. Lopez (2019), targeting the specificity of articles, provided three instructional sessions consisting of metalinguistic explanations, guidance for article choice, and practice exercises accompanied by group discussions. However, the study revealed no benefits of instruction, citing the low proficiency of its participants, the complexity of the linguistic target, and the small amount of instruction as contributing factors. Based on these findings, it seems that L2 instruction of articles is likely more successful with advanced learners, which is consistent with Master’s (1997) assertion that sustained focus on articles is not worthwhile at low levels of proficiency. Thus, many questions still remain with respect to various other factors that may positively or negatively impact the L2 acquisition of English articles.

So far, this section provided a thorough account of the linguistic characteristics of the English article system as well as the challenges they pose for L2 learners. While countless aspects of this linguistic target have been examined in L2 research, recent studies on the instruction of English articles continue to suggest a need for further research that focuses on pedagogical strategies that promote learning. To that end, the motivation of the current study is detailed in the following section.

**Motivation of the Current Study**

As discussed so far in the current chapter, previous research indicates that (a) proactive FFI techniques can effectively activate linguistic processing essential to L2 acquisition and (b) articles are particularly difficult to teach to L2 learners of English. The low salience and low communicative value of articles, along with their complexity that makes instruction difficult,
make articles a suitable and intriguing target for FFI. Accordingly, the current study aims to investigate the effects of Ranta and Lyster’s (2018) proactive FFI techniques on the L2 acquisition of articles. As posited by Ranta and Lyster (2018), input enhancement directly impacts the noticing of the target form, the first necessary step in L2 learning. Furthermore, providing explicit instruction of the grammar rule (i.e., metalinguistic explanations) after learners have noticed the target form ensures an immediate benefit of awareness of the linguistic target. Then, after learners have developed targetlike declarative knowledge of the linguistic target, they can proceduralize that knowledge for fluent use through practice. This sequence of linguistic processing, which aligns with the instructional sequence proposed by Lyster (2007, 2017), serves as the theoretical foundation of the current study.

Many studies have explored the three FFI techniques outlined by Ranta and Lyster (2018). However, it bears highlighting that those studies focused either on single techniques individually or on all of the techniques together. For instance, some studies have examined the effects of only input enhancement (Alsadoon & Heift, 2015; LaBrozzi, 2016, Nguyen et al., 2017) in addition to numerous earlier studies that have been sampled in meta-analyses (Han et al., 2008; Lee & Huang, 2008). A number of studies have also focused on the role of only metalinguistic explanations (Ellis et al., 2006; Gutiérrez, 2013a; Hu, 2011; Serrano, 2011). In a few studies (Cintrón-Valentín & Ellis, 2016; Ghasemi & Vaez-Dalili, 2019; Lyddon, 2011), input enhancement and metalinguistic explanations were both tested, but in separate experimental groups. Indrarathne and Kormos (2017) examined the effects of input enhancement and metalinguistic explanations together but did not include practice. Similarly, while Lopez (2019) and Shintani (2019) focused on the combination of metalinguistic explanations and practice, input enhancement was excluded. Some studies (Gooch et al., 2016; Lee & Lyster,
2016; Lyster, 2004; Saito & Lyster, 2012) implemented all three FFI techniques together in their
instructional treatments. However, given that each FFI technique targets distinct linguistic
processing that develops distinct types of L2 knowledge as explained above, it remains to be
seen what the differential effects of each technique might be.

To the best of my knowledge, no study to date has examined the effects of various
combinations of the three proactive FFI techniques. The current study therefore sought to
investigate (a) the effects of noticing; (b) the increased effect of metalinguistic explanations in
addition to noticing; and (c) the maximized effect of practice in addition to noticing and
metalinguistic explanations. Drawing on Schmidt’s (2001) Noticing Hypothesis, the
enhancement of non-salient linguistic forms (i.e., articles) in input is expected to enable learners
to notice the target forms, activating their attention to articles, which in turn serves as scaffolding
for successful acquisition. However, as studies on input enhancement have shown (Meguro,
2019; Labrozzi, 2016; Rassaei, 2020; Szudarski & Carter, 2016; Winke, 2013), noticing from
input enhancement alone may not be enough to facilitate L2 acquisition. Learners’ attention to
the target forms needs to be accompanied by metalinguistic explanations that develop the
learners’ explicit awareness of those forms. Hence, it is hypothesized that metalinguistic
explanations in addition to input enhancement will increase learners’ acquisition by establishing
their declarative knowledge of articles. The third hypothesis of the current study draws on Skill
Acquisition Theory (DeKeyser, 1998, 2001; Lyster & Sato, 2013) and the Output Hypothesis
(Swain, 1985, 1995), expecting that opportunities to practice using articles will maximize L2
acquisition by proceduralizing the learners’ declarative knowledge of articles. To test these
hypotheses, an experimental study was conducted with the aim of answering the following
research question:
To what extent does each of the following combinations of FFI techniques improve L2 learners’ accuracy in the use of articles: (a) input enhancement only; (b) input enhancement and metalinguistic explanations; (c) input enhancement, metalinguistic explanations, and practice?

This chapter presented a review of literature on FFI and English articles that clearly established the motivation of the current study. The following chapter describes in detail the methodology employed in an attempt to answer the research question above.
Chapter 3: Methodology

This chapter details the methodology of the current study, comprising the participants, the overall procedure including the various treatment conditions and testing instruments, and data analysis.

Participants

To conduct the current study, participants were recruited via various platforms, in particular the social media accounts of educational institutions in Ontario such as Brock University and Sheridan College, as well as a few ESL-related groups on Facebook. Once the participants were recruited, they all provided their informed consent (see Appendix A) and completed a participant background questionnaire (see Appendix B), both via Qualtrics, an online survey platform. A total of 46 adult L2 learners of English (16 males; 30 females) participated in the study. The age of the participants ranged from 19 to 50 years old, with an average of 32.7 years ($SD = 9.18$). According to their responses to the questionnaire, the L2 participants had been studying English for an average of 10.8 years ($SD = 7.09$), and the English proficiency that each participant self-reported all fell between intermediate and advanced levels. The participants came from a variety of L1 backgrounds, shown in Table 2:

Table 2

<table>
<thead>
<tr>
<th>L1</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandarin</td>
<td>9</td>
</tr>
<tr>
<td>Arabic</td>
<td>8</td>
</tr>
<tr>
<td>Korean</td>
<td>7</td>
</tr>
<tr>
<td>Portuguese</td>
<td>7</td>
</tr>
<tr>
<td>Spanish</td>
<td>6</td>
</tr>
<tr>
<td>Hindi</td>
<td>2</td>
</tr>
<tr>
<td>Tagalog</td>
<td>2</td>
</tr>
<tr>
<td>French</td>
<td>1</td>
</tr>
<tr>
<td>Japanese</td>
<td>1</td>
</tr>
</tbody>
</table>
Thirty-nine of the participants were residing in Canada at the time of data collection, with an average length of residence of 3.4 years (SD = 4.15) and ranging between six months and 19 years. The remaining seven learners participated from other countries, namely the Dominican Republic, Brazil, India, and China. The participants also had a diverse pool of occupations at the time of the study, ranging from students to stay-at-home parents to highly specialized professionals such as accountants, optometrists, and surgical assistants.

In addition, 12 native speakers of English (1 male; 11 females) contributed to the current study as baseline participants. Their average age was 25.3 years (SD = 8.67), and they were all either students at or recent graduates from Brock University at the time of the study. Also, there were five additional native speakers of English who served as native speaker raters of the L2 participants’ recorded oral responses. These five raters were all female with an average age of 21 years (SD = .63), recruited from Brock University’s Department of Applied Linguistics. With the exception of one rater who had recently graduated from the undergraduate program, they were all entering their fourth year as undergraduate students at the time that they served as native speaker raters.

**Procedure**

The current experimental study consisted of four steps: a pretest, the instructional treatment, an immediate posttest, and a delayed posttest. All L2 participants completed a pretest, after which they received six 1-hour online lessons specifically designed for this study. Following the instructional treatment, they completed an immediate posttest, and then a delayed posttest two weeks later. The 12 native English speakers serving as baseline participants each
completed a testing session identical to the pretest. The purpose of including the native speakers was to ensure that the tasks reliably assessed knowledge of the linguistic target rather than non-linguistic knowledge. Being native speakers of English, the baseline participants were expected to demonstrate high scores in the tasks. After data were collected from the L2 participants and the baseline participants, the five aforementioned native speaker raters listened to and provided scores for all recordings of the oral production tasks employed in the testing sessions of the current study. The details of the instructional treatment and the tasks are as follows:

**Instructional Treatment**

The instructional treatment consisted of six 1-hour online English language lessons. The 46 L2 participants were randomly assigned into one of the following conditions: (a) article instruction using input enhancement only \( (n = 12) \); (b) article instruction using input enhancement and metalinguistic explanations \( (n = 11) \); (c) article instruction using input enhancement, metalinguistic explanations, and practice \( (n = 11) \); or (d) no instruction of articles, serving as a control condition \( (n = 12) \). All groups received a series of six lessons designed to take approximately one hour each, with the following variations: for the first group, receiving article lessons using input enhancement only, all six lessons were built entirely around input enhancement. The second group also received six lessons, each of which consisted of 30 minutes of input enhancement and 30 minutes of metalinguistic explanations. The third condition provided six lessons that each included 20 minutes of input enhancement, 20 minutes of metalinguistic explanations, and 20 minutes of practice. The control group received six lessons of general L2 instruction using the same content, but with no specific focus on articles.

Prior to the first lesson, the participants were asked to try their best to get through each lesson in one sitting and complete a lesson within 48 hours of receiving access to it. The
participants were each emailed a link and an access code to their respective online lesson. Once started, the researcher was able to track the participants’ progress through each lesson. As each participant completed a lesson, the researcher emailed the link and code for that participant’s subsequent lesson until they completed all six lessons. Overall, the participants completed all six lessons over an average of 12.8 days ($SD = 7.12$).

**Lesson Design.** To provide the treatment conditions as described above, a total of 24 meaning-focused English lessons (i.e., 4 conditions $\times$ 6 lessons = 24 lessons) were created, within which to implement the three FFI techniques. To maintain methodological consistency, the lessons that all the participants completed, regardless of their condition, were based on the same themes from the first to the sixth lesson. For instance, Lesson 1 in each of the four conditions was titled ‘Social Media’ and was based on the same main reading passage. The subsequent lessons continued in the same fashion for all conditions, with a fixed sequence of themes as follows: ‘Education,’ ‘Health & Fitness,’ ‘Innovation,’ ‘Business,’ and ‘Happiness.’ To illustrate, the slides for Lesson 5 (‘Business’) in all conditions are provided in Appendices C through F.

In order to engage the learners with L2 exposure and language instruction that are level-appropriate and worthwhile, all materials and activities for the instructional treatment were specially selected or designed by the researcher. The main reading passages around which the lessons were built, as well as their corresponding comprehension activities and vocabulary exercises, were adapted from existing upper intermediate-level ESL coursebooks. Additional activities, particularly those used to provide explicit instruction of English articles or encourage production practice, were created to be as compatible with or complementary to each lesson’s theme as possible.
All of the materials and activities in the instructional treatment were delivered online via Nearpod, an interactive web-based learning platform. A major reason for using Nearpod was so that participants could access their lessons from a place and at a time convenient to them, as long as they had internet access. Furthermore, each Nearpod lesson was constructed and presented as one interactive slideshow, delivering all content and feedback in a streamlined manner. The lessons offered a variety of integrated functions that allowed participants to read and download passages, watch videos, complete multiple-choice quizzes, play matching games, and click and drag items into blank spaces, as well as type, audio-record, or draw their responses directly on to the slides. As each participant completed a lesson, the participant’s quiz scores and responses to activities and questions throughout the lessons were recorded and made available to the researcher.

Utilizing these instructional tools and learner management functions enabled by the learning platform, input enhancement, metalinguistic explanations, and practice were seamlessly integrated into the instructional treatment of the current study. The following subsection describes and provides examples of how each FFI technique was applied to the lessons according to their respective conditions.

**Input Enhancement.** Input enhancement was implemented by typographically enhancing the articles within all written input (i.e., reading passages, activities, and directions). NPs, unless accompanied by a non-article determiner such as *that* or *five*, were underlined in the textual input, and any definite or indefinite article preceding those NPs was bolded and italicised. To illustrate, Figure 2 shows a portion of a reading passage included in one of the lessons, along with the typographical enhancements:
Figure 2

*Example of Textual Input Enhancement in a Reading Passage*

Sherry Turkle, a professor of social sciences at MIT, has made a fascinating observation about the impact of being plugged into your smartphone. Through her years of research, she has noticed that these devices permit us to have complete control over our friendships. Young people decide who they communicate with, when, and how. Friendships are unpredictable and difficult to deal with, but social networks are allowing people to tidy them up and manage them. If we do not want to be friends any more, a lengthy, awkward conversation is no longer needed. We simply click a button and unfriend them.

Turkle also suggests that people are no longer comfortable being alone. This is something confirmed by a study where 200 university students were asked to go without social media for 24 hours. Many admitted an addiction to their online social network; most complained that they felt cut off from family and friends. And yet being alone is a time, Turkle argues, when we self-reflect and get in touch with who we really are. It is only when we do this that we can make meaningful friendships with others. She believes, as is the title of her 2011 book, that we are simply “Alone Together.”

Figure 3 illustrates how input enhancement was implemented within activities as well:

**Figure 3**

*Example of Textual Input Enhancement in a Fill-in-the-Blank Activity*

In addition to reading passages and activities, slides used to introduce and provide directions for subsequent sections were also typographically enhanced in the same manner, as shown in Figure 4 below:
As demonstrated in the figures above, the input enhancement portion of each lesson was built around one reading passage, corresponding activities (e.g., comprehension activities, discussion questions, and vocabulary exercises), and directions for the various activities. With the exception of those in the control condition, all L2 participants received an input enhancement portion in each of their six lessons. The length of the input enhancement portion varied depending on the treatment condition. Lessons in the input enhancement-only condition each comprised two consecutive 30-minute input enhancement portions (i.e., two reading passages related to the lesson theme, their corresponding activities, and directions), while those in the input enhancement and metalinguistic explanations condition consisted of one 30-minute input enhancement portion built around one reading passage and a 30-minute metalinguistic explanations portion. In the condition that employed input enhancement, metalinguistic explanations, and practice, the same 30-minute input enhancement portion that was employed in the other two conditions was shortened to 20 minutes by removing one or two of the activities that accompanied the reading passages.
Metalinguistic Explanations. Based on the framework by Bickerton (1981) and Liu and Gleason (2002) described in the previous chapter, which was selected for the current study for its simplicity and clarity, the metalinguistic explanations portion of each lesson provided a grammar lesson that presented and explained instances of the different uses of English articles. Over the course of the instructional treatment, metalinguistic explanations began with a broad overview, then focused on each semantic type in the subsequent lessons. Other concepts that inform article choice, such as proper nouns, abstract nouns, mass nouns, or superlative adjectives, were also highlighted in the lessons specifically covering noun countability and fixed uses of articles, but as secondary categories that can still be mapped within Bickerton’s (1981) framework of semantic types. The six lessons containing metalinguistic explanations of articles were sequenced as follows:

Table 3
Sequence of Topics of Metalinguistic Explanations

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Category</th>
<th>Semantic function/Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>All</td>
<td>Overview of articles and NPs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ specific referent/hearer knowledge</td>
</tr>
<tr>
<td>2</td>
<td>[+SR, +HK]</td>
<td>Definite article (the)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents physically present in the discourse situation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents previously mentioned in the discourse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents conventionally considered unique</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ referents assumed to be known to the hearer</td>
</tr>
<tr>
<td>3</td>
<td>All</td>
<td>Noun countability</td>
</tr>
<tr>
<td>4</td>
<td>[-SR, +HK]</td>
<td>Generics</td>
</tr>
<tr>
<td></td>
<td>[+SR, -HK]</td>
<td>Indefinite article (a(n) or Ø for plurals)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ first mention</td>
</tr>
<tr>
<td>5</td>
<td>[-SR, -HK]</td>
<td>Indefinite article (a(n) or Ø for plurals)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ equative NPs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ negation statements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ interrogative statements</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ hypothetical statements</td>
</tr>
<tr>
<td>6</td>
<td>All</td>
<td>Review of 4 types &amp; Common Fixed Uses</td>
</tr>
</tbody>
</table>
Adhering to the sequence in Table 3, each grammar lesson provided metalinguistic explanations presented in instructional videos created by the researcher. Figure 5, a sample screenshot of one of the videos, demonstrates how metalinguistic information was used to explain concepts in the videos:

**Figure 5**

*Example of Metalinguistic Information in a Grammar Lesson*

![Image of a grammar lesson screenshot showing metalinguistic information]

*Note.* The metalinguistic concepts of specific referent and hearer knowledge are explained.

Figure 6 is another sample screenshot from a video in which specific examples were used to explain the concept of noun countability:

**Figure 6**

*Specific Examples of Noun Countability in a Grammar Lesson*
The lesson videos, which ranged from 10 to 16 minutes long, were followed by training exercises that focused on the specific topic covered. To illustrate, Figure 7 provides an example of an activity that was included to reinforce learners’ understanding of specific referent (SR) and hearer knowledge (HK), using an excerpt from the textually enhanced reading passage featured earlier in that lesson:

**Figure 7**

*Example of an Activity in the Metalinguistic Explanations Portion*

![Example Activity Image]

*Note.* Participants could click the [+] or [-] options on the top of the page and drag them into the blank spaces.

While the two treatment conditions receiving varying durations of metalinguistic explanations (i.e., 30 minutes and 20 minutes per lesson) both received 20 minutes of the same core instructional content, the condition that provided 30 minutes of this FFI technique (i.e., the input enhancement and metalinguistic explanations condition) included ten extra minutes of decontextualized training through additional exercises, an example of which is provided in Figure 8 below:
Figure 8

*Example of a Grammar Exercise During Metalinguistic Explanations*

1. Do you get ___ snow in the winter?
2. Their actions have caused ___ grief for everyone.
3. Someone left you ___ message while you were out.
4. Please don’t take ___ picture right now.
5. We need to focus, but we’re all out of ___ energy.
6. I have ___ concern about this issue.
7. The medication provided ___ relief from the pain.
8. Do you think this candidate is capable of winning ___ election?
9. ___ building had been damaged in the fire.
10. Fortunately, there is ___ assistance available for disabled customers.
11. She woke up early to make ___ sandwiches for the ___

*Note.* Participants could click the indefinite article [a]/[an] or zero article [Ø] on the top of the page and drag it into a blank space in the sentences.

*Practice.* The practice portion of each lesson consisted of 20 minutes of communicative, meaning-focused production activities that were topically related to the theme of each lesson (e.g., social media, health and fitness, and innovation) and contained obligatory contexts for article use. As explained in Chapter 2, the activities implemented in the practice portion of the FFI treatment were distinct from the grammar exercises included in the metalinguistic explanations portion of the lessons. In the practice activities, although the directions did not explicitly ask the participants to use articles, obligatory contexts for articles were expected, given their ubiquity in the English language as well as the subject matter, which involves the probable use of numerous NPs. The practice portion included an assortment of activities of various lengths.
and levels of complexity. For example, some activities were simple tasks that required short phrases as answers, such as the fill-in-the-caption activity shown in Figure 9 below:

Figure 9

*Example of a Meaning-Focused (i.e., Fill-in-the-Caption) Practice Activity*

Another example of an activity that attempted to engage participants in a relatively simple task that focused on meaning is the brainstorming activity shown below, in Figure 10:

Figure 10

*Example of a Meaning-Focused (i.e., Brainstorm Ideas) Practice Activity*
Some practice activities required the participants to provide longer, more linguistically demanding responses to open-ended questions or discussion topics, as shown in Figures 11 and 12 below:

**Figure 11**

*Example of an Open-Ended Writing Task*

You are considering starting a new small business. Your three options are: - a food truck - a home daycare - a franchise (e.g., Tim Hortons, Dairy Queen, etc.) Choose your preferred option, and write three reasons why you think it is the best choice for you. For the remaining two options, write two arguments AGAINST each of them.

**Figure 12**

*Example of a Meaning-Focused (i.e., Discussion Question) Production Activity*

What are the PROS and CONS of having so many friends on social media, whether or not you are close in real life? Write (or record) your response.
It is worth noting that due to the remote nature of the instructional treatment, particularly with the learners completing the lessons online and alone, rather than in a classroom with an instructor and peers, interactive oral activities could not be easily implemented during practice. A few of the production activities provided participants with the option of recording an oral response into the Nearpod lesson (as shown above in Figure 12) rather than typing a written response, but only a small minority of participants chose to use this option.

**Control Condition.** The control condition was designed to provide six 1-hour online lessons without FFI on articles. All the lessons in the control condition used the same themes as those in the treatment conditions, and the time breakdown was similar to the lessons in the input enhancement, metalinguistic explanations, and practice condition. For instance, each lesson contained a 20-minute section identical to the shortened input enhancement portion but without textual enhancement of articles. The metalinguistic explanations portion was replaced with a new 20-minute section that included a five-minute-long video pertaining to the theme of each lesson (e.g., TED-Ed videos titled “What Would Happen If You Didn’t Sleep?” and “Would Winning the Lottery Make You Happier?”) followed by a comprehension quiz and discussion questions. The 20-minute practice portion remained the same as those in the condition receiving input enhancement, metalinguistic explanations, and practice, but with no specific attention paid to articles.

**Lesson Feedback.** Although feedback during the instructional treatment was not a point of focus in the current study, each online lesson included feedback where possible. The main reasons for providing feedback were to emulate in-person instruction as much as possible and to maintain learners’ motivation throughout the instructional treatment. The lesson platform Nearpod provided automatic feedback on close-ended activities such as multiple-choice quizzes.
and matching exercises, by providing participants with scores immediately after they submitted their responses. However, because the automatic feedback contained only the score without information on which items were answered incorrectly nor what the correct answer was, the researcher included slides that displayed the correct responses to all the items, as shown in Figure 13:

**Figure 13**

*Example of Feedback on a Multiple-Choice Comprehension Quiz*

![Feedback Example](image)

*Note.* Learners were provided feedback on their activity responses in the form of an answer key. On close-ended activities for which Nearpod could not generate automatic scores, such as fill-in-the-blank or draw-a-line activities, immediate feedback was provided with subsequent slides that showed the correct responses, two examples of which are shown in Figures 14 and 15:
With respect to open-ended activities, the researcher provided a few sentences of personalized feedback on each participant’s responses to discussion questions. The personalized feedback was included in the email containing the link and access code to each participant’s subsequent
lessons, along with comments and words of encouragement on their general performance. It is important to note that while the participants in the control condition also received feedback in the same fashion, their feedback never pertained to English articles.

Henceforth, the following section provides details on the design and implementation of the testing instruments, which were employed to measure the effects of the instructional treatment in the current study.

**Testing Sessions**

Across all three testing sessions (i.e., pretest, immediate posttest, and delayed posttest), the participants completed two written (i.e., grammaticality judgment and metalinguistic knowledge) and two oral (i.e., elicited imitation and picture-description) tasks. The same four tasks were employed at each testing session and thus operationalized in the same manner. To administer them, the researcher met with each participant in a dyadic videoconference call for each testing session, using Microsoft Teams. The two oral tasks were conducted first during the videoconference session, then at the end of the call, the participants were emailed instructions and links to the two written tasks for immediate completion on their own. All sessions of the oral production tasks were video-recorded for extraction as audio files for subsequent analysis. The two written tasks were administered via a web-based assessment tool named Testmoz. All participants were asked to complete both written tasks in one sitting with no outside help, such as from other people or an internet search engine. The participants were not given a time limit for completing the tasks, and the total time spent on each testing session ranged approximately between 20 and 60 minutes for all four tasks combined.

**Testing Instruments.** The current study used various tasks that measured the participants’ declarative and procedural knowledge of English articles, which the FFI techniques
in the instructional treatment aimed to develop. In addition to input enhancement that initially brings the linguistic target to the learner’s attention, metalinguistic explanations try to establish the learner’s declarative knowledge of the linguistic target by teaching relevant grammar rules in an explicit manner. Then practice provides opportunities for the learner to proceduralize that knowledge, promoting a more implicit command of the linguistic target. Accordingly, the testing instruments comprised four tasks derived from the battery of tests developed and analyzed by Ellis (2005), designed to measure various types of L2 knowledge. The two written tasks, the grammaticality judgment task and the metalinguistic knowledge task, were used to measure participants’ declarative knowledge of article use, with the metalinguistic knowledge task particularly measuring specific knowledge of grammar rules that govern article choice. The third task, an elicited imitation task, was an oral production task designed to measure participants’ procedural knowledge of articles in terms of how accurately they used articles while repeating sentences that contain correct or incorrect uses of articles. Finally, the picture-description task was another oral task that aimed to measure procedural knowledge of article use as participants freely narrated their interpretations of a series of pictures. Given that these testing instruments enable researchers to specifically measure declarative and procedural knowledge as well as allow for both written and oral modes, numerous L2 research studies (e.g., Akakura, 2012; Gutiérrez, 2013b; Spada, et al., 2015; Suzuki & DeKeyser, 2015; Zhang, 2015) have also based their measurements on Ellis (2005). Each of the four tasks is described in further detail below:

**Grammaticality Judgment Task.** In the grammaticality judgment task, each item contained one underlined set of the target article and NP, as shown in Figure 16 (see Appendix G for the full task):
Figure 16

Example of Grammaticality Judgment Task Items

Grammaticality Judgment Task

Welcome to the Grammaticality Judgment Task.
Please read each sentence or set of sentences, and choose whether the underlined portion (article + noun) is correct or incorrect.

1. Of all people, you should know that a leader leads by example, not by force. (1 point)
   ○ Correct
   ○ Incorrect

2. I lost my bag on the bus today. Do you have the phone I can borrow? (1 point)
   ○ Correct
   ○ Incorrect

3. If I had a million dollars, I would buy a yacht. (1 point)
   ○ Correct
   ○ Incorrect

4. Blue is a primary colour, and it also happens to be my favourite. (1 point)
   ○ Correct
   ○ Incorrect

The participants were instructed to indicate whether or not the use of articles in the items (a sentence or a set of sentences) is grammatical, by clicking “correct” or “incorrect” on the screen.

Liu and Gleason (2002)’s framework of the semantic categories of NPs enumerates ten semantic functions, which can be outlined as follows:

Table 4

Semantic Functions of NPs and Corresponding Articles (Liu & Gleason, 2002)

<table>
<thead>
<tr>
<th>Category</th>
<th>Semantic function</th>
<th>Article</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-SR, +HK]</td>
<td>Generic</td>
<td>the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>a(n)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ø for plurals</td>
</tr>
<tr>
<td>[+SR, +HK]</td>
<td>Conventional</td>
<td>the</td>
</tr>
<tr>
<td></td>
<td>Situational</td>
<td>the</td>
</tr>
<tr>
<td></td>
<td>Subsequent mention</td>
<td>the</td>
</tr>
<tr>
<td></td>
<td>Assumed knowledge</td>
<td>the</td>
</tr>
</tbody>
</table>
Specific articles are required for different semantic functions, and as shown in the rightmost column of Table 4, there are a total of 17 function-article sets. To encompass two instances of each function-article set, the grammaticality judgment task included a total of 34 items (17 sets \( \times 2 \) instances = 34 items). Half of the 34 items were grammatical uses of articles, while the other half were ungrammatical uses of articles. This untimed task displayed all 34 items on one page for participants to scroll through before they submitted all the responses at once.

**Metalinguistic Knowledge Task.** In the metalinguistic knowledge task, sentences or dialogues were presented with blank spaces in place of target articles, and for each item, participants were instructed to select the option containing the correct article and the rule that best explains the article choice among four possible options. Figure 17 provides three examples below (see Appendix H for a complete list of items):

<table>
<thead>
<tr>
<th>[+SR, -HK]</th>
<th>First mention</th>
<th>a(n)</th>
<th>Ø for plurals</th>
</tr>
</thead>
<tbody>
<tr>
<td>[-SR, -HK]</td>
<td>Equative</td>
<td>a(n)</td>
<td>Ø for plurals</td>
</tr>
<tr>
<td></td>
<td>Negative</td>
<td>a(n)</td>
<td>Ø for plurals</td>
</tr>
<tr>
<td></td>
<td>Interrogative</td>
<td>a(n)</td>
<td>Ø for plurals</td>
</tr>
<tr>
<td></td>
<td>Hypothetical</td>
<td>a(n)</td>
<td>Ø for plurals</td>
</tr>
</tbody>
</table>
The metalinguistic knowledge task contained a total of 17 items, targeting each of the 17 function-article sets as shown in Table 4. As in the grammaticality judgment task, all 17 items were presented on a single page that allowed participants to deliberate all their responses without a time limit.

**Elicited Imitation Task.** In the elicited imitation task, the participants listened to sentences containing obligatory contexts for articles and were asked to repeat them aloud. For each item, the participants listened to a recorded propositional or opinion statement designed to keep their focus on the content, rather than the grammaticality, of the sentence. The participants were then prompted to indicate whether they agree or disagree with the statement and then repeat the sentence in a way that reflects their own beliefs or opinions. To illustrate, at the beginning of the task, the researcher read the following directions to each participant:
Directions: Listen to the sentence. If you agree with the sentence, say “I agree, I think that…” and finish your sentence by repeating the sentence you heard. If you disagree with the sentence, say “I disagree, I don’t think that…” and finish your sentence by repeating the sentence you heard. Try your best to make sure your response is grammatically correct.

The participants were then given a practice item to try, to ensure that they understood the task.

The elicited imitation task contained a total of eight prompt statements, each containing three NPs that warranted the use of articles (i.e., 24 in total). In addition, each recorded item was accompanied by a PowerPoint slide that displayed the content words occurring in the statement to help the participants remember the sentence. Below are two examples (see Appendix I for a complete list of statements):

Recording: *It is waste to spend money on the lottery.* (3 obligatory contexts, 1 error)
Words displayed: waste spend money lottery
Possible response: I disagree that it is waste to spend the money on lottery.

Recording: *A life is easier as a child than as adult.* (3 obligatory contexts, 2 errors)
Words displayed: life easier child adult
Possible response: I agree, I think that life is easier as a child than as an adult.

Given the nature of the task (i.e., agreeing or disagreeing with opinion or propositional statements), although every effort was made to include as many types of article use as possible, it was difficult to incorporate all 17 function-article sets listed in Table 4. However, care was taken to ensure that the 24 articles in the eight prompt statements were divided as evenly as possible among the three types of articles (i.e., the, a(n), and Ø). Furthermore, half of the items were grammatical uses of articles, and the other half were ungrammatical uses of articles. Table 5 shows the breakdown of the items:
Table 5

Distribution of Grammatical and Ungrammatical Uses of Each Article in the Elicited Imitation Task

<table>
<thead>
<tr>
<th>Article</th>
<th>Grammatical</th>
<th>Ungrammatical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>the</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>a(n)</td>
<td>4</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Ø</td>
<td>4</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>12</td>
<td>24</td>
</tr>
</tbody>
</table>

This task intended to measure the participants’ ability to accurately repeat grammatical uses of articles, in addition to their ability to implicitly correct errors in ungrammatical uses of articles.

**Picture-Description Task.** The picture-description task asked participants to narrate their interpretations of two series of pictures (see Appendix J for both series). The task included two trials using two series of pictures in order to give participants an opportunity to warm up and exercise their full fluency potential. Another purpose of providing two series of pictures with contrasting topics was to potentially mitigate any performance variation that may be attributed to topic familiarity or preference. The two series of pictures were selected according to the guidelines developed and proposed by Rossiter et al. (2008), which highlight the importance of clarity, not only of the drawings themselves, but of the context and temporal sequence of the story lines. One of the series of pictures used is shown below in Figure 18:
Each series of pictures was displayed on the screen, and participants were given as much time as they wanted to look at and think about the pictures before describing what happened in them. While no other directions were given, they were asked to include the five specific NPs that were displayed alongside the series of pictures (see “Key words/phrases” in the example above), which were NPs that obviously appear in or can be readily assumed from the pictures. The five target NPs were used not only to scaffold the participants’ interpretations and guide their oral narrations, but to operationalize the scoring of the oral productions. It is worth noting that in this task, because the participants had no constraints beyond the prompt pictures and five target NPs, the variety and total number of NPs (and obligatory contexts for articles) produced in each response were expected to differ significantly among participants and across testing sessions. Hence, the participants’ article use in conjunction with only the five target NPs was rated.

Data Analysis

To obtain accuracy scores for the written (i.e., grammaticality judgment and metalinguistic knowledge) tasks, the percentages of correct responses for each participant at each
testing session were calculated. For the grammaticality judgment task, two separate scores were calculated. One was the percentage of correct responses on the items that contained grammatical uses of articles, and the other was on the items containing ungrammatical uses of articles. For the metalinguistic knowledge task, one overall score was computed by dividing the number of correct responses simply by the total number of items.

With respect to the elicited imitation and picture-description tasks, the participants’ oral responses were assessed by the five native speaker raters, based on whether or not each participant correctly produced target articles in conjunction with the NPs in the given contexts. For each of the oral tasks, each rater listened to audio clips of all participants’ oral responses across all three testing sessions, in a random order. The raters were instructed to provide a score (1 for a correct response; 0 for an incorrect response) for the article chosen to accompany each target NP that occurred in the audio clips. They were encouraged to listen to the audio clips as many times as they needed before deciding on a score. To facilitate the rating process, the raters were provided with a corresponding list of the target NPs under which to enter their scores. In other words, to rate the responses in the elicited imitation task, the raters were given the three NPs that participants repeated in each sentence. For the picture-description task, the raters were given a list of all occurrences of the five target NPs in the order in which they appeared, corresponding with each recorded narration.

Using the scores provided by the raters, accuracy in the oral tasks was calculated as the percentage of correctly used articles out of the total number of obligatory contexts. In the elicited imitation task, the number of obligatory contexts for article use was fixed per audio clip (i.e., three per sentence), but in the picture-description task, the number of obligatory contexts varied
for each narration. To illustrate, two different recorded narrations were tallied and scored as follows:

Participant 27 (pretest): “*Mother asked his boy to take *umbrella with him. *Boy tell no to the mother that I don’t need the umbrella. When *boy go outside, the rain is started. *Boy recognize that his mother was right and he should bring the umbrella. And fifth picture, he came back home all wet and *next day he bring the umbrella with him as his mother said.”

Total number of obligatory contexts for articles (underlined): 11
Total number of correct uses of articles: 5
Accuracy rate: 5 ÷ 11 = 45.45%

Participant 52 (delayed posttest): “The boy and his grandfather got a fish from the river. They bring the fish back home, his grandfather want to kill the fish and eat it, but the boy doesn’t want to kill the fish. So they went back to the river and leave the fish back to *river, but then after a few minutes another bigger fish eats the fish they just put back in the river so they feel very sad.”

Total number of obligatory contexts for articles (underlined): 12
Total number of correct uses of articles: 11
Accuracy rate: 11 ÷ 12 = 91.67%

Once all ratings of the oral task responses were complete, a total score was calculated for each participant, per testing session, from each rater. Similar to the written tasks, while one overall score was calculated for the picture-description task, accuracy in the elicited imitation task was broken down into two scores: one for items containing grammatical uses of articles and the other for items containing ungrammatical uses of articles. These scores were used to calculate Cronbach’s alpha in order to confirm interrater reliability. The alpha coefficient for the elicited imitation task was .95 for the grammatical items and .93 for the ungrammatical items, and the coefficient for the picture-description task was .97, all indicating a very high internal consistency that is more than adequate for L2 research (Larson-Hall, 2010). Consequently, the scores from the five raters were averaged to obtain a final score for each participant. In sum, there were six scores (i.e., two scores each for the grammaticality judgment and elicited imitation
tasks; one each for the metalinguistic knowledge and picture-description tasks) for each participant per testing session.

This chapter detailed the methodology of the current study, focusing on the participants, the procedure, and data analysis. The description of the procedure was divided into two main subsections to provide details on the instructional treatment and testing sessions. The next chapter reports the results of the data analysis.
Chapter 4: Results

This chapter presents the results of the current study, comprising two main sections. The first section reports the results of all participants, whereas the second section reports the results of selected individual learners who demonstrated exceptional gains from the instructional treatment.

All Participants

In this section, the descriptive and inferential statistics of the results of the L2 participants in each testing instrument at the time of pretesting, immediate posttesting, and delayed posttesting are reported, following the descriptive statistics of the native baseline participants’ results. For the sake of brevity, the tables and figures included in the present chapter, as well as the interpretation of statistical analyses, use abbreviated forms to refer to the four conditions employed in the current study, as follows: FFI containing input enhancement only as ‘Condition A’; FFI containing input enhancement and metalinguistic explanations as ‘Condition B’; FFI containing input enhancement, metalinguistic explanations, and practice as ‘Condition C’; control condition as ‘Condition D’.

Native Baseline Participants

The testing instruments described in the previous chapter were administered to 12 native speakers of English to ensure that the tasks reliably assessed knowledge of the linguistic target rather than non-linguistic knowledge. Before analyzing those of the L2 participants, the results of the native baseline participants were analyzed. As shown in Table 6, being native speakers of English, the baseline participants demonstrated relatively accurate use of articles, confirming that the tasks did indeed measure knowledge of English articles.
Table 6

Native Baseline Participants’ Mean Accuracy Scores and Standard Deviations (in Parentheses) in Each Task

<table>
<thead>
<tr>
<th>Testing Instrument</th>
<th>Average Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grammaticality Judgment Task:</td>
<td></td>
</tr>
<tr>
<td>Grammatical Items</td>
<td>95.10 (SD = 5.80)</td>
</tr>
<tr>
<td>Ungrammatical Items</td>
<td>94.61 (SD = 5.07)</td>
</tr>
<tr>
<td>Metalinguistic Knowledge Task</td>
<td>82.35 (SD = 6.79)</td>
</tr>
<tr>
<td>Elicited Imitation Task:</td>
<td></td>
</tr>
<tr>
<td>Grammatical Items</td>
<td>89.72 (SD = 3.78)</td>
</tr>
<tr>
<td>Ungrammatical Items</td>
<td>79.39 (SD = 11.29)</td>
</tr>
<tr>
<td>Picture-Description Task</td>
<td>99.66 (SD = .89)</td>
</tr>
</tbody>
</table>

L2 Participants Across Three Testing Sessions

The L2 participants’ scores were statistically analyzed using mixed effects models in R (R Core Team, 2021) using the lme4 package (version 1.1-27.1) and restricted maximum likelihood with alpha set at .05. With respect to the grammaticality judgment and elicited imitation tasks, there were two separate analyses, given that half of the total items in each task contained grammatical uses of articles and the other half contained ungrammatical uses of articles. For the metalinguistic knowledge and picture-description tasks, there was one analysis for each task. In sum, the following six separate models were designed to analyze L2 participants’ scores across three testing sessions: (a) grammaticality judgment task (grammatical items); (b) grammaticality judgment task (ungrammatical items); (c) metalinguistic knowledge task; (d) elicited imitation task (grammatical items); (e) elicited imitation task (ungrammatical items); and (f) picture-description task.

For each model, fixed effects included ‘condition’ (Condition A, Condition B, Condition C, and Condition D), ‘time’ (pretest, immediate posttest, and delayed posttest), and their two-way interactions. Given the research questions, the factors ‘condition’ and ‘time’ were coded
using treatment coding with Condition D (i.e., control condition) and the pretest as reference levels. All six models treated participants and trials as random effects. As the main interests of the current study were the interactions with both factors ‘condition’ and ‘time’, only the two-way interactions were interpreted. Effect sizes ($R^2$ values) were calculated using the `r.squared GLMM` function in the `MuMln` package in R (R Core Team, 2021). $R^2$ values were classified as very small ($R^2 < .02$), small ($R^2 \geq .02$), medium ($R^2 \geq .13$), and large ($R^2 \geq .26$) (Cohen, 1988).

Statistical assumptions, such as whether explanatory variables were linearly related to the response and whether the errors had independent and normally distributed constant variance, were verified prior to each analysis. It is important to note that upon analysis, the participants in the four conditions were found to be not comparable at the time of pretesting ($p < .05$). To circumvent this issue, their scores at the time of pretesting were taken into account in the statistical analyses. In the following subsections, the results of the six analyses of participant scores resulting from the four tasks are reported.

**Grammaticality Judgment Task.** Figure 19 visualizes the descriptive statistics of the grammatical items in the grammaticality judgment task, including mean scores and their standard deviations by condition at the time of each testing.

**Figure 19**

*Grammaticality Judgment Task (Grammatical Items): Mean Accuracy Scores and Standard Deviations (in Parentheses) Over Time by Condition*
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Table 7 shows inferential statistics regarding the grammatical items in the grammaticality judgment task, revealing no significant interaction effects with very small effect sizes.

Table 7

Fixed-Effects Models for the Grammaticality Judgment Task (Grammatical Items)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate ($\beta$)</th>
<th>Standard error</th>
<th>t</th>
<th>p</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>85.29</td>
<td>3.36</td>
<td>25.36</td>
<td>&lt; .001</td>
<td>.11</td>
</tr>
<tr>
<td>Condition A</td>
<td>-5.88</td>
<td>4.76</td>
<td>-1.24</td>
<td>.220</td>
<td>.02</td>
</tr>
<tr>
<td>Condition B</td>
<td>-5.08</td>
<td>4.86</td>
<td>-1.05</td>
<td>.299</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C</td>
<td>-4.01</td>
<td>4.86</td>
<td>-0.83</td>
<td>.412</td>
<td>.01</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>5.88</td>
<td>3.36</td>
<td>1.75</td>
<td>.083</td>
<td>.02</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>3.43</td>
<td>3.36</td>
<td>1.02</td>
<td>.310</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>-3.43</td>
<td>4.75</td>
<td>-0.72</td>
<td>.472</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>-4.28</td>
<td>4.85</td>
<td>-0.88</td>
<td>.381</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>-3.21</td>
<td>4.85</td>
<td>-0.66</td>
<td>.510</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>2.94</td>
<td>4.75</td>
<td>0.62</td>
<td>.537</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>0.85</td>
<td>4.85</td>
<td>0.17</td>
<td>.862</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>-5.57</td>
<td>4.85</td>
<td>-1.15</td>
<td>.254</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Any p-value of .05 or smaller is highlighted in bold.

Regarding the ungrammatical items in the grammaticality judgment task, Figure 20 visualizes the descriptive statistics, including mean scores and their standard deviations by condition at the time of each testing.
Figure 20

Grammaticality Judgment Task (Ungrammatical Items): Mean Accuracy Scores and Standard Deviations (in Parentheses) Over Time by Condition

![Graph showing mean accuracy scores and standard deviations over time by condition.]

Statistical analysis did not reveal any significant interaction effects on the ungrammatical items in the grammaticality judgment task with very small effect sizes, summarized below in Table 8:

Table 8

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate (β)</th>
<th>Standard error</th>
<th>t</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>79.90</td>
<td>5.00</td>
<td>16.02</td>
<td>&lt; .001</td>
<td>.05</td>
</tr>
<tr>
<td>Condition A</td>
<td>-4.90</td>
<td>7.05</td>
<td>-0.07</td>
<td>.945</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B</td>
<td>-3.43</td>
<td>7.21</td>
<td>-0.48</td>
<td>.636</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C</td>
<td>4.59</td>
<td>7.21</td>
<td>0.64</td>
<td>.527</td>
<td>.01</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>1.47</td>
<td>3.83</td>
<td>0.38</td>
<td>.702</td>
<td>.01</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>-0.98</td>
<td>3.83</td>
<td>-0.26</td>
<td>.799</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>1.47</td>
<td>5.42</td>
<td>0.27</td>
<td>.787</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>2.27</td>
<td>5.54</td>
<td>0.41</td>
<td>.683</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>-0.94</td>
<td>5.54</td>
<td>-0.17</td>
<td>.866</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>1.47</td>
<td>5.42</td>
<td>0.27</td>
<td>.787</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>1.52</td>
<td>5.54</td>
<td>0.27</td>
<td>.785</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>2.05</td>
<td>5.54</td>
<td>0.37</td>
<td>.712</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Any p-value of .05 or smaller is highlighted in bold.
**Metalinguistic Knowledge Task.** Figure 21 visualizes the descriptive statistics of the metalinguistic knowledge task, including mean scores and their standard deviations by condition at the time of each testing.

**Figure 21**

*Metalinguistic Knowledge Task: Mean Accuracy Scores and Standard Deviations (in Parentheses) Over Time by Condition*

<table>
<thead>
<tr>
<th>Condition</th>
<th>Pretest</th>
<th>Immediate Posttest</th>
<th>Delayed Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (n = 12)</td>
<td>65.69% (15.90)</td>
<td>62.75% (18.34)</td>
<td>68.14% (17.88)</td>
</tr>
<tr>
<td>B (n = 11)</td>
<td>58.29% (16.72)</td>
<td>73.26% (16.13)</td>
<td>69.52% (16.41)</td>
</tr>
<tr>
<td>C (n = 11)</td>
<td>67.91% (6.81)</td>
<td>73.26% (14.49)</td>
<td>71.12% (13.84)</td>
</tr>
<tr>
<td>D (n = 12)</td>
<td>66.67% (13.01)</td>
<td>71.08% (13.25)</td>
<td>64.71% (14.41)</td>
</tr>
</tbody>
</table>

Table 9 shows inferential statistics regarding the metalinguistic knowledge task. There were two instances of significant interaction effects, particularly with the participants in Condition B (i.e., FFI containing input enhancement and metalinguistic explanations) at the time of both posttesting. As compared to Condition D (i.e., control condition) and the pretest, the two reference levels, they showed significantly higher scores with a very small effect size in the immediate posttest and again in the delayed posttest with a small effect size. No other significant interaction effects were found with very small effect sizes.
### Table 9

**Fixed-Effects Models for the Metalinguistic Knowledge Task**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate ($\beta$)</th>
<th>Standard error</th>
<th>t</th>
<th>p</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>66.67</td>
<td>4.55</td>
<td>14.64</td>
<td></td>
<td>.001</td>
</tr>
<tr>
<td>Condition A</td>
<td>-0.98</td>
<td>6.44</td>
<td>-0.15</td>
<td>.880</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B</td>
<td>-8.38</td>
<td>6.59</td>
<td>-1.27</td>
<td>.208</td>
<td>.02</td>
</tr>
<tr>
<td>Condition C</td>
<td>1.25</td>
<td>6.59</td>
<td>.19</td>
<td>.850</td>
<td>.01</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>4.41</td>
<td>4.00</td>
<td>1.11</td>
<td>.270</td>
<td>.01</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>-1.96</td>
<td>4.00</td>
<td>-0.49</td>
<td>.623</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>-7.35</td>
<td>5.62</td>
<td>-1.31</td>
<td>.195</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>10.56</td>
<td>5.75</td>
<td>1.94</td>
<td>.050</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>.94</td>
<td>5.75</td>
<td>.16</td>
<td>.871</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>4.41</td>
<td>5.62</td>
<td>.78</td>
<td>.435</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>13.19</td>
<td>5.75</td>
<td>2.29</td>
<td>.024</td>
<td>.02</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>5.17</td>
<td>5.75</td>
<td>.90</td>
<td>.371</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note.* Any p-value of .05 or smaller is highlighted in bold.

**Elicited Imitation Task.** Figure 22 visualizes the descriptive statistics of the grammatical items in the elicited imitation task, including mean scores and their standard deviations by condition at the time of each testing.

**Figure 22**

*Elicited Imitation Task (Grammatical Items): Mean Accuracy Scores and Standard Deviations (in Parentheses) Over Time by Condition*
TABLE 10

Fixed-Effects Models for the Elicited Imitation Task (Grammatical Items)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate ($\beta$)</th>
<th>Standard error</th>
<th>$t$</th>
<th>$p$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>6.74</td>
<td>4.61</td>
<td>14.62</td>
<td>$&lt;.001$</td>
<td>.20</td>
</tr>
<tr>
<td>Condition A</td>
<td>-1.94</td>
<td>6.51</td>
<td>-.30</td>
<td>.766</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B</td>
<td>-7.97</td>
<td>6.66</td>
<td>-1.20</td>
<td>.236</td>
<td>.02</td>
</tr>
<tr>
<td>Condition C</td>
<td>-8.42</td>
<td>6.73</td>
<td>-1.25</td>
<td>.215</td>
<td>.02</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>6.81</td>
<td>3.37</td>
<td>2.10</td>
<td><strong>.047</strong></td>
<td>.02</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>5.56</td>
<td>3.37</td>
<td>1.65</td>
<td>.103</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>-1.08</td>
<td>4.77</td>
<td>.01</td>
<td>1.000</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>7.70</td>
<td>4.87</td>
<td>.16</td>
<td>.875</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>-9.08</td>
<td>4.96</td>
<td>-1.83</td>
<td>.071</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>3.33</td>
<td>4.77</td>
<td>.70</td>
<td>.486</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>3.23</td>
<td>4.87</td>
<td>.66</td>
<td>.509</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>1.99</td>
<td>4.96</td>
<td>.04</td>
<td>.968</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Any $p$-value of .05 or smaller is highlighted in bold.

Figure 23 illustrates the descriptive statistics of the ungrammatical items in the elicited imitation task, including mean scores and their standard deviations by condition at the time of each testing.
Table 11 shows inferential statistics regarding the ungrammatical items in the elicited imitation task. A significant interaction effect was found from the participants receiving Condition B (i.e., FFI containing input enhancement and metalinguistic explanations) at the time of delayed posttesting. They revealed significantly higher scores as compared to the two reference levels (i.e., Condition D and pretest) at the time of delayed posttesting with a very small effect size. There were no other significant interaction effects found with very small effect sizes.
Table 11

**Fixed-Effects Models for the Elicited Imitation Task (Ungrammatical Items)**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate (β)</th>
<th>Standard error</th>
<th>t</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>62.22</td>
<td>4.23</td>
<td>14.70</td>
<td>&lt; .001</td>
<td>.15</td>
</tr>
<tr>
<td>Condition A</td>
<td>-3.06</td>
<td>5.99</td>
<td>-.51</td>
<td>.611</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B</td>
<td>-12.53</td>
<td>6.12</td>
<td>-2.05</td>
<td>.044</td>
<td>.04</td>
</tr>
<tr>
<td>Condition C</td>
<td>-11.98</td>
<td>6.21</td>
<td>-1.93</td>
<td>.057</td>
<td>.04</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>-3.19</td>
<td>3.81</td>
<td>-.84</td>
<td>.404</td>
<td>.01</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>-1.40</td>
<td>3.81</td>
<td>-.37</td>
<td>.716</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>1.25</td>
<td>5.38</td>
<td>.23</td>
<td>.817</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>4.86</td>
<td>5.50</td>
<td>.88</td>
<td>.380</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>2.04</td>
<td>5.60</td>
<td>.37</td>
<td>.716</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>5.83</td>
<td>5.38</td>
<td>1.08</td>
<td>.281</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>9.57</td>
<td>5.50</td>
<td>1.99</td>
<td>.036</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>3.27</td>
<td>5.60</td>
<td>.58</td>
<td>.561</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note. Any p-value of .05 or smaller is highlighted in bold.*

**Picture-Description Task.** Figure 24 visualizes the descriptive statistics of the picture-description task, including mean scores and their standard deviations by condition at the time of each testing.

**Figure 24**

*Picture-Description Task: Mean Accuracy Scores and Standard Deviations (in Parentheses)*

*Over Time by Condition*
Table 12 summarizes inferential statistics with respect to the picture-description task, which showed no significant interaction effects with very small effect sizes.

**Table 12**

**Fixed-Effects Models for the Picture-Description Task**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Estimate $(\beta)$</th>
<th>Standard error</th>
<th>$t$</th>
<th>$p$</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>91.92</td>
<td>3.36</td>
<td>27.37</td>
<td>&lt; .001</td>
<td>.06</td>
</tr>
<tr>
<td>Condition A</td>
<td>-3.90</td>
<td>4.75</td>
<td>-.82</td>
<td>.415</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B</td>
<td>-4.05</td>
<td>4.86</td>
<td>-.83</td>
<td>.407</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C</td>
<td>-4.28</td>
<td>4.91</td>
<td>-.87</td>
<td>.386</td>
<td>.01</td>
</tr>
<tr>
<td>Immediate posttest</td>
<td>-.99</td>
<td>2.51</td>
<td>-.39</td>
<td>.695</td>
<td>.01</td>
</tr>
<tr>
<td>Delayed posttest</td>
<td>-1.14</td>
<td>2.51</td>
<td>-.45</td>
<td>.652</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Immediate posttest</td>
<td>4.30</td>
<td>3.56</td>
<td>1.21</td>
<td>.230</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Immediate posttest</td>
<td>-1.14</td>
<td>3.64</td>
<td>-.31</td>
<td>.775</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Immediate posttest</td>
<td>.91</td>
<td>3.70</td>
<td>.25</td>
<td>.807</td>
<td>.01</td>
</tr>
<tr>
<td>Condition A × Delayed posttest</td>
<td>6.82</td>
<td>3.56</td>
<td>1.92</td>
<td>.059</td>
<td>.01</td>
</tr>
<tr>
<td>Condition B × Delayed posttest</td>
<td>3.96</td>
<td>3.64</td>
<td>1.09</td>
<td>.279</td>
<td>.01</td>
</tr>
<tr>
<td>Condition C × Delayed posttest</td>
<td>3.67</td>
<td>3.70</td>
<td>.99</td>
<td>.324</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note.* Any $p$-value of .05 or smaller is highlighted in bold.

To summarize, two key findings highlighted by the statistical analyses were the significant effects of Condition B (i.e., FFI containing input enhancement and metalinguistic
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

explanations), whose participants showed significantly higher scores in the metalinguistic knowledge task at the time of both posttesting and on the ungrammatical items in the elicited imitation task at the time of delayed posttesting. However, the data did not reveal any more significant interaction effects, suggesting no additional significant findings regarding the differential effects of the various treatment conditions. At the same time, it is worth noting that the results exhibited by the statistical analyses should be taken with caution. One factor to consider is that the mean accuracy scores within each group were accompanied by high standard deviations, suggesting a high degree of variation among individuals in the participant pool. Hence, a secondary analysis was conducted in order to examine a subset of individual participants who predominantly demonstrated noteworthy improvement from the pretest to the immediate posttest. The following section details this analysis and its results.

**Selected Individual Learners**

In this section, scores from 12 individual participants among the groups that received FFI treatment were analyzed in an attempt to identify patterns among learners who made the largest gains from the instructional treatment. To identify these participants, the following selection process was employed: for all L2 participants in each treatment condition, the percent increase in their individual scores from the pretest to the immediate posttest in each task was calculated. The participants were then ranked in order of percent increase. From each group, the researcher took four participants that demonstrated the highest improvement on each of the six scores in the four tasks. Out of this subgroup of participants selected, 12 of them (four per treatment group) accounted for one of the four highest percent increases on three or more of the six scores. Given that these 12 participants made remarkable improvements in at least half of the tasks at the time of immediate posttesting, they were identified as having benefitted the most from the FFI.
Interestingly, the 12 participants showed some commonalities. For instance, as shown in Table 13, the most common L1s spoken among the 12 participants were Mandarin Chinese and Korean. There was one native speaker each of French, Arabic, Spanish, and Japanese. Notably, four of these L1s (i.e., Mandarin, Korean, Arabic, and Japanese) do not have an article system that is comparable to that in English. While Mandarin Chinese, Korean, and Japanese do not have articles at all, Arabic has a definite article that is used in a manner substantially distinct from that in English.

**Table 13**

*L1 Backgrounds of 12 Participants Who Exhibited the Highest Gains on Three or More Scores*

<table>
<thead>
<tr>
<th>Participant</th>
<th>L1</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mandarin</td>
</tr>
<tr>
<td>7</td>
<td>Korean</td>
</tr>
<tr>
<td>10</td>
<td>French</td>
</tr>
<tr>
<td>14</td>
<td>Korean</td>
</tr>
<tr>
<td>19</td>
<td>Arabic</td>
</tr>
<tr>
<td>21</td>
<td>Spanish</td>
</tr>
<tr>
<td>24</td>
<td>Mandarin</td>
</tr>
<tr>
<td>29</td>
<td>Korean</td>
</tr>
<tr>
<td>31</td>
<td>Mandarin</td>
</tr>
<tr>
<td>39</td>
<td>Mandarin</td>
</tr>
<tr>
<td>40</td>
<td>Korean</td>
</tr>
<tr>
<td>43</td>
<td>Japanese</td>
</tr>
</tbody>
</table>

Furthermore, each of the 12 learners’ level of participation in the online lessons during the FFI treatment was analyzed. Nearpod, the online lesson platform on which the instructional treatment was delivered, provided data to the researcher on each learner’s level of participation. The level of participation refers to the percentage of activities and quizzes completed by the learner without leaving questions unanswered or skipping to the next slide. Table 14 outlines the 12 learners’ individual levels of participation per lesson, juxtaposed with the average level of participation of all the participants in each condition.
Table 14

*Levels of Participation in Online Lessons (Group Average vs. Individual Rates of 12 Selected Participants)*

<table>
<thead>
<tr>
<th>Condition A</th>
<th>Lesson</th>
<th>Group average</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>84%</td>
<td>100%</td>
<td>94%</td>
<td>86%</td>
<td>100%</td>
<td>86%</td>
</tr>
<tr>
<td>Participant</td>
<td>1</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>69%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>7</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>94%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>10</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>14</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition B</th>
<th>Lesson</th>
<th>Group average</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>53%</td>
<td>78%</td>
<td>86%</td>
<td>91%</td>
<td>85%</td>
<td>89%</td>
</tr>
<tr>
<td>Participant</td>
<td>19</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>88%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>21</td>
<td>100%</td>
<td>94%</td>
<td>100%</td>
<td>100%</td>
<td>86%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>24</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>29</td>
<td>100%</td>
<td>94%</td>
<td>94%</td>
<td>96%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Condition C</th>
<th>Lesson</th>
<th>Group average</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>58%</td>
<td>87%</td>
<td>84%</td>
<td>81%</td>
<td>90%</td>
<td>93%</td>
</tr>
<tr>
<td>Participant</td>
<td>31</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>39</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>40</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>96%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Participant</td>
<td>43</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* The group average rates of participation are highlighted in bold.

As shown in Table 14, the vast majority of the 12 participants completed 100% of all their online lessons, while the group average rates of participation were noticeably lower. Even in the few cases in which a participant did not complete 100% of the lesson, that participation rate was still higher than the group average in most instances.

The two commonalities discussed above may explain why the 12 selected participants benefitted more from the FFI than the rest of the participants in the treatment groups. To compare the percent increases of the 12 participants by condition, Cohen’s *d* values (Cohen, 1988) were also calculated and classified as small (*d* ≥ .2), medium (*d* ≥ .5), or large (*d* ≥ .8).
Table 15 summarizes the average percent increase from pretest to immediate posttest scores as well as the Cohen’s $d$ value per condition, per task:

**Table 15**

*Twelve Selected Participants’ Average Percent Increase from Pretest to Immediate Posttest*

*Scores and Cohen’s $d$ Value per Condition per Task*

<table>
<thead>
<tr>
<th>Condition</th>
<th>Grammaticality Judgement Task (Grammatical Items)</th>
<th>Grammaticality Judgement Task (Ungrammatical Items)</th>
<th>Metalinguistic Knowledge Task</th>
<th>Elicited Imitation Task (Grammatical Items)</th>
<th>Elicited Imitation Task (Ungrammatical Items)</th>
<th>Picture-Description Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>% increase 9.26</td>
<td>-1.79</td>
<td>-8.33</td>
<td>38.84</td>
<td>21.21</td>
<td>10.25</td>
</tr>
<tr>
<td></td>
<td>Cohen’s $d$ .80**</td>
<td>.12</td>
<td>.55**</td>
<td>2.13**</td>
<td>.91***</td>
<td>.68**</td>
</tr>
<tr>
<td>B</td>
<td>% increase 10.20</td>
<td>9.30</td>
<td>51.72</td>
<td>13.91</td>
<td>3.88</td>
<td>-5.07</td>
</tr>
<tr>
<td></td>
<td>Cohen’s $d$ .63**</td>
<td>.23*</td>
<td>1.59***</td>
<td>1.06**</td>
<td>.13</td>
<td>.42*</td>
</tr>
<tr>
<td>C</td>
<td>% increase 22.45</td>
<td>-1.72</td>
<td>14.58</td>
<td>4.29</td>
<td>11.38</td>
<td>.01</td>
</tr>
<tr>
<td></td>
<td>Cohen’s $d$ 1.63***</td>
<td>.18</td>
<td>1.04***</td>
<td>.14</td>
<td>.76**</td>
<td>.01</td>
</tr>
</tbody>
</table>

*Note.* Cohen’s $d$ values classified as small are marked with *, values classified as medium are marked with **, and values classified as large are marked with ***.

The Cohen’s $d$ values revealed small, medium, and large effect sizes among most of the treatment groups for all the task scores. For the grammatical items in the grammaticality judgment task, the participants in both Conditions A (i.e., FFI containing input enhancement only) and B (i.e., FFI containing input enhancement and metalinguistic explanations) showed medium effect sizes ($d = .80$ and $.63$, respectively), and a large effect size ($d = 1.63$) was found from the participants in Condition C (i.e., FFI containing input enhancement, metalinguistic explanations, and practice). However, for the ungrammatical items in the same task, while the participants in Condition B showed a small effect size, no effects were found in the other treatment groups. In the metalinguistic knowledge task, scores from the participants in Condition
B and Condition C yielded large effect sizes with a Cohen’s $d$ value of 1.59 and 1.04, respectively. Although a medium effect size ($d = .55$) was found in Condition A, it resulted from a decrease in scores and is thus not taken into account in the current study. For the grammatical items in the elicited imitation task, a large effect size with a remarkably high Cohen’s $d$ value ($d = 2.13$) was found among the participants in Condition A, while the participants in Condition B also showed a large effect ($d = 1.06$). For the ungrammatical items in the elicited imitation task, a large effect size ($d = .91$) was found in Condition A and a medium effect size ($d = .76$) in Condition C. Lastly, for the picture-description task, the participants in Condition A showed a medium effect size ($d = .68$), and those in Condition B showed a small effect size, but again as a result of a decrease in scores.

**Summary of Results**

This chapter reported the results of the current study, focusing first on all participants and then on selected individual participants. From the analysis targeting all the participants, significant interaction effects were found from the participants receiving input enhancement and metalinguistic explanations, specifically in the metalinguistic knowledge task at the time of both posttesting and on the ungrammatical items in the elicited imitation task at the time of delayed posttesting. In the secondary analysis that targeted 12 individual participants who exhibited exceptional gains from the pretest to the immediate posttest, two common factors were identified, namely the article-less nature of most of the 12 participants’ L1s and their relatively high level of participation during the instructional treatment. A further calculation of Cohen’s $d$ values for the 12 individual participants also revealed various effect sizes, most notably for the metalinguistic knowledge task. The next chapter discusses these findings in relation to the current study’s research question, pedagogical implications, and future research directions.
Chapter 5: Discussion

This chapter is divided into three main sections. The first section discusses the results of the current study in relation to its hypotheses, then it provides possible explanations for the outcomes. The second section outlines the pedagogical implications of the findings, and the final section suggests future directions in this line of research based on the limitations of the current study.

Discussion of Results

The current study sought to explore the extent to which various combinations of FFI techniques improve L2 learners’ accuracy in the use of English articles. Upon statistical analysis, the results revealed the benefits of metalinguistic explanations in particular, most significantly in the metalinguistic knowledge task. A further investigation of 12 participants from the treatment groups who showed the highest gains identified two commonalities that may have contributed to the improvements in their scores, namely their article-less L1s and exceptionally high levels of participation during the instructional treatment.

Original Hypotheses

In light of the key findings summarized above, it can be argued that the empirical evidence partially supports the hypotheses of the current study. First, the group that received input enhancement only exhibited no significant improvement in any of the four tasks, which seems to support the hypothesis that input enhancement alone is insufficient for yielding substantial learning gains. Admittedly, based on this outcome alone, it is difficult to conclude that input enhancement enabled noticing of the target forms but was simply not enough to promote further acquisition, as hypothesized. It is also plausible that the outcome was due to the input enhancement failing to enable any noticing at all. However, given the clear learning gains
exhibited by the group receiving input enhancement and metalinguistic explanations, it still may be the case that input enhancement played some role in scaffolding the benefits of metalinguistic explanations, which brings us to the second hypothesis.

The second hypothesis, which was that metalinguistic explanations would establish the learners’ declarative knowledge of English articles, is strongly supported by the most pronounced finding of the current study. Unsurprisingly, the group that received the longest duration of metalinguistic explanations per lesson (i.e., 30 minutes of metalinguistic explanations following 30 minutes of input enhancement) made the largest gains in the metalinguistic knowledge task, clearly demonstrating increased declarative knowledge of articles. Even beyond expectations, the participants in this condition made gains that were durable for at least two weeks. Given that metalinguistic explanations, the most explicit of the three FFI techniques, yielded significant gains in the task measuring the most explicit knowledge in the current study, this finding is also consistent with the widely accepted notion that explicit instruction is more effective than implicit instruction for promoting explicit knowledge (Bowles, 2011; Gass, 1991; Spada & Tomita, 2010).

The third hypothesis expected that learners in the condition receiving all three FFI techniques (i.e., input enhancement, metalinguistic explanations, and practice) would show the highest improvements in the tasks. However, the evidence does not support the third hypothesis, showing no significant effects from this condition in any of the four tasks. Even in the metalinguistic knowledge task, despite having received 20 minutes of metalinguistic explanations per lesson, the participants in this condition showed no significant improvements, unlike those who received 30 minutes of the same FFI technique. It is unclear whether 20 minutes each (as opposed to 30 minutes) of input enhancement and metalinguistic explanations
per lesson were simply insufficient to produce any benefits, or the practice at the end of each lesson somehow counteracted any benefits gained from the other two FFI techniques. In either case, the results of the current study contradict Shintani’s (2019) finding that practice in addition to metalinguistic explanations yielded higher gains than metalinguistic explanations alone.

Taken together, while the beneficial effects of metalinguistic explanations on metalinguistic knowledge of articles were clear, it remains to be seen to what extent input enhancement alone or the addition of practice opportunities provides benefits for L2 learners’ overall knowledge of English articles.

Selected Individual Learners

Turning now to the secondary analysis focusing on the 12 selected participants who exhibited the largest percent increases in their scores from the pretest to the immediate posttest, it is first important to reiterate the rationale for conducting the sub-analysis. Though the inferential statistics revealed relatively limited findings, it was clear that some individual participants benefitted from the instructional treatment regardless of the condition to which they were assigned. Hence, those with the highest improvements were further examined to ascertain what made the instruction more beneficial for them than for others. The commonalities found among the 12 participants were their L1 backgrounds and their high level of participation with the instructional material, which yielded insightful pedagogical implications that are discussed in the following section.

As for the quantitative analysis that accompanied these findings, two noteworthy patterns stood out. First, the Cohen’s $d$ values corroborated the main finding of the inferential statistics (i.e., the significant gains exhibited in the metalinguistic knowledge task). Interestingly, large effect sizes were found for the metalinguistic knowledge task not only from the participants in
the condition receiving input enhancement and metalinguistic explanations, but also from the group that received input enhancement, metalinguistic explanations, and practice. While the inferential statistics indicated significant effects only from the former group, the large effect size from the latter group suggests that at least for those who did benefit from the instructional treatment, the 20 minutes of metalinguistic explanations may have resulted in improvements in the metalinguistic knowledge task.

Another interesting finding from the Cohen’s $d$ values came from the participants in the input enhancement only condition, who showed medium and large effect sizes on the grammatical items in the grammaticality judgment task as well as in both of the oral tasks. This finding was unexpected, given the absence of significant effects from this group in the inferential statistics. While speculative, for at least these participants who on average demonstrated a high level of participation in their online lessons, perhaps encountering textually enhanced articles for six hours (i.e., 1 hour of input enhancement only × 6 lessons) successfully brought English articles to the forefront of their attention. Regardless of whether or not input enhancement alone increased any knowledge of articles per se, the learners may have become more consciously aware of their own article use by the time of immediate posttesting, leading to improved performance in the tasks.

While the findings above are encouraging and worth further examination in future research, an obvious caveat is the small sample size in the sub-analysis. Effect sizes are influenced by sample size as well as by the number of groups or conditions (e.g., see Murray & Dosser, 1987). Therefore, effect sizes should be interpreted with caution, and the results discussed in this analysis still remain tentative.
Explanation of Findings

Based on the discussion of the results above, there are a variety of attributing factors as well as theoretical inferences that may explain the results, both expected and unexpected. They are discussed in detail in the following subsections.

Task Characteristics. Of the numerous factors that might explain the results of the current study, some lie in the nature of the tasks themselves. The two written tasks (i.e., grammaticality judgment and metalinguistic knowledge tasks) both intended to measure the participants’ declarative knowledge of articles. Hence, finding no significant effects in the grammaticality judgment task was somewhat unexpected, especially given the increased declarative knowledge that one of the groups (i.e., the condition receiving input enhancement and metalinguistic explanations) exhibited in the metalinguistic knowledge task. The lack of significant effects in the grammaticality judgment task may be attributed to the untimed nature of the task. Given the high mean accuracy scores among all the groups at the time of pretesting, the occurrence of a ceiling effect seems likely. Though it may be argued that the ceiling effect was due to the task items being too easy, there is consensus that learners perform better in untimed than timed judgment tasks (Ellis, 2005; Godfroid et al., 2015; Loewen, 2009; Shiu et al., 2018; Zhang, 2015), even by one standard deviation, according to a meta-analysis by Plonsky et al. (2020). Hence, the absence of a time limit may well have been a contributing factor that further inflated scores without leaving much room for improvement. Also, the grammaticality judgment task was analyzed as two sets of items, grammatical and ungrammatical, to account for previous research findings that L2 learners tend to perform better on grammatical than on ungrammatical items in judgment tasks (Gutiérrez, 2013b; Kim & Nam, 2017; Loewen, 2009; Shiu et al., 2018; Vafaee et al., 2017), as well as for any detectable processing differences (Gutiérrez, 2013b).
between the two types of items. However, the data in the current study did not show a noticeable difference in accuracy between the two sets of items, as indicated by comparable scores at the time of pretesting for all the treatment groups (e.g., mean pretest scores on the grammatical items ranged between 79.41% and 81.28%; those on the ungrammatical items ranged between 76.47% and 84.49%). This may also be due to the untimed nature of the task, as corroborated by Loewen (2009), who found considerable differences between grammatical and ungrammatical items for timed but not untimed tests.

On the contrary, the significant effects found in the metalinguistic knowledge task were expected, and they reflect newly developed declarative knowledge of articles in the group that received input enhancement and metalinguistic explanations. The 30 minutes of metalinguistic explanations in each lesson consisted of explicit lecture videos and exercises targeting metalinguistic terms and concepts that were also included in the metalinguistic knowledge task. In addition, the untimed task gave participants as much time as they needed to access their explicit knowledge of articles, so those who had the specific metalinguistic knowledge were able to answer correctly, despite having four options (as opposed to two in the grammaticality judgment task) to select from.

The two oral production tasks, the elicited imitation task and the picture-description task, were designed to measure the participants’ procedural knowledge of articles. The elicited imitation task, similar to the grammaticality judgment task, was also analyzed as two separate sets of items—grammatical and ungrammatical. In contrast to the grammaticality judgment task, the mean scores on the grammatical items in this task were noticeably higher than those on the ungrammatical items. While the overall results of the elicited imitation task did not reflect any noticeable increases in procedural or implicit knowledge, one unforeseen exception was found in
the group receiving input enhancement and metalinguistic explanations, who demonstrated significant improvements on the ungrammatical items at the time of delayed posttesting. It is difficult to explain why the effects were found only in the delayed posttest, but this result partially aligns with Akakura’s (2012) finding that the benefits of explicit instruction (e.g., metalinguistic explanations) were limited to ungrammatical items only.

In addition, it is important to acknowledge that the validity of the elicited imitation task may have been hindered by task complexity. Although all participants were given specific directions and a sample item that exemplified what they had to do in the task, even the native baseline participants exhibited relatively low accuracy, notably more so on the ungrammatical items (89.72% on grammatical items and 79.39% on ungrammatical items). This suggests either that the participants (both native and L2 alike) possibly misunderstood the objective of the task (i.e., using the correct articles with the NPs provided regardless of the grammaticality of the audio stimulus), or that explicitly focusing on remembering the contents of the audio stimuli somehow interfered with their implicit ability to use articles correctly, especially when they were embedded ungrammatically in the audio stimuli. In addition to the complexity of the task itself, the validity of the elicited imitation task as a measure of implicit L2 knowledge may also warrant further investigation, as called for by Spada et al. (2015) after also finding complex results in their study.

With respect to the picture-description task, based on the very high accuracy of the pretest scores in all the conditions, a ceiling effect may also have occurred, which may be part of the reason why no effects were found in this task. Given that the participants were prompted with fairly basic key NPs and not bound by any other linguistic requirements nor a time limit, the task itself was likely easy for most participants. It could also be argued that the participants were able
to control the accuracy of their responses in their favour, by only using lexical chunks (e.g., *the next day*) or sentence structures that they feel confident in and avoiding using articles altogether in certain contexts (e.g., *her boy, their net*).

**Linguistic Target.** Another major factor that might provide an explanation for the unanticipated results is the enduring difficulty of the linguistic target, which may have weakened the efficacy of the FFI techniques. As discussed in Chapter 2, the English article system is a uniquely complex linguistic feature that is resistant to instruction (DeKeyser, 2005), even at high levels of L2 proficiency (Butler, 2002; Master, 1997, 2002; Robinson, 2010; Sheen, 2007). The results of the current study seem to further support this notion, as even carefully constructed FFI lessons with a specific focus on articles did not yield significant learning gains as hypothesized.

English articles are also singularly unique in that they hold little communicative value while at the same time being the most frequently occurring set of words in the entire language. Even though FFI has been considered particularly suitable for linguistic targets with low salience (Ranta & Lyster, 2018), the extreme ubiquity of English articles may make them an unusually difficult target to which to draw learners’ attention. It is plausible that the L2 learners in the current study had been desensitized to articles as a result of encountering them so much in their previous experience with English. In other words, even when textually enhanced or otherwise emphasized in instructional input, the participants may have neglected to pay attention to articles as a salient linguistic target because they were already so used to seeing and hearing (and perhaps ignoring) articles in the myriad contexts in which articles occur. In this sense, English articles seem to be an instance of what Han et al. (2008) refer to as “inherently non-salient” (p. 598) grammatical features in the input. Hence, the input enhancement in the current study may not have drawn the learners’ attention to articles or maintained it as effectively as it might have
with a different linguistic target. In addition, practice, which aims to proceduralize the declarative knowledge of a linguistic target, may have been less effective for articles than anticipated, since the meaning-focused aspect of practice could detract even more from a target form that has no inherent meaning on its own.

In sum, the overall results of the current study partially supported its hypotheses, particularly that input enhancement alone was not sufficient to result in learning gains and that metalinguistic explanations in addition to input enhancement led to increased declarative knowledge of English articles. The hypothesis that practice in addition to input enhancement and metalinguistic explanations would proceduralize the learners’ declarative knowledge and yield even larger learning gains was not supported. The discussion section also elaborated on possible explanations for the unexpected results, such as issues of task design and the choice of linguistic target. The following section highlights the pedagogical implications of the findings and offers instructional suggestions that can be drawn from the current study.

**Pedagogical Implications**

Despite yielding unexpected results that were not entirely clear with respect to the differential effects of the FFI techniques, the current study offers a number of worthwhile implications for L2 pedagogy. First, metalinguistic explanations were associated with the most significant learning gains for L2 learners, particularly in the metalinguistic knowledge task. While it is a clear example of learning outcomes directly reflecting the instructional content, it can also be argued that metalinguistic explanations, the most explicit of the three FFI techniques employed in the current study, was the most effective technique for a low-salience, difficult linguistic target such as articles. Furthermore, it is worth noting that the most direct type of feedback provided to the participants throughout the instructional treatment was during the
metalinguistic explanations portions of the lessons. For instance, the feedback during metalinguistic explanations pertained directly to the linguistic target itself, providing the learners with positive evidence of grammatical article use in their given contexts, while feedback during input enhancement was on various comprehension or vocabulary activities and did not explicitly address articles. As corroborated by abundant extant research (e.g., Akakura, 2012; Hinenoya & Lyster, 2015; Norris & Ortega, 2000; Shintani et al., 2016; Snape et al., 2016; Spada & Tomita, 2010), the pedagogical implication to draw here is that particularly for a difficult linguistic target, an explicit instructional approach, that preferably provides feedback focused specifically on the linguistic target, may be more effective than more implicit techniques such as input enhancement or meaning-focused practice.

Second, of the individual participants who demonstrated the highest improvements on the tasks, the overwhelming majority (10 out of 12) came from L1 backgrounds that do not have a linguistic feature comparable to the English article system, suggesting that those learners’ L1s may have been a factor in their learning gains. Although not all participants with article-less L1s showed noticeable gains, this finding indicates that at least some of those learners may have had more room for improvement than most of their counterparts from L1s with articles (i.e., Spanish, Portuguese, Tagalog, and French), possibly due to having had less experience with the concept of articles in general. While conceding that L1 background was not a focus of analysis for all L2 participants, this common factor among the 12 participants seems to substantiate DeKeyser’s (2005) claim that articles are especially difficult for L2 learners whose L1s do not have them, as well as Snape et al.’s (2016) finding that explicit instruction of articles was particularly beneficial for learners with L1s without an article system. Therefore, L2 instructors should consider their students’ L1 backgrounds to remain mindful of each learner’s level of familiarity
with and cross-linguistic proximity to the linguistic target at hand. Doing so would not only help set realistic expectations but potentially motivate instructors to seek creative ways to teach linguistic targets that accommodate learners’ diverse linguistic backgrounds and experiences.

Lastly, another insight gleaned from the current study is the importance of learner engagement and motivation. Regardless of their condition, the 12 participants who benefitted most from the instructional treatment all displayed a lesson participation rate higher than those of others in their respective condition. The 12 learners’ near-100% completion rates suggest a high level of learner engagement within this subset of participants, which might have contributed to their learning gains. These 12 participants voluntarily engaged more with the lesson content than others did, suggesting that they may be highly motivated L2 learners by nature. This finding is consistent with the long-standing notion that learner motivation is a crucial factor in successful L2 acquisition (Dörnyei, 1990, 2001; Gardner & Lambert, 1959; Hernández, 2006; Tremblay & Gardner, 1995). These participants’ learning success may be attributed more to the innateness of their motivation than the mere fact that they completed 100% of their lessons. Nonetheless, external encouragement for more participation during instruction likely still benefits L2 learners in general. As has been widely suggested (e.g., see Dörnyei & Kubanyiova, 2014), this finding supports the need for L2 practitioners to treat learner motivation as a high priority.

While the FFI techniques employed in the instructional treatment did not produce results exactly as hypothesized, the findings yielded pedagogical implications that hopefully add value to the overall field of L2 instruction. Lessons learned from some of the methodological shortcomings in the current study are discussed in the next section.
Future Directions

The current study had a number of limitations that in turn highlight worthwhile considerations for future studies in this line of research. First, the sample size \((N = 46)\) was very small, reducing the validity of the results. Furthermore, the high variation in L2 proficiency among the participants posed an issue of comparability between and within groups. Lastly, the L1 backgrounds of the L2 participants were not controlled for, which likely impacted the outcome of the current study. All these limitations collectively underscore a need for more judicious sampling of participants who are consistent in terms of L2 proficiency as well as L1 backgrounds, depending on the linguistic target. A similar study with a larger and more homogeneous pool of participants, whose proficiency is assessed by methods other than self-reports, may yield more significant and clearer effects of the various instructional conditions.

The design of the testing instruments also had some flaws, as discussed above. The difficulty level of tasks should be scrutinized to ensure that the tasks are consistently level-appropriate for the participants. On the one hand, future research should include tasks with enough of a challenge to leave room for improvement and avoid ceiling effects that were suspected from the current study. On the other hand, tasks that are too confusing or cognitively demanding may interfere with the participants’ linguistic abilities. Accordingly, tasks in future studies would benefit from steps taken to ensure their validity and their appropriateness for the target sample of participants.

Another limitation was the researcher’s inability to control the instructional setting, given the asynchronous online context. Although every online lesson was painstakingly designed to take each learner a total of one hour with clear demarcations for the different FFI techniques, it was impossible to collect data on or enforce the amount of time they actually spent on task. As
indicated by the variation among the participants, in terms of accuracy in lesson activities as well as the length and quality of written responses, it is also highly likely that individual participants exerted varying amounts of time and effort during the lessons. Future research should thus take care to better control instructional settings, especially with regards to the timing, duration, and levels of participation within lessons. Not only that, with internet- and computer-based learning continuing to grow as a major method of instruction, the need to provide online instruction that effectively captures the essence of in-person L2 instruction is more critical than ever.

Most importantly, the linguistic target selected was arguably the most consequential obstacle to obtaining clear effects of the FFI techniques. While articles are an important and beneficial linguistic target to teach to L2 learners, they have exceptional characteristics that likely interfered with the efficacy of the FFI techniques employed in the current study. In particular, the effects of input enhancement may have been weakened by the uniquely ubiquitous nature of articles. Further, implementing input enhancement by underlining entire noun phrases resulted in numerous instances in which only the noun phrase appeared typographically enhanced without an article (due to being accompanied by the zero article). Consequently, rather than to the articles accompanying them, learners’ attention may have been misdirected to the noun phrases themselves, along with any lexical salience they may have held. Hence, different input enhancement methods that emphasize articles more explicitly may be more effective. Better yet, investigating the differential effects of the FFI techniques with a linguistic target that is less complex and resistant to instruction may yield clearer results and more insightful findings.

This chapter discussed the current study’s results and provided possible explanations for its findings. It also included pedagogical implications and provided suggestions for future research, based on key aspects of the current study with opportunities for improvement. The next
chapter concludes the thesis, with a comprehensive summary of the main components of the current study followed by final considerations.
Chapter 6: Conclusion

This chapter concludes the current thesis. It first provides a summary of the research goals, key findings, and implications of the current study. Then it closes the thesis by presenting the contributions of the current study as well as final suggestions for future research.

Based on the instructional techniques that constitute proactive FFI in Ranta and Lyster (2018) as well as on the instructional sequence proposed by Lyster (2007, 2017), the current study investigated the differential effects of input enhancement, metalinguistic explanations, and practice on the L2 acquisition of English articles. Hypothesizing that each additional technique would incrementally increase the learning gains, the current study sought to measure the effects of various combinations of the three FFI techniques, using four tasks (i.e., grammaticality judgment task, metalinguistic knowledge task, elicited imitation task, and picture-description task) that measured L2 learners’ knowledge of articles.

The results revealed that the group receiving input enhancement only showed no significant improvements, which indicates that noticing alone was likely insufficient for increasing L2 learners’ knowledge of articles. The group receiving input enhancement and metalinguistic explanations exhibited immediate and durable learning gains in the metalinguistic knowledge task. Though the improvement was seen only in this task, this finding is highly consistent with previous evidence that metalinguistic explanations promote explicit knowledge, which was measured most directly by the metalinguistic knowledge task. There were no significant effects from the group receiving input enhancement, metalinguistic explanations, and practice, showing no benefits of practice on learning gains.

The secondary analysis of 12 participants who showed the highest improvements from the pretest to the immediate posttest revealed two noteworthy implications. For one, given that
the vast majority of the 12 participants had L1s with no comparable article system, they may
have had more room for improvement than the other participants, which highlights the poignant
role that a learner’s L1 background may play in the acquisition of English articles. Second, the
12 participants uniformly displayed a high rate of participation in the online lessons, indicating a
voluntary willingness to engage with the lesson contents. Their level of engagement may have
helped them even transcend the inherent difficulty of the linguistic target or possible
instructional shortcomings, providing support for the widely held notion that motivation is a
significant factor in successful L2 acquisition.

Most importantly, the key finding of the current study emphasizes the effectiveness of
metalinguistic explanations, or explicit instruction overall, on difficult linguistic targets such as
English articles. While the other FFI techniques may assist learning by facilitating noticing and
expediting proceduralization, establishing declarative knowledge of the linguistic target through
metalinguistic explanations seems to be the most essential component for L2 learning. Without
awareness facilitated by metalinguistic explanations, target forms, even when noticed, would
cease to be salient. In the same sense, only after declarative knowledge is firmly established
would practice be beneficial, ensuring not only that learners are aware of what they are
practicing, but that only targetlike knowledge is proceduralized.

The current study, despite its limitations, makes several contributions to the realm of
instructed L2 acquisition. Though the results did not yield clear evidence of the differential
effects of input enhancement, metalinguistic explanations, and practice, the present study was the
first to employ a research design that aims to measure the benefits of various combinations of
FFI techniques. In addition, while the current study reinforced the unique difficulties of teaching
and learning English articles, at the same time, it has taken a step toward identifying certain
factors that can impact the efficacy of L2 instruction of articles. Finally, the current study has been a successful trial of interactive lessons that can be delivered remotely to a large group of learners. Its use of technology to mimic specific FFI techniques conventionally intended for physical classroom settings can function as an encouraging model for instruction that can accommodate a wide range of learning goals.

Furthermore, the current study offers valuable insights for future studies. Particularly for studies that investigate the effects of instructional techniques, close attention should be paid to participant recruitment and selection, to ensure not only large enough but homogeneous groups of learners in terms of L2 proficiency and linguistic backgrounds. Examining different linguistic targets may also yield interesting results, provided that the targets are appropriately suited to the participants and amount of instruction. In addition, the tasks measuring the effects of instruction would benefit from more careful design and thorough pilot testing, so that they can assess L2 knowledge or skills as accurately as intended.

Overall, the current study highlights the role of explicit instruction in the acquisition of a notoriously difficult linguistic target, and it also provides pedagogical implications that can be applied to numerous contexts in instructed L2 acquisition. It is hoped that the current study not only contributes to our understanding of both FFI and L2 acquisition of English articles, but helps bridge the gap between L2 research and L2 instruction for a more collaborative and mutually beneficial relationship.
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Appendices

Appendix A

INFORMED CONSENT FORM FOR PARTICIPATING LEARNERS OF ENGLISH AS A SECOND LANGUAGE (L2 PARTICIPANTS)

Dear Participant,

Thank you for your interest in participating in this research study. The purpose of this study is to investigate the extent to which learners of English as a second language benefit from various instructional techniques in the acquisition of English articles (e.g., the, a(n)) (REB# 20-011-LEE). Our research would be the first study to explore the differential benefits of individual instructional techniques by employing different combinations of them in a second language learning context. Your participation is highly valued and essential to achieving the goal of this study.

The study will be conducted online and will take place over approximately six weeks. If you agree to participate, you will be asked to complete six English language lessons and three tests. You will begin your participation with the first test. Then you will receive six 1-hour online lessons over two weeks and complete the second test. Two weeks later, you will be asked to complete the third test. The tests will take no more than 90 minutes per session, during which you will complete four tasks using an online test and a one-on-one video conference session:

▪ judge whether or not each sentence provided is grammatically acceptable in English;
▪ select the English article and corresponding grammar rule that best completes each sentence provided;
▪ listen to true/false or opinion statements, say whether or not you agree, and repeat the original statement; and
▪ briefly describe or narrate your interpretation of a series of pictures provided.

Your one-on-one video conference session with the researcher will be recorded and transcribed for data analysis. Although your video recordings will be used solely for this study, audio clips from your recorded session may be played at conference presentations. Due to the recognizability of the human voice, the confidentiality of your identity cannot be completely guaranteed. However, your personal information will not be made public under any circumstances. There are no known or anticipated risks to you.

As stated, each test should take less than 90 minutes to complete and will be conducted online at a time that is convenient for you. For your participation, you will be compensated with a $20 e-gift card for Amazon.ca per test, for a total of $60 if you complete all three tests. If you are unable to complete any of the tests or decide to withdraw during a test, you will be compensated for that test and no longer eligible for future tests. Your compensation will be sent to you via email as soon as you finish each test or the researcher receives your request to withdraw. Other benefits to you as a participant include experiencing research processes in linguistics and complementary English language lessons. Please note that while you may benefit from the online lessons, this is not assured.
Every effort will be made to protect the confidentiality and privacy of all participants. Your personal information will not be revealed in any reports of the results. The researcher, Jackie Lloyd, and her faculty supervisor Dr. Andrew Lee will have exclusive access to any identifiable data (e.g., your name, date of birth, and contact information). Once data collection is finalized, all personal identifiers will be destroyed. None of your personal information will be made available to the public or other participants at any point throughout the study.

After data analysis is finalized, a summary of the overall results will be provided to all participants via email. At that point, you may contact the researcher, should you be interested in your own individual data.

The data will be published in the principal student investigator’s thesis and academic journals; they will also be presented at academic and professional conferences. By signing below, you give permission to the researcher to use the results for the aforementioned purposes. The results will be reported in an aggregated fashion, and data will be stored on a secure hard drive that will be safely locked in the research laboratory (MCC-411). Please note that test results, video recordings, and transcriptions will be kept for seven years after the completion of this study. This is done purely for archival purposes in keeping with publication policy. After seven years, all remaining data will be destroyed.

Your participation is entirely voluntary; you are under no obligation to participate. If you choose to participate, you may withdraw from the study at any time or refuse to answer any questions, without any penalty. If you choose to withdraw, all data gathered until the time of withdrawal will be destroyed and deleted. To withdraw, you may notify the researcher during your video conference session or by email at jk18ju@brocku.ca or andrew.lee@brocku.ca.

A copy of this consent form will be emailed to you. If you have any questions about this research or any concerns about your privacy, please contact the researcher by email at jk18ju@brocku.ca or andrew.lee@brocku.ca.

Finally, if you have any ethical concerns or complaints about your participation in this study and want to speak with someone outside of the research team, please contact the Research Ethics Office at (905) 688-5550 ext. 3035, or reb@brocku.ca.

Thank you,

Jackie Lloyd  
Graduate Student  
Department of Applied Linguistics  
Brock University  
1812 Sir Isaac Brock Way  
St. Catharines, ON L2S 3A1, Canada  
Phone: 647-884-9503  
Email: jk18ju@brocku.ca

Faculty supervisor: Dr. Andrew Lee  
Assistant Professor  
Department of Applied Linguistics  
Brock University  
1812 Sir Isaac Brock Way  
St. Catharines, ON L2S 3A1, Canada  
Phone: 905-688-5550 (ext. 4313)  
Email: andrew.lee@brocku.ca
I agree to participate in this study described above. I have made this decision based on the information I have read in this letter. I have had the opportunity to receive any additional details I wanted about the study and understand that I may ask questions in the future. I understand that I may withdraw this consent at any time.

I do not consent and do not wish to participate.

Please type your name in the box below to indicate your agreement to participate in this study.

Please provide your email address.

This file has been reviewed and received ethics clearance from the Brock University Research Ethics Board in July 2020.
Appendix B

PARTICIPANT BACKGROUND QUESTIONNAIRE

Thank you for your interest in participating in this study. The purpose of this questionnaire is to obtain more information about your language history. If you require any clarifications or have any questions while filling out this questionnaire, please let the researcher know.

Name: ______________________________________________________________

Email: ___________________________ Phone Number: _________________________

Occupation (Major): __________________________

Date of birth (YYYY/MM/DD): ____________________ Sex: M / F / Non-Binary

1. I consider myself a native speaker of ____________________________ (e.g., my mother tongue).

2. Are you currently living in Canada? Yes / No

3. Where were you born (Province/Country)? ____________________________

   a) If not in Canada, how long have you lived in Canada? _________________

4. Where were your parents born?

<table>
<thead>
<tr>
<th>Country of birth</th>
<th>Country of residence (currently)</th>
<th>Years in Canada</th>
<th>Native language</th>
<th>Other languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. Please indicate the language(s) in which you received your general education at each school level. If you switched languages within a level, please indicate when.

   Elementary school: ________________________

   Secondary school: ________________________

   College/University: _______________________  

6. If you are not a native English speaker, for how long have you been studying English?

   ______ years
7. What is your current level of English (please circle)?

8. Please indicate your highest English language achievement score, if available:
   TOEFL: ________________    IELTS: ________________
   CAEL: ________________    CELT: ________________
   Other: ________________

9. Is there anything else that you think is interesting or important about your language background or language use?
Appendix C

Sample Lesson: Input Enhancement Only

Lesson A5:

**Draw It**

What is the difference between an introvert and an extrovert?

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert</td>
<td></td>
</tr>
<tr>
<td>Extrovert</td>
<td></td>
</tr>
</tbody>
</table>

Which type do you think you are?

Ready to read?

Be sure to take your time, and use a dictionary for words you don't know.

To help you answer questions later, it may be helpful to download the passage. You can do this by clicking the down arrow in the bottom corner of the next page.

Enjoy!

Match each word with the correct description!
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Matching Pairs

Check Your Understanding
Choose the best word in the sentences.

Who is more likely to:
- find a job and get promoted - an extrovert or an introvert?
- become involved in a project - an extrovert or an introvert?

Employees who take the initiative and are proactive often do best with an introverted leader. employees who do not take the initiative and are less proactive often do best with an extroverted leader.

Open Ended Question

Please answer this question to your right (click to see!)
Paraphrase

To express the meaning of something using different words.

Open Ended Question

Please answer this question to your right --> (click to see).

Characteristics 1-5

Draw It

Before You Read

The activity you will need:

1. Delay getting married or starting a career.
2. Not finishing college.
3. Seeing hard work as necessary.
4. Being open to new ideas.
5. Wanting feedback from parents.

Matching Pairs
Draw It

Fill in the blanks with the correct words to complete the paragraph.

After a decade of innovation, the company is starting to introduce new products. The company has dramatically increased its expertise in computing, and attracted money from venture capitalists. One of the company’s insights was that it needed to better understand its customers. It surveyed many young people who use their phones for banking, and found they are fundamentally different than the older generation. The younger generation prefers the option of never going to a bank.

Great job!

Are you ready for the next reading passage?

Again, feel free to download the PDF file so you can refer to it as you answer questions.

Have fun!

Draw It
Who, what, where, when, why, and how questions are often the basis of a news article.

Fill in the information about the reading by answering these questions in complete sentences:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. WHO is Lauren Press?</td>
<td></td>
</tr>
<tr>
<td>2. WHAT does her company do?</td>
<td></td>
</tr>
<tr>
<td>3. WHEN did she found start her company (at what age)?</td>
<td></td>
</tr>
<tr>
<td>4. WHERE does the company operate?</td>
<td></td>
</tr>
<tr>
<td>5. WHY did she start Solid Pop?</td>
<td></td>
</tr>
<tr>
<td>6. HOW does she deal with her lack of experience?</td>
<td></td>
</tr>
</tbody>
</table>

Your answers should be similar to these:

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. WHO is Lauren Press?</td>
<td>This is a young entrepreneur who started Solid Pop.</td>
</tr>
<tr>
<td>2. WHAT does her company do?</td>
<td>It is a dessert shop sold in concert venues and events.</td>
</tr>
<tr>
<td>3. WHEN did she found start her company (at what age)?</td>
<td>She started Solid Pop when she was twenty-four.</td>
</tr>
<tr>
<td>4. WHERE does the company operate?</td>
<td>The company operates on the Internet, working with companies and restaurants nationwide.</td>
</tr>
<tr>
<td>5. WHY did she start Solid Pop?</td>
<td>She started Solid Pop after seeing how difficult it was for graduates to find jobs.</td>
</tr>
<tr>
<td>6. HOW does she deal with her lack of experience?</td>
<td>She uses her lack of experience to her advantage, saying that she &quot;has an open mind.&quot;</td>
</tr>
</tbody>
</table>

Indicate whether these statements are true or false, according to the reading passage:

<table>
<thead>
<tr>
<th>Statements</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More than 50 percent of businesses believed operating would increase.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. Parents now encourage their children to become entrepreneurs.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. Solid Pop encourages talented and skilled students to apply.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4. Lauren Press started her business to find a job after an internship.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5. She decided to take a lease on a storefront.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>6. Lauren Press believes that being an entrepreneur is easier, if it takes a &quot;bit&quot; of luck.</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Let's see how you

Draw It

Indicate whether these statements are true or false, according to the reading passage:

<table>
<thead>
<tr>
<th>Statements</th>
<th>True</th>
<th>False</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More than 50 percent of businesses believed operating would increase.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>2. Parents now encourage their children to become entrepreneurs.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>3. Lauren Press started her business to find a job after an internship.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>4. She decided to take a lease on a storefront.</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>5. Lauren Press believes that being an entrepreneur is easier, if it takes a &quot;bit&quot; of luck.</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

Draw It
Look at the following list. Choose 8 qualities that you think are the most important in a leader of a company or organization.

<table>
<thead>
<tr>
<th>A good leader</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• in control</td>
<td>• knows a lot about finance</td>
</tr>
<tr>
<td>• knows when to pass work to others</td>
<td>• treats subordinates fairly</td>
</tr>
<tr>
<td>• stays calm in a crisis</td>
<td>• has a positive attitude</td>
</tr>
<tr>
<td>• has a business degree</td>
<td>• is kind to others</td>
</tr>
<tr>
<td>• communicates well</td>
<td>• is creative</td>
</tr>
<tr>
<td>• has a sense of humor</td>
<td>• works long hours</td>
</tr>
<tr>
<td>• is confident</td>
<td>• treats higher individuals</td>
</tr>
<tr>
<td>• has excellent computer skills</td>
<td>• got good grades in school</td>
</tr>
<tr>
<td>• is committed to the organisation</td>
<td>• helps others</td>
</tr>
</tbody>
</table>
Appendix D

Sample Lesson: Input Enhancement & Metalinguistic Explanations

Lesson B5:

Draw It

What is the difference between an introvert and an extrovert?

<table>
<thead>
<tr>
<th>Personality Type</th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrovert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

What are some pros and cons of being each personality type?

Which type do you think you are?

Ready to read?

Be sure to take your time, and use a dictionary for words you don't know.

To help you answer the questions later, it may be helpful to download the passage. You can do this by clicking the down arrow in the top right corner of the next page.

Enjoy!

Match each word with the correct description!
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Matching Pairs

Paraphrase

Open Ended Question

Fill in the Blanks

Equative
- Brian is a simple person
- characterize/define/generalize
- "he" "she"

Negation
- I don't see a sign anywhere
- "not" "no"

Interrogative
- Can I get a medium coffee?

Hypothetical
- If I go to medical school, I would become a doctor.
1. If the price of gas goes up, ___ travel costs go up.
2. James is ___ student in one of my classes.

1. Can you get ___ bread and milk when you go shopping?
2. Do you mind if I ask you ___ question?
3. I can never get ___ clear answer from her.
4. The store didn’t have ___ brown rice.
5. Did they come to ___ agreement about the contract?
6. Ø depression is ___ serious mental illness.
7. Could you get me ___ glass of water?
8. I didn’t have ___ ticket, but they let me in anyway.
9. If I weren’t so busy, I would write ___ blog.
10. If you don’t quit smoking, you’ll have ___ heart attack.

Using the noun phrase "phone" [-SR, -HK], write:

A DECLARATIVE sentence
A REQUEST sentence
A INTERROGATIVE sentence
A HYPOTHETICAL sentence
Using the noun phrase "patience" [-SR, -HK], write:

1. They say that ___ necessity is the mother of ___ invention.
2. Have you ever given ___ speech in front of ___ audience?
3. Technically, ___ glass is not a solid, because it does not have ___ rigid structure.
4. If you arrive early, please send us ___ message, and ___ staff member will meet you.
5. A dormitory is ___ type of housing for ___ university students.
6. Would it be possible to get ___ loan to make ___ repairs

How did you do?

1. They say that ___ necessity is the mother of ___ invention.
2. Have you ever given ___ speech in front of ___ audience?
3. Technically, ___ glass is not a solid, because it does not have ___ rigid structure.
4. If you arrive early, please send us ___ message, and ___ staff member will meet you.
5. A dormitory is ___ type of housing for ___ university students.
6. Would it be possible to get ___ loan to make ___ repairs in the building?
Appendix E

Sample Lesson: Input Enhancement, Metalinguistic Explanations, & Practice

Lesson C5:

Draw It

What is the difference between an introvert and an extrovert?

What are some pros and cons of being each personality type?

<table>
<thead>
<tr>
<th></th>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrovert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which type do you think you are?

Ready to read?

Be sure to take your time, and use a dictionary for words you don’t know.

To help you answer questions later, it may be helpful to download the passage. You can do this by clicking the down arrow in the top right corner of the next page.

Enjoy!

Match each word with the correct description!
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Matching Pairs

Draw It

Check Your Understanding
(circle your choice)

Who is more likely to:

- find a job and get promoted – an extravert or an introvert?
- become involved in a scandal – an extravert or an introvert?

Choose the best word in the sentences:

- Employees who take the initiative and are proactive often do well with an introverted leader / an extraverted leader.
- Employees who do not take the initiative and are less proactive often do best with an extraverted leader / an introverted leader.

Check Your Understanding
(circle your choice)

Who is more likely to:

- find a job and get promoted – an extravert or an introvert?
- become involved in a scandal – an extravert or an introvert?

Choose the best word in the sentences:

- Employees who take the initiative and are proactive often do well with an introverted leader / an extraverted leader.
- Employees who do not take the initiative and are less proactive often do best with an extraverted leader / an introverted leader.

Open Ended Question

Please answer this question to your right → (click to see)

Lesson: Lesson CS: Business

Paraphrase

To express the meaning of something using different words.

Open Ended Question

Please answer this question to your right --> (click to see!) Characteristics 1-5

Form-focused Instruction on Article Acquisition

When does -SR/-HK happen?

- Equative
  - Brian is a single parent.
  - Characterize/define/generalize "xs" "x" "your" "my"

- Negation
  - I don't see a sign anywhere.
  - "not" "no"

- Interrogative
  - Can I get a medium coffee? questions

- Hypothetical
  - If I go to medical school, I would become a doctor.

Interactive video

Fill in the Blanks

1. Can you get ___ bread and milk when you go shopping?
2. Do you mind if I ask you ___ question?
3. I can never get ___ clear answer from her.
4. The store didn't have ___ brown rice.
5. Did they come to ___ agreement about the contract?
6. Ø depression is ___ serious mental illness.
7. Could you get me ___ glass of water?
8. I didn't have ___ ticket, but they let me in anyway.
9. If I weren't so busy, I would write ___ blog.
10. If you don't quit smoking, you'll have ___ heart attack.
11. If the price of gas goes up, travel costs go up.
12. James is ___ student in one of my classes.
Open Ended Question

You have a job interview coming up for a leadership position at a company that you admire and hope to work at. Choose FOUR qualities from the previous slide (click on the picture on the right for a larger view) that YOU possess, and write or record an interview pitch that explains why these qualities make you the best fit for the job.
Appendix F

Sample Lesson: Control

**Lesson D5:**

*Draw It*

What is the difference between an Introvert and an Extrovert?

<table>
<thead>
<tr>
<th>Type</th>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introvert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extrovert</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which type do you think you are?

Ready to read?

Be sure to take your time, and use a dictionary for words you don't know.

To help you answer question 1, it may be helpful to download the poster to your device by clicking the download icon in the top right corner of the next page.

Enjoy!

Match each word with the correct description!
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Check Your Understanding

Who is more likely to:

- Find a job and get promoted - an extrovert or an introvert?
- Become involved in a scandal - an extrovert or an introvert?
- Employees who take the initiative and are proactive often do best with an extroverted leader / an introverted leader.
- Employees who do not take the initiative and are less proactive often do best with an introverted leader / an extroverted leader.

Did you get these

Check Your Understanding

Who is more likely to:

- Find a job and get promoted - an extrovert or an introvert?
- Become involved in a scandal - an extrovert or an introvert?
- Employees who take the initiative and are proactive often do best with an extroverted leader / an introverted leader.
- Employees who do not take the initiative and are less proactive often do best with an introverted leader / an extroverted leader.

Open Ended Question

What percentage of managers are extroverts? How does this compare with the general population?
Paraphrase

To express the meaning of something using different words.

Form-focused instruction on article acquisition.

Draw It

Paraphrase Frances B. Kahnweiler’s F-VI characteristics of introverted leaders.

Open Ended Question

Look at the following list. Choose 8 qualities that you think are the most important in a leader of a company or organization.

A good leader
- Honest
- Knows what to pass work to others
- Plays calm in crisis
- Has a business degree
- Communications well
- Has a sense of humour
- Is confident
- Has excellent computer skills
- Is committed to the organization

Open Ended Question

Knows a lot about finance
- Treats subordinates fairly
- Has a positive attitude
- Is kind to others
- Is creative
- Works long hours
- Trusts his/her instincts
- Got good grades in school
- Inspires others
You have a job interview coming up for a leadership position at a company that you admire and hope to work at. Choose 4 traits from the previous slide (click on the picture on the right for a larger view) that you possess, and write or record an interview pitch that explains why these traits make you the best fit for the job.

The single biggest reason why start-ups succeed | Bill Gross

The speaker, Bill Gross, has founded over a hundred start-up companies in his life. Which of the following was his first experience with starting a business?

- making lemonade for his neighbours at age 10
- selling candy at the bus stop at age 12
- founding Idealab at age 21
- making solar energy devices in high school

Bill Gross cites Mike Tyson, a famous boxing champion, to make an analogy about business: “Everybody has a plan, until ________.”

- the bell rings at the start of the fight
- the referee counts down
- they get punched in the face
- they walk up to the ring

Starting a business with little funding is not a big problem, because:

- you can easily find investors once your company gains traction
- you can raise the price of your product as sales increase
- you can always hire a financial consultant
- funding is not important for tech start-ups
FORM-FOCUSED INSTRUCTION ON ARTICLE ACQUISITION

Check your

Open Ended Question

You are considering starting a new small business. Your three options are: a food truck - a home daycare - a franchise (e.g., Tim Hortons, Dairy Queen, etc.). Choose your preferred option, and write three reasons why you think it is the best choice for you. For the remaining two options, write two arguments AGAINST each of them.
Draw It

Guess the Business

Anna, Bob, Mary, and David are all small business owners. Anna owns a restaurant, a fitness club, a photography business, and a pet supply store. Can you figure out which business based on the following clues?

- Anna loves to cook.
- Bob does not have to rent a space for his business.
- Mary does a lot of shopping for her business.
- David's business is usually open in the evening.

Label each photo with the name of the business owner.

Here are the
Appendix G

Grammaticality Judgment Task

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1a. Did you know that the elephant is the only animal that can’t jump?</td>
<td>correct</td>
</tr>
<tr>
<td>1b. A truly great teacher’s influence extends well beyond classroom.</td>
<td>incorrect</td>
</tr>
<tr>
<td>2a. Of all people, you should know that a leader leads by example, not by force.</td>
<td>correct</td>
</tr>
<tr>
<td>2b. The human body is much tougher than you think. Human stomach acid is strong enough to dissolve razor blade!</td>
<td>incorrect</td>
</tr>
<tr>
<td>3a. Our program is designed to accommodate users with all different levels of skill and experience.</td>
<td>correct</td>
</tr>
<tr>
<td>3b. I don’t usually like the cats, but the one my next-door neighbour has makes me want to get one.</td>
<td>incorrect</td>
</tr>
<tr>
<td>4a. Did you see the Pope on the news? I had trouble understanding what he was saying.</td>
<td>correct</td>
</tr>
<tr>
<td>4b. This high-profile event attracts enthusiasts from all over world.</td>
<td>incorrect</td>
</tr>
<tr>
<td>5a. Please watch your step; the ground might be slippery after yesterday’s heavy rain.</td>
<td>correct</td>
</tr>
<tr>
<td>5b. As sign in front of you indicates, smoking is strictly prohibited in this building.</td>
<td>incorrect</td>
</tr>
<tr>
<td>6a. Is that the guy you’re talking about? Act normal, because I think he’s coming over here.</td>
<td>correct</td>
</tr>
<tr>
<td>6b. When I first went to Italy, I was afraid to speak the language. How I conquered a phobia was by talking to anyone who would listen.</td>
<td>incorrect</td>
</tr>
<tr>
<td>7a. Jim bought a car last week. He really enjoyed driving it, but this morning he found a problem with the engine.</td>
<td>correct</td>
</tr>
<tr>
<td>7b. I love that movie! What was the name of an actor who plays the main character again?</td>
<td>incorrect</td>
</tr>
<tr>
<td>8a. We went on a vacation to Hawaii last Christmas, but I ended up getting sick and was miserable the whole time.</td>
<td>correct</td>
</tr>
<tr>
<td>8b. Even though she had engineering degree, her real passion was journalism.</td>
<td>incorrect</td>
</tr>
<tr>
<td>9a. Our neighbour used to have dogs that barked very loudly. He had trouble taking care of them and had to give them up.</td>
<td>correct</td>
</tr>
<tr>
<td>9b. I want to introduce you to my new quirky friend who collects the typewriters.</td>
<td>incorrect</td>
</tr>
<tr>
<td>10a. Blue is a primary colour, and it also happens to be my favourite.</td>
<td>correct</td>
</tr>
<tr>
<td>10b. A pediatrician is doctor who specializes in the treatment of children’s disorders and diseases.</td>
<td>incorrect</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>11a. Dragons are <strong>fictional animals</strong>, yet they carry significance for a lot of people.</td>
<td>correct</td>
</tr>
<tr>
<td>11b. Both of my brothers are <strong>the athletes</strong>, but I was always more interested in the arts.</td>
<td>incorrect</td>
</tr>
<tr>
<td>12a. I wish I could pick you up from the airport, but I don’t have <strong>a car</strong> this weekend.</td>
<td>correct</td>
</tr>
<tr>
<td>12b. He is not <strong>doctor</strong>, so he should not be giving you any medical advice.</td>
<td>incorrect</td>
</tr>
<tr>
<td>13a. We are not <strong>volunteers</strong>; the company should compensate us fairly for our work.</td>
<td>correct</td>
</tr>
<tr>
<td>13b. Lisa decided to stay behind because she did not have <strong>the shoes</strong> suitable for hiking.</td>
<td>incorrect</td>
</tr>
<tr>
<td>14a. Is this <strong>a joke</strong>? I am so confused by what’s happening right now.</td>
<td>correct</td>
</tr>
<tr>
<td>14b. I lost my bag on the bus today. Do you have <strong>the phone</strong> I can borrow?</td>
<td>incorrect</td>
</tr>
<tr>
<td>15a. Did you get <strong>directions</strong> on how to get to the party?</td>
<td>correct</td>
</tr>
<tr>
<td>15b. Are you <strong>the members</strong> of the club or just visiting as guests?</td>
<td>incorrect</td>
</tr>
<tr>
<td>16a. If I had a million dollars, I would buy <strong>a yacht</strong>.</td>
<td>correct</td>
</tr>
<tr>
<td>16b. If I graduate on time, I could be <strong>nurse</strong> in three years.</td>
<td>incorrect</td>
</tr>
<tr>
<td>17a. If we had more money, we would own <strong>shares</strong> in your company.</td>
<td>correct</td>
</tr>
<tr>
<td>17b. In a perfect world, we would be <strong>the sisters</strong>.</td>
<td>incorrect</td>
</tr>
</tbody>
</table>
Appendix H

Metalinguistic Knowledge Task

Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>abstract noun</td>
<td>a noun indicating an idea, quality, or state rather than a concrete object</td>
</tr>
<tr>
<td>conventional</td>
<td>based on what is generally done or believed</td>
</tr>
<tr>
<td>countable noun</td>
<td>a noun that can be counted (e.g., pencil, cat)</td>
</tr>
<tr>
<td>definite article</td>
<td>the</td>
</tr>
<tr>
<td>equate/equative</td>
<td>the use of the verb <em>be</em> (e.g., <em>is</em>, <em>are</em>) to show one thing to be the same or equivalent to another</td>
</tr>
<tr>
<td>generic</td>
<td>relating to an entire class or group of things; not specific</td>
</tr>
<tr>
<td>hypothetical</td>
<td>assumed, supposed</td>
</tr>
<tr>
<td>indefinite article</td>
<td><em>a/an</em></td>
</tr>
<tr>
<td>interrogative</td>
<td>conveying a question</td>
</tr>
<tr>
<td>negation</td>
<td>the use of words such as <em>not</em> or <em>no</em> to express the absence or contradictory of something</td>
</tr>
<tr>
<td>noun phrase</td>
<td>a word or group of words that function like a noun (person, place, or thing) in a sentence</td>
</tr>
<tr>
<td>plural</td>
<td>referring to more than one of something</td>
</tr>
<tr>
<td>singular</td>
<td>referring to just one person or thing</td>
</tr>
<tr>
<td>uncountable</td>
<td>a noun without clear boundaries; cannot be counted (e.g., air, electricity)</td>
</tr>
</tbody>
</table>

1. Of all animals, I think the most majestic is _____ lion.
   a) a; “lion” is being mentioned for the first time
   b) the; “lion” as _an entire species_ is _being referred to generically_
   c) Ø; “lion” represents multiple lions, so it is actually a plural noun
   d) the; the speaker assumes that the hearer knows about lions

2. Although not everyone is a fan, _____ omelette is a delicious, easy dish.
   a) Ø; words derived from foreign languages do not take an article
   b) the; “omelette” is specific to the situation
   c) an; “omelette” is being mentioned for the first time
   d) _an; the speaker is referring to omelettes in general_

3. It is well known that _____ infants often mimic the behaviours of their caregivers.
   a) Ø; “infants” _is used in a generic sense and is plural_
   b) Ø; articles are not used when new information is given
   c) the; “infants” refers to a specific set of infants
   d) the; the speaker assumes that the hearer already has this information
4. Excuse me, do you have _____ time? I forgot my watch today.

a) Ø; “time” is an abstract noun and takes no article
b) a; “time” in this sentence is a generic use
c) a; the indefinite article should be used in interrogative sentences
d) the; “time” conventionally takes the definite article when asking what time it is

5. Let’s forget about the traffic and listen to some music. Can you turn on _____ radio?

a) a; the speaker does not know whether the hearer has a radio
b) a; the indefinite article should be used in interrogative sentences
c) the; “radio” is physically present in the situation
   d) Ø; “radio” is uncountable and takes no article

6. I got a new computer for the school year. I love everything about _____ computer except a strange noise it sometimes makes.

a) the; “computer” here refers to computers in general
b) the; “computer” is a technical term and should be used with the definite article
c) the; the second mention of a noun phrase uses the definite article
   d) the; the definite article is used in hypothetical expressions

7. Did you see Janet’s new hair? She was in _____ cafeteria earlier.

a) a; “cafeteria” is being mentioned for the first time
b) the; the speaker assumes that the hearer also knows the specific “cafeteria”
c) the; the speaker already mentioned “cafeteria”, so the definite article should be used
d) Ø; “cafeteria” is an irregular noun phrase that is actually plural

8. When I was twelve years old, I was in _____ car accident that put me in the hospital for two months.

a) a; “car accident” is being mentioned for the first time
b) a; “car accident” is generic in this sentence
   c) the; the definite article should be used when giving past information
   d) the; “car accident” conventionally takes a definite article
9. I ordered _____ appetizers before you arrived. Do you like crab cakes?

a) Ø; “appetizers” is uncountable
b) Ø; “appetizers” is plural and being mentioned for the first time
c) the; “appetizers” were ordered in the past
d) the; “appetizers” is associated with “crab cakes”

10. She is _____ single parent, so her free time is quite limited.

a) the; “she” is physically present in the situation
b) Ø; multi-word nouns like “single parent” do not take an article
c) a; “single parent” is a hypothetical noun phrase
d) a; the indefinite article should be used when equating one thing to another

11. German Shepherds are _____ dogs that have a reputation for being smart and obedient.

a) Ø; “German Shepherds” is a proper noun
b) Ø; “dogs” is a plural noun that defines or equates “German Shepherds”
c) the; “dogs” refers to a specific set of German Shepherds
d) the; “dogs” are physically present in the situation

12. I’m highly interested in financial investments, but I am not _____ expert.

a) an; the indefinite article should be used in negation statements
b) an; “expert” is an abstract noun
c) the; “expert” is being mentioned for a second time
d) the; “expert” is associated with “financial investments”

13. The project manager is out sick, so there won’t be _____ meetings today.

a) the; the hearer knows about “meetings” the speaker is referring to
b) the; “meetings” is used as a business-specific term
c) Ø; “meetings” is used in a negation statement
d) Ø; articles are not used when new information is given
14. Let’s go to the movies this weekend. Do you have _____ film in mind?

a) the; “film” is associated with “movies”
b) a; the indefinite article should be used in interrogative sentences
c) a; the indefinite article should be used in equative sentences
d) Ø; “film” refers to all films in general

15. Your apartment has a lot of stuff! Have you hired _____ movers for all this?

a) the; “movers” refers to all movers in general
b) the; “movers” are physically present in the situation
c) Ø; “movers” is used in a negation statement
d) Ø; plural nouns in interrogative sentences take no article

16. If I spoke French, then I would definitely get _____ government job.

a) the; “government” conventionally takes the definite article
b) a; “government job” is hypothetical in this sentence
c) a; “government job” is used generically in this sentence
d) Ø; multi-word nouns like “government job” do not take an article

17. If I won the lottery, I would buy _____ houses for all my family members.

a) Ø; “houses” is a plural noun used in a hypothetical statement
b) Ø; “house” conventionally takes no article
c) the; “houses” is a countable noun and must take an article
d) the; the speaker assumes that the hearer knows what “houses” are
Appendix I

Elicited Imitation Task

Recorded Audio:

Sample Item:

Grass is blue, and the ocean is tiny.

1. *A life is easier as a child than as *adult. (2 errors)
2. A last day of *month of December is the 30th. (2 errors)
3. Admission to *the public museums should be free for taxpayers. (1 error)
4. *The people benefit more from learning *second language than an instrument. (2 errors)
5. *Presentation of a dish is as important as the taste. (1 error)
6. A square is *type of *the rectangle. (2 errors)
7. It is *waste to spend money on the lottery. (1 error)
8. Africa is the largest continent on *planet. (1 error)
Appendix J

**Picture-Description Task**

Directions: Look at the series of pictures and describe what happened in the situation. Please include the key words or phrases written below the pictures.

**Series 1:**

Key words/phrases: boy, mother, umbrella, rain, next day

**Series 2:**

Key words/phrases: boy, grandfather, fish, river, net