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Explicit as Against Implicit Instruction of Form
in the L1 Greek-L2 English Young Learner Context
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Abstract

The present study examines the effects of Explicit as against Implicit Form-Focused Instruction (FFI) on young L1 Greek - L2 English learners’ knowledge of grammatical forms they have zero knowledge of, namely modal auxiliary verbs (perfect aspect) and counterfactual conditionals. Eight 10-year-old learners were assigned to one of two instructional treatment conditions: (a) the explicit focus-on-form and (b) the implicit focus-on-form one. Immediate and delayed posttests included production and comprehension tasks which aimed at tapping implicit and/or explicit knowledge, as well as subjective measures of awareness, i.e., confidence and source attribution ratings. A major objective of the present study was to explore whether young L1 Greek - L2 English learners could successfully respond to the above-mentioned instructional treatment conditions and assessment measures, i.e., whether explicit and/or implicit FFI can assist young learners in internalizing two completely new and beyond their current proficiency level grammatical forms, which type of instruction can have lasting effects, as well as the extent to which learners are aware of the knowledge they have acquired. Our findings show that (a) explicit FFI appears to have had a stronger effect on learners’ knowledge of the target forms than implicit FFI; (b) explicit FFI, overall, was shown to have more lasting effects than implicit FFI; (c) implicit FFI was shown to have more lasting effects regarding participants’ oral production skills (d) implicit or explicit effects might vary with the form taught; (e) the explicit group seems to have been aware of their knowledge, unlike the implicit group. In light of our findings, it is suggested that awareness-raising in the case of implicit FFI might be a more time-consuming process.

Keywords

Second Language Acquisition, Cognitive Psychology, Explicit Learning, Explicit Knowledge, Implicit Learning, Implicit knowledge, Interface, Conscious learning, Awareness, Attention, Noticing, Form-Focused Instruction, Focus on form, Explicit and Implicit Form-Focused Instruction
Θεοδώρα Μπλατσή

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Θεοδώρα Μπλατσή

Περίληψη

Η παρούσα μελέτη εξετάζει την επίδραση της άμεσης ή έμμεσης διδασκαλίας του τυπικού της Αγγλικής ως Ξένης Γλώσσας στην εσωτερίκευση δύο γραμματικών τύπων, (α) των τροπικών βοηθητικών ρημάτων (επιστημική και δεοντική τροπικότητα-παρελθοντική ρηματική όψη) και (β) των υποθετικών προτάσεων (μη πραγματικό), από μικρής ηλικίας Έλληνες μαθητές της Αγγλικής ως Ξένης Γλώσσας. Οκτώ δεκάχρονοι μαθητές κατανεμήθηκαν σε μία από τις δύο συνθήκες εκπαίδευσης: (α) ομάδα άμεσης και (β) ομάδα έμμεσης διδασκαλίας. Τα μέτρα αξιολόγησης που χρησιμοποιήθηκαν (α) δέκα ημέρες και (β) έξι εβδομάδες μετά τη συμπλήρωση του διδακτικού προγράμματος συμπεριλάμβαναν την παραγωγή και κατανόηση των γραμματικών τύπων, καθώς και τον βαθμό επίγνωσης από την πλευρά των μαθητών. Ένας σημαντικός στόχος της παρούσας μελέτης ήταν να τεκμηριώσει εάν μικρής ηλικίας Έλληνες μαθητές της Αγγλικής ως Ξένης Γλώσσας μπορούν να ανταποκριθούν επιτυχώς στις προαναφερθέντες συνθήκες διδασκαλίας και στα προαναφερθέντα μέτρα αξιολόγησης, εάν, δηλαδή, η άμεση ή/και η έμμεση διδασκαλία του τυπικού μπορούν να βοηθήσουν μικρής ηλικίας μαθητές να εσωτερικεύσουν εντελώς νέους γραμματικούς τύπους πέραν από το τρέχον επίπεδο γλωσσομάθειας τους στην ξένη γλώσσα, που είδος διδασκαλίας έχει μακροπρόθεσμα αποτελέσματα, καθώς επίσης σε τι βαθμό οι μαθητές έχουν επίγνωση της γνώσης που εσωτερικεύσαν. Τα συνολικά αποτελέσματα προέδρευσαν πρώτον, ότι η άμεση διδασκαλία του τυπικού φαίνεται να έχει μεγαλύτερη επίδραση στην εσωτερίκευση των δύο γραμματικών τύπων από την έμμεση, δεύτερον, ότι η άμεση διδασκαλία έχει πιο μακροπρόθεσμα αποτελέσματα από την έμμεση, τρίτον, ότι η άμεση διδασκαλία έχει πιο μακροπρόθεσμα αποτελέσματα από την έμμεση όσον αφορά στην παραγωγή προφορικού λόγου, τέταρτον, ότι η άμεση ή έμμεση διδασκαλία του τυπικού μπορεί να διαφοροποιείται ως προς την αποτελεσματικότητά της ανάλογα με το είδος της δομής που διδάσκεται και, πέμπτον, ότι οι υπό συνθήκες άμεσης διδασκαλίας μαθητές φαίνεται να είχαν επίγνωση της γνώσης που εσωτερικεύσαν. Βάσει των αποτελεσμάτων, προτείνουμε ότι, αναφορικά με την άμεση διδασκαλία του τυπικού, η ευαισθητοποίηση των μαθητών στο τυπικό φαίνεται να αποτελεί μια διαδικασία η οποία απαιτεί περισσότερο χρόνο προκειμένου να είναι αποτελεσματική.

Λέξεις Κλειδιά

Εκμάθηση Δεύτερης Γλώσσας, Γνωσιακή Ψυχολογία, Ρητή Μάθηση, Ρητή Γνώση, Αρρητή Μάθηση, Αρρητή Γνώση, Διεπαφή, Συνειδητή Μάθηση, Επίγνωση, Προσοχή, Παρατήρηση, Άμεση Διδασκαλία, Έμμεση Διδασκαλία
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List of Abbreviations

ACT       Adaptive Control of Thought
AGL       Artificial Grammar Language
CLT       Communicative Language Teaching
EFL       English as a Foreign Language
FFI       Form-Focused Instruction
FonF      Focus on form
FonM      Focus on Meaning
FonFs     Focus on formS
L1        First Language
L2        Second Language
OPT       Oral Production Test
SLA       Second Language Acquisition
TGJT      Timed Grammaticality Judgement Test
UGJT      Untimed Grammaticality Judgement Tests
WPT       Written Production Test

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0. Introduction

In the 1980s, Krashen’s (1982; 1985) distinction between unconscious/implicit acquisition and conscious/explicit learning and the claim that knowledge learned consciously cannot be internalized raised doubts as to whether conscious L2 grammar knowledge can result in L2 proficiency. In the 1990s, naturalistic/communicative methods flourished under the claim that an L2 should be acquired through natural exposure, just as L1 acquisition comes naturally as a result of implicit processes occurring while receiving comprehensible input, thus placing emphasis on meaningful interaction and little or no emphasis on form (Krashen & Terrell, 1983). This, however, resulted in learners’ improving their communicative ability at the expense of linguistic accuracy (Swain, 1985; Lightbown & Spada, 1990; Ranta & Lyster, 2017) and led to arguments for integrating form-oriented and meaning-oriented instruction (Long, 1991; Schmidt, 1990; Doughty & Williams, 1998). Second Language Acquisition (SLA) theories deal with such concerns as whether there can be an interface between explicit and implicit knowledge (Krashen, 1982; Bialystok, 1994a/b; DeKeyser, 1998; Sharwood-Smith, 1981; R. Ellis, 1990, 2008; Hulstijn, 2005; N. Ellis, 2005). Form-Focused Instruction (FFI) research investigates the effectiveness of more or less explicit types of FFI (Norris & Ortega, 2000; Spada & Tomita, 2010) to shed light on how grammatical forms are best learned (Long, 2015, 2017; R.Ellis, 2015, 2016). In light of the above, the present work, which involves eight 10-year-old L1 Greek - L2 English learners, assigned to two groups, one receiving a series of implicit and another receiving a series of explicit FFI treatments during a two-month intervention, sets out to investigate (a) the effect of implicit, as against explicit, FFI on learners’ internalization of two grammatical forms they have zero knowledge of, namely modal auxiliary verbs-perfect aspect and counterfactual conditionals; (b) which type of instruction has lasting effects on learners’ knowledge; and (c) the extent to which learners are aware of the knowledge they acquired. The participants’ knowledge was measured through a Written Production Test, an Untimed Grammaticality Judgement Test, an Oral Production Test and a Timed Grammaticality Judgement Test.
The dissertation is laid out as follows: **Chapter 1** introduces implicit and explicit learning and knowledge. Section 1.1 examines the two types of learning/knowledge from a Cognitive Psychology perspective, while Section 1.2 examines them from a Second Language Acquisition (SLA) perspective, focusing on the interface debate, and the role of consciousness/awareness in SLA.

**Chapter 2** explores FFI. Section 2.1 presents various approaches to grammar instruction. Section 2.2 offers a definition of the terms ‘grammar’ and ‘form’, while section 2.3 is an exploration of FFI. Section 2.4 presents the differences between explicit and implicit FFI and section 2.5 describes the FFI pedagogical options employed in our instructional treatments.

**Chapter 3** is a detailed description of the present research. Section 3.1 presents the research questions, while section 3.2 describes the participants. Section 3.3 explains the research design, and section 3.4 describes the teaching intervention. Finally, section 3.5 presents the data collection instruments and section 3.6 the method of analysis.

**Chapter 4** presents the findings of our research. Section 4.1 presents the data, which are then discussed and interpreted in section 4.2 to provide answers to our research questions.

**Chapter 5** is a concluding chapter. Section 5.1 presents our conclusions and the pedagogical implication of the study. 5.2 sets out the limitations of the study and implications for further research.
Chapter 1. Implicit and Explicit Learning and Knowledge

Introduction

This Chapter presents the controversial issue of implicit and explicit learning and knowledge. Section 1.1 examines the two types of learning and knowledge from a Cognitive Psychology perspective, while Section 1.2 examines them from a Second Language Acquisition (SLA) perspective, focusing on the interface debate, and the role of consciousness or awareness in SLA.

1.1 Introducing Implicit vs. Explicit Learning

The influence of Cognitive Psychology on SLA is evident in theories and research related to the distinction between implicit and explicit learning and knowledge (R. Ellis, 2015). The term ‘implicit’ was employed by Reber (1967) - “as a euphemism of choice for unconscious” (Reber, 2015, p. vii) - to refer to “an in principle mechanism for language, and as an alternative to Chomsky’s (1965) notions of Universal Grammar (UG)” (Reber, 2011, p.30). Implicit learning began with Artificial Grammar Learning (AGL) experiments, during which the participants were expected to learn complex strings of an artificial grammar unconsciously; more specifically, they had to abstract some knowledge from the underlying regularities without being aware that they were exposed to rule-governed stimuli (i.e., they thought they just had to memorize the strings of letters). After exposure to the complex strings of letters, they were presented with new ones and asked to use the grammar rules they had learned to decide whether the novel strings were in agreement with or whether they violated the underlying grammar rule (N. Ellis, 2016, 2011; Reber, 1989). The underlying rationale was that explicit learning conditions promote explicit learning, that is, learning with some level of awareness, which emerges by deduction, and that, in contrast, implicit learning conditions promote implicit learning that is, learning without any level of awareness (Leow, 2015). The participants in these implicit...
learning experiments abstracted some knowledge of the underlying regularities, or, in Reber’s words, they “can be said to have been exploiting the structure inherent in the stimulus display” (Reber, 1989, p. 221), but they could not reason about their choices. Therefore, it was shown that acquisition is not always driven by conscious beliefs and that the acquired knowledge is not always explicit or verbalisable (N. Ellis, 2016). The participants acquired some knowledge without intending to and Reber concluded that the “rudimentary inductive process” (Reber, 1967, p. 863) observed in the experiment was likely to be intrinsic in other processes, including pattern perception and language acquisition generally (Rebuschat, 2015).

1.1.1 Implicit Learning: Learning without Awareness

Implicit learning has been defined differently by different researchers. Decades ago, Thorndike and Rock (1934 in Leow, 2015, p.58) had defined the term implicit learning as “learning without awareness of what is being learnt or intent to learn it”, which was later adopted by Reber (1967), who defined it as “a process whereby a subject becomes sensitive to the structure inherent in a complex array by developing (implicitly) a conceptual model which reflects the structure to some degree” (Reber, 1967, p. 58). During this process, an abstract representation of the structure is induced and “this knowledge is acquired in the absence of conscious, reflective strategies to learn” (Reber, 1989, p. 219). During implicit learning, which involves the typical learning mode in incidental\(^2\), non-intentional learning (Williams, 2009), participants are not intending to learn, nor are they aware of the learning that is taking place, which results in unconscious, implicit knowledge. Implicit learning has also been defined as “acquisition of knowledge about the underlying structure of a complex stimulus environment by a process which takes place naturally, simply, and without conscious operations” (N. Ellis, 2016, p. 3). The common denominator in all these definitions, however, has been that implicit learning takes place unconsciously, without any intention to learn, and without any awareness of what is being learnt.

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\(^2\) Incidental learning was initially viewed as learning that does not involve any deep processing or cognitive effort to retain the learning which occurs (Jenkins, 1933, in Leow & Zamora, 2017, p. 33); later, it was thought of in terms of instruction, that is, in terms of whether learners were explicitly instructed to learn and retain the material (Postman, 1964 in Leow & Zamora, 2017, p. 34).
1.1.2 Explicit Learning: Learning with Awareness

As opposed to implicit learning, explicit learning is to do with more conscious operations, during which subjects attend to certain aspects of the stimulus array and formulate and test hypotheses about the underlying rule in search of a structure (N. Ellis, 2016; 2011; 1994). Hulstijn has defined it as:

...input processing with the conscious intention to find out whether the input information contains regularities and, if so, to work out the concepts and rules with which these regularities can be captured (Hulstijn, 2005, p. 131)

During this process, learners develop conscious, explicit knowledge, which is commonly associated with intentional, as opposed to incidental, learning conditions, i.e., the participants are instructed to look for rules or patterns (Rebuschat, 2015). Intentional learning, which represents explicit learning, has been viewed as “a deliberate attempt to commit factual information to memory” (Hulstijn, 2013, p. 2.632), involving cognitive effort and deep processing (Leow & Zamora, 2017)

1.1.3 Statistical Learning

Currently, due to extended research in language acquisition, statistical learning, a domain-general mechanism is gaining ground. It refers to “our ability to make use of distributional information in the input to bootstrap language acquisition, and involves computations based on units or patterns” (Rebuschat, 2015, p. xv). With regard to language learning in particular, it holds that human beings are attuned to occurrence and co-occurrence and that language learning “results from our sensitivity to the distributional properties of the input” (Andringa & Rebuschat, 2015, p. 188). In other words, statistical learning takes place unconsciously and automatically upon exposure to input; during this process linguistic knowledge is gradually accumulated on the basis of distributional properties of the input, and grammatical structure/form, in particular, which is of special interest to us, emerges over time and after many exposures to the target structure (N. Ellis, 2008; N. Ellis & Larsen Freeman, 2006).
Undeniably, *implicit (statistical*) learning, a vital feature of our cognition, permeates and affects a lot of complex behaviors, including language comprehension and production, and intuitive decision making, and, although scientists might disagree on whether the acquired knowledge is unconscious or not and on how it might be represented, there appears to be a general agreement on some of its basic characteristics: first, learners can quickly acquire knowledge from a complex stimulus domain, without intending to; second, given that participants in experiments appear to *know* that they have acquired some knowledge, and yet they are not aware of what that knowledge is, implicit learning seems to be accompanied by a sense of intuition (Dienes & Scott, 2005; Rebuschat & Williams, 2012); and finally, implicit (statistical) learning might be held in memory more easily and longer than explicit learning (Allen & Reber, 1980; Rebuschat, 2015).

### 1.2 The SLA Perspective: The Interface of Implicit and Explicit Knowledge

The controversy evident in Cognitive Psychology is mirrored in SLA (R.Ellis *et al*., 2009) and the distinction between implicit and explicit knowledge has known wide acceptance in the field, because understanding how the two types of knowledge interface can help us understand the way L2 proficiency develops and which types of L2 forms are amenable to explicit instruction (Andringa & Rebuschat, 2015). Currently, there is a broad consensus that the acquisition of an L2 is inextricably related to the development of implicit knowledge, which is, in fact, the desired outcome of L2 instruction, but not everyone agrees on how this is achieved or what the exact contribution of explicit knowledge is (N. Ellis, 2005; Andringa & Rebuschat, 2015). In L2 learning terms, the interface is about whether explicit L2 knowledge (i.e. rules and use of metalanguage) can affect the development of implicit L2 knowledge (spontaneous application of knowledge in new contexts, language production and comprehension). Three positions claiming different roles for explicit

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3 Due to similarities between implicit and statistical learning research, Conway & Christiansen (2006) proposed the term *implicit statistical learning*.

4 Allan and Reber (1980) found that knowledge acquired in an implicit way can be detected two years later (p.184); they reported on a “rather remarkably persistent long term memory for highly abstract and complex materials” (p.175).
knowledge can be singled out: the no interface, the strong interface and certain weak interface positions, each of which provides an alternative answer to the question and, as we shall see in Chapter 2 in greater detail, has different implications as to how grammatical forms should be taught.

Before turning from implicit/explicit learning to implicit/explicit language knowledge, it is also worth mentioning that implicit/explicit learning is different from explicit/implicit knowledge in that, while learning takes place during input exposure and input processing, as well as ‘intake’ stages of the learning process, knowledge resides in the internalization stage of the learning process and is usually measured beyond that stage, when it is produced (Leow, 2015). In the present study, which involves different instruction treatments designed to expose learners to implicit as against explicit learning conditions, it is the resulting knowledge that can be measured and accounted for upon the treatments completion.

1.2.1 No Interface Position

As already noted in the Introduction, in SLA, the interest in explicit and implicit learning and knowledge was sparked by Krashen’s (1977, 1979, 1981, 1982, 1994) SLA theory and his distinction between acquisition and learning of an L2 (N. Ellis, 2011), according to which acquisition is an incidental subconscious process which results in tacit linguistic knowledge, that is, acquired (implicit) knowledge, and language learning, an intentional process, which requires effort and which results in learned (explicit) knowledge. Further, in his Input and Monitor Hypotheses, Krashen (1977, 1979, 1981, 1994) views unconscious acquisition as dominant in L2 performance, with learners relying exclusively on acquired (or implicit) knowledge in speech comprehension and production; conscious learning, on the other hand, whose only role is that of a monitor, that is, some kind of ‘editor’ modifying output online, after it has been initiated by the acquired system, cannot be converted into acquisition. Explicit knowledge may serve as a monitor if the learner “is consciously concerned about correctness; and he or she must know the rule” (Krashen, 1985, p.2). Although learned/explicit knowledge might be of some help, however, Krashen (1994) maintains that conscious language learning contributes little to L2 proficiency and that unconscious language acquisition can occur in the absence of any kind of error
correction, skill-building or output, but not without comprehensible input, so language pedagogy should create language acquisition (implicit learning) rather than language learning conditions (explicit learning). In essence, he claimed that aspects of language learning and/or language acquisition result in two fundamentally different knowledge bases; his theory is a ‘no interface’ position (Krashen, 1981; 1985; 1994; Krashen & Terrell, 1983), arguing that implicit and explicit knowledge are completely distinct; in other words, the explicit knowledge of a rule does not help with the implicit acquisition of the same rule.

1.2.2 Strong Interface Positions

Krashen’s theory met with criticism and gave rise to ‘strong’ interface positions opposing it. ‘No interface’ and ‘strong interface’ positions can be viewed as two extremes on one continuum. A strong interface position holds that there is a strong relationship between explicit and implicit language knowledge. Linguistic knowledge is viewed as changing in the course of acquisition and becoming increasingly available in communication; explicit knowledge can turn into implicit knowledge. What follows is a summary of two ways in which this is possible.

1.2.2.1 Bialystok’s views on Implicit and Explicit Knowledge

In her attempt to account for the fact that while children acquire an L1 implicitly, adults do so explicitly and still fail to apply their knowledge, Bialystok (1994a; 2011) claimed that linguistic knowledge begins as implicit and, as the user’s proficiency develops it becomes more explicit until it can be articulated. She viewed proficiency as developing along two dimensions: (a) analysis (of representations), which refers to awareness of structure and (b) control (of attentional processes of skilled performance), which refers to the “cognitive procedures used to access knowledge and carry out the necessary operations” (Bialystok, 2011, p. 50). Learners aim to develop awareness of a structure, but unless it is analyzed it does not function but as a pattern or routine. Once they develop awareness of a particular structure, their knowledge moves along the analysis dimension, until they can apply it in new contexts. However, irrespective of the degree of analysis, different learners access a structure differently, so differences in fluency among learners can be accounted for by
the degree of control learners may have over the structure. Linguistic knowledge begins as implicit and, contrary to what might be expected, non-automatic. With reference to the *interface debate*, therefore, for Bialystok explicit knowledge exists by virtue of implicit unanalyzed knowledge rather than independently. Explicit knowledge is not viewed as conscious knowledge, but as knowledge that can be brought to consciousness if called upon: “indeed, increasing explicitness can almost serve as a definition for what we mean by learning” (Bialystok, 1994b, p. 567).

### 1.2.2.2 Declarative vs. Procedural Knowledge

DeKeyser (1998) and Sharwood-Smith (1981), who were among the earliest proponents of a ‘strong interface’ position, argued that language proficiency development is a process of *automatizing explicit knowledge* so that it becomes implicit; in fact, learning was characterized as *increasing implicitness*.

Drawing on Anderson’s (1995) Adaptive Control of Thought (ACT) model of *skill-acquisition*, which distinguishes between *declarative* (explicit) and *procedural* (implicit) knowledge, DeKeyser (1998) argued that linguistic knowledge starts out as *declarative* (factual), then turns into *procedural* (knowing how), and eventually becomes fully *automatized*. Declarative knowledge can be acquired through instruction and/or observation and analysis. Then, the learner begins to use it (i.e. production/comprehension). Declarative knowledge gradually becomes procedural, “as the learner starts to engage ‘in target behaviour - or procedure - while leaning on declarative crutches’” (DeKeyser, 1998, p. 49). Initially, therefore, the learner uses a certain structure relying on the declarative knowledge she or he has about it, and, through repeated practice, she/he ends up with more procedural knowledge, which encodes behavior rather than factual knowledge. The final step involves “strengthening, fine-tuning, and automatization” (DeKeyser, 1998, p. 49) and procedural knowledge becomes fast and without deliberation, that is, fully automatized.

Sharwood-Smith (1981) argued that, equipped with explicit knowledge, a learner can apply rules consciously during classroom practice and during communication in the TL at a higher level of proficiency, but this is not the same as the notion of
‘automatized knowledge’ or ‘fluency’, which is characterized by speed and spontaneity, as fluency results from practicing in formal and informal naturalistic ways.

1.2.3 Weak Interface Positions

The ‘no’ and ‘strong interface’ positions are two extremes on the interface continuum. Positions falling in between are referred to as ‘weak interface’ positions and acknowledge that explicit knowledge can affect the development of implicit knowledge indirectly and vice versa. R. Ellis (1990; 1997), for instance, argues that explicit knowledge can become implicit depending on developmental factors, whereas N. Ellis (2005) argues that explicit knowledge does not turn into implicit knowledge but can assist it.

More specifically, R. Ellis (1990; 1997; 2008) argues that the explicit knowledge acquired through conscious attention to form can contribute to the development of implicit knowledge, which can lead to fluent, spontaneous language use, but that not all language features can be learned implicitly and, even if they can, they take a long time to do so. Linguistic forms lacking perceptual salience go unnoticed by the learner so they cannot be learnt implicitly. Also, learners exposed to entirely new semantic/pragmatic concepts which are to be mapped onto the L2 form might need to attend to form to learn the relevant associations. Further, acquiring explicit knowledge (i.e. rules) depends on proper timing of instruction as certain rules are developmentally constrained. R. Ellis, like most scholars, argues that L2 knowledge starts out as implicit, but as opposed to Krashen (1981, 1982), he does not embrace the idea that language acquisition is mainly driven by learners’ need to understand messages. It is frequency, salience, and task demands that attract learners’ attention instead. Noticing and comparing mechanisms play a crucial role, as learners test their hypotheses about L2 and are led to new ones. Therefore, explicit knowledge is important in that it facilitates learners’ noticing certain rules, especially the ones that are communicatively redundant (e.g. the third-person -s does not convey a specific meaning as plural -s does).
On the other hand, drawing on currently widespread usage-based/statistical learning views of language acquisition, N. Ellis (2005; 2011; 2015) argues that research supports a weak interface position, according to which there are two separately co-existing knowledge systems, that is, two systems that work cooperatively in any given instance, but explicit knowledge cannot become implicit knowledge; rather, it is a form of knowledge called in whenever implicit knowledge fails us, i.e., “we think about walking when we stumble [...] and about language only when communication breaks down” (N. Ellis, 2011, p. 41). In other words, conscious and unconscious processes are involved at all steps of the way in any cognitive task, language being no exception (Gass & Selinker, 2008).

In an attempt to determine the extent to which explicit learning conditions can affect statistical learning processes, N. Ellis argued that through FFI learners’ attentional processes can be directed to certain formal aspects present in the input and away from others. In this way, certain aspects of the input are blocked from attention, while others will be more noticeable, which can have an effect on the frequency-based uptake of these forms, that is, on what is actually learnt (N. Ellis, 2015; 2005). N. Ellis views learning as a dynamic process which takes place during processing but the influence upon implicit cognition endures thereafter (N.Ellis, 2011).

The present study supports the view that attending to and noticing grammatical forms in the input is crucial in L2 acquisition and it assumes that explicit knowledge can assist L2 acquisition, but it challenges the claims related to developmental order.

1.2.4 The Role of Consciousness in L2 Acquisition: Awareness, Attention and Noticing

Apparently, implicit learning is generally viewed as learning without awareness, while explicit learning is viewed as learning with awareness, so, at this point, it is crucial that we look into the construct of ‘awareness’, whose role during the learning process is so complex. Awareness has been defined as “a state of mind in which one has become cognizant of the regularities underlying the data” (Schachter, 1989, p. 577 in Leow, 2015, p. 185). Awareness is also viewed as “a particular state of mind in which an individual has undergone a specific subjective experience of some cognitive
content or external stimulus” (Tomlin & Villa, 1994). Finally, it has also been defined as “the function of interpretation of the nature of the encoding and retrieval processes required by the task” (Robinson, 1995). Therefore, the construct of awareness refers to something taking place in our brain as we process language.

Awareness is usually discussed in terms of processes such as noticing, attention, detection, and memory, but, although it is impossible to discuss the theoretical foundations of the role of these cognitive processes in learning in non-SLA fields in detail here (see Leow, 2015 on theoretical models of attention, the role of consciousness in information processing models, and neuroscientist and connectionist modeling), it is necessary that reference be made to the concept of ‘noticing’, which has a central position in ‘weak’ interface approaches, according to which explicit processing plays quite an important role in L2 learning (N. Ellis, 2011).

In general, SLA has accepted that noticing, which can take place intentionally or unintentionally (i.e., incidentally, while learners try to comprehend the input), facilitates L2 acquisition and that conscious attention is what connects input to acquisition (R. Ellis, 2015a). In his ‘Noticing Hypothesis’, Schmidt (1990; 1994a/b; 2001) claimed that form needs to be noticed in the input consciously to be further processed; the learner must become aware of it. Learning depends on cognitive processes, on what learners attend to in the input, which is a prerequisite for storing L2 information in the long-term memory (Robinson, 1995; Schmidt, 1990; Tomlin & Villa, 1994). However, not all input becomes intake and then output. In fact, it has been shown that learners tend to notice some features such as lexis and word-order but are less likely to notice semantically redundant (not necessary for understanding the meaning) and not very salient (that can be easily overlooked) morphological features, which, consequently, are not acquired and which need to be consciously noticed; given that that there are aspects in the input that are represented and stored in memory without having been attended to, some learning without attention might be possible, but still, the more one attends to or notices something, the more one will learn about it (R. Ellis, 2015a).

The present research acknowledges the importance of facilitating learners’ noticing grammatical forms by deliberately attracting or drawing their attention to and raising
their awareness of them through various FFI techniques (see Chapter 2), and that noticing can take place intentionally/explicitly. Also, the present work seeks to shed some light on the extent to which learners are aware of the knowledge they have acquired. To this end, as we shall see in Chapter 3, they were asked to indicate whether they attribute their knowledge to rule/memory, which indicates awareness, or intuition/guess, which indicates lack of awareness, since implicit learning is often accompanied by a sense of intuition (see section 1.13).

**Conclusion**

Admittedly, it has not been adequately shown that learned/explicit knowledge can become acquired/unconscious/implicit knowledge characterizing spontaneous, fluent language use (Truscott, 2015); nor can we be sure about (a) whether there is indeed a mechanism responsible for an interface; (b) the extent to which L2 learning can be manipulated by external factors; and (c) which type of learning, implicit or explicit, works better for all learners. Still, we can be sure that during the learning process “learners’ cognition undergoes many changes as representations of the L2 grammar are created, internalized and often restructured and as, at the same time, an ability to comprehend and produce the language is developed” (Leow, 2015, p. xii). It is only natural that the question of whether it is best to acquire the grammatical forms of language through implicit (without awareness) or explicit (with awareness) instruction has been one of the most challenging ones, a question that FFI research has strived to answer. We will see how this is effectuated in the next Chapter.

**Chapter 2. Form-Focused Instruction**

**Introduction**

In this chapter, an overview of the interface approaches as mirrored in Applied Linguistics is followed by a definition of the terms ‘grammar’, ‘form’, and ‘explicit and implicit form-focused instruction’, as well as by a brief presentation of the FFI pedagogical options employed in the present research.
2.1. Approaches to L2 Grammar Instruction

The theoretical and empirical developments discussed in the previous chapter brought about a number of changes in approaches to L2 grammar instruction. In the 1960s and 1970s, when Grammar-Translation or Cognitive Code\(^5\) were widely embraced, instruction emphasized pedagogical grammar rules in lessons revolving around language forms, while it was generally believed that “perception and awareness of L2 rules necessarily precede their use” (N. Ellis, 2011, p.36). However, mainly due to arguments that knowledge ‘about’ language does not equal knowledge ‘of’ language, explicit grammar instruction was renounced. Krashen’s (1982; 1985) distinction between \textit{implicit language acquisition} and \textit{explicit language learning} - a ‘no interface’ position, as explained in chapter 1- came not only to challenge traditional explicit methods, but also - given that it was actually a claim that instruction has little to offer to L2 acquisition - to establish a ‘zero position’ on instruction (N. Ellis, 2011). Consequently, in the 1980s, traditional explicit methods were replaced by naturalistic/communicative\(^6\) approaches to L2 instruction, viewing L2 learning mainly as implicit, as is the case with an L1. Soon, however, relevant research showed that, while students in content-based programs such as French immersion (Swain, 1985) and Communicative Language Teaching (CLT) ones (Lightbown & Spada, 1990) exhibited a high level of communicative ability, they demonstrated low levels of linguistic accuracy (Ranta & Lyster, 2017, p.41). In the 1990s, along with strong/weak interface positions, the need to integrate meaning-oriented and form-oriented instruction emerged. Schmidt (1990; 1994; 2001) highlighted the importance of noticing, attention and/or awareness in L2 learning, ignited interest in the role of consciousness in SLA and gave rise to research both in terms of instruction (Doughty & Williams, 1998) and in laboratories (Hulstijn & DeKeyser, 1997). Thus, the ‘no interface’ position (see Chapter 1) was questioned and Applied Linguistics was left

\(^5\) It emphasized the role of cognition in the conscious study of language as a code and the importance of gaining conscious control of linguistic patterns (Hinkel, 2012).

\(^6\) Audiolingualism, which involves explicit syntax and grammar instruction based on chain, substitution or transformation drills, repetition and memorization and in which rules are induced by analogy, not through analysis, the Natural Method, which emphasizes acquiring an L2 in a natural way, just as children learn their mother tongue, and Communicative Language Teaching approaches, which are meaning-focused and aim at developing learners’ communicative competence (Manolopoulou-Sergi, 2004).
with a weak interface position (N. Ellis, 2005; Long, 1991), which involved various roles for explicit knowledge, summarized by N.Ellis (2011) as follows: explicit knowledge plays a role (a) in the perception of and selective attending to L2 form by facilitating the processes of noticing; (b) in noticing the gap between input and output; and (c) in initial stages, in learners’ output; learners employ it during practice when a controlled use of declarative knowledge guides the proceduralization and automatization of language processing, as is the case with most cognitive skills (N.Ellis, 2011; 2016). On the whole, interest in explicit grammar instruction was reborn and there was a transition from meaning-focused instruction (MFI) to form-focused instruction (FFI), but this time, focusing on form did not involve the decontextualized meaningless grammar drills of Grammar-Translation. Instead, it was gradually conceptualized as ways of integrating communication/meaning and grammar, thus making room for weak/strong interface positions which acknowledge that conscious explicit L2 knowledge could have an effect on learners’ implicit L2 knowledge. This meant engaging learners’ in meaning-focused communicative activities and, at the same time, drawing/attracting their attention to various challenging for the learners grammatical forms incidentally (i.e., they were not predetermined by the teacher or the syllabus), whenever communication problems arose, providing them with more or less explicit explanations and more or less overt feedback depending on the learners’ needs (Nassaji & Fotos, 2011; Trendak, 2015).

2.2 Grammar and Linguistic Forms

Before we begin to discuss FFI, it is essential that the terms grammar and form be defined. Traditionally, grammar has been defined as “a set of rules that describes the structure of sentences or parts of them” (Larsen Freeman & Celce-Murcia, 2016, p.1). However, while traditional grammar rules might be descriptively useful in certain respects, grammar is not only about rules; it is made up of patterns or - as they are referred to in usage-based theories and approaches to language-, ‘constructions’ (N.Ellis, 2015), that is, forms that have meaning (for example, the -ed grammatical

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2 Usage-based theories of language acquisition hold that constructions are learned during communication and that linguistic competence springs from the memories of the utterances in our history of language use and the abstraction of regularities within them. Also, constructions are considered to be form-function mappings conventionalized in the speech community, and entrenched as language knowledge in the learners’ mind (N.Ellis, 2015).
morpheme is a construction when added to a verb to contribute the meaning of ‘past’) and are used in appropriate contexts. Therefore, grammar should be viewed as a meaning making resource, consisting of “lexicogrammatical form, meaning and use constructions that are appropriate to the context and that operate at the word, phrase, sentence, and textual levels” (Larsen-Freeman & Celce-Murcia, 2016, p.2). Thus, grammar is threefold: it is (a) form, that is, how a particular grammar construction is formed (morphology) and it is word order (syntax); (b) meaning, that is, what semantic contribution a construction makes whenever it is used; (c) it is use, which is to do with pragmatics and language users’ choices as made in texts and during communication:

As we can see in Figure 1, these dimensions are interrelated, as a change in one will involve a change in another. From this perspective, grammar instruction should not only be about presenting learners with arbitrary rules in the traditional sense, focusing on learners’ accuracy. Instead, learners should be assisted in making form-meaning mappings in order to be able to use constructions accurately, with their intended meaning, that is, they need to “associate a particular form with its meaning”, making some choice within a context, if their knowledge is to be activated and used communicatively in real-world settings (Larsen-Freeman & Calce-Murcia, 2016, p.7).

![Figure 1: A conceptual framework for teaching grammar: Interactions among form, meaning and use (Larsen-Freeman & Celce-Murcia, 2016, p.4)](image)

Finally, regarding the term ‘form’, within FFI, it is often viewed as referring to grammatical form only, while some researchers (R. Ellis 2001, 2016; Nassaji & Fotos, 2011) use a broad definition of the term, covering grammatical, phonological, lexical,
and pragmatic forms. Still, in this study, we are exclusively concerned with the internalization of grammatical forms learners have zero knowledge of, and the desired focus is not only on form but on learners’ making form-meaning mappings.

### 2.3 FFI: Focus on Form vs. Focus on Forms

Over the years, FFI has been conceptualized in various ways. At first, it was perceived in terms of the instructional method adopted; later it was viewed as a means of exposure to the target form in classroom settings (i.e. non-naturalistic exposure); finally, it was perceived as different pedagogically oriented options (Trendak, 2015). Also, FFI has been defined differently by different researchers. R. Ellis initially defined it as “any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form” (R. Ellis, 2001, p.1). Spada initially defined it as “any pedagogical effort used to draw learners’ attention to language form whether explicitly or implicitly” (Spada, 1997, p. 73), an approach which allows for learning many forms through plenty of input exposure even in foreign language contexts, where grammatical forms cannot be thoroughly or sufficiently described (Ranta & Lyster, 2017, p. 41). Further, FFI has been defined as “a series of methodological options that, while adhering to the principles of communicative language teaching, attempt to maintain a focus on linguistic forms in various ways” (Nassaji & Fotos, 2011, p. 13). Currently, FFI is generally seen as a superordinate category which, as opposed to meaning-focused instruction (MFI), includes attention to linguistic structures/forms in varying degrees, while two terms generally attributed to Long (1991, 1996), namely focus on form (FonF) and focus on forms (FonFs), are seen as subordinate categories within FFI, indicating the amount of attention paid to linguistic forms/structures (Loewen, 2015). Although FonF and FonFs are often used “dichotomously to indicate two types of instruction” it might be more helpful if we view the two types of instruction “as poles on a continuum, in which the ratio of attention to language form and meaning change proportionately” (Loewen & Sato, 2017, p.5).

As we have seen, Krashen’s downplaying of explicit grammar instruction could only be challenged when it became apparent that learners developed communicative
competence at the expense of accuracy; It was in response to such problems that Long (1991, 1996) adopted a less extreme position than that of Krashen, distinguishing between FonF and FonFs (Nassaji & Fotos, 2011, p.11), a distinction which was, in essence, a claim that explicit instruction should not be banned from the classroom; rather, it should be there, but without interfering with natural acquisition (Larsen-Freeman, 2015, p. 266). Since then, however, the terms have been used in various ways.

Long (1991) initially defined FonF as an *approach* which “overtly draws students’ attention to linguistic elements as they arise incidentally in lessons whose overriding focus is on meaning and communication” (Long, 1991, pp. 45-46). He distinguished it from FonFs, which emphasises form rather than meaning and involves explicit traditional language teaching, i.e., Presentation-Production-Practice\(^8\) (PPP), consisting of the presentation and practice of items drawn from an analytic (Wilkins, 1976), structural syllabus, a framework which is based on the assumption that “language consists of a series of grammatical forms that can be acquired sequentially and additively” (Nassaji & Fotos, 2011, p.10). FonFs involves intentional learning of forms on the part of the learners and aims at directing learners’ attention to form exploiting pedagogical grammar\(^9\). In FonFs language is treated as an ‘object’ rather than a ‘tool’ for communication, with learners processing messages and focusing on accurate use of the target forms, and learning is viewed as a kind of skill-learning which incorporates conscious, intentional rule formation, proceduralization, automatization, and monitoring (R. Ellis, 2012). FonF, in contrast, (see Long, 1991; 1996) is brief, reactive in nature and occurring during interaction in response to communicative problems; so it cannot be pre-planned, nor could it involve any metalinguistic explanations; it is typically implicit, but, at the same time, involves ‘noticing’ in the sense of conscious attention to target linguistic forms and form-function mappings (R. Ellis, 2016). Later, Long (2015) argued that FonF is “reactive

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\(^8\) The target form is first presented in a deductive or inductive way; then the learners engage in numerous exercises checking their understanding of the form; finally, learners are expected to produce the form in a less controlled context (Trendak, 2015, p. 12).

\(^9\) Pedagogical grammar has hybrid nature; it is related to other conceptions of grammar (i.e., grammar as prescription, description, internalized system and as an axiomatic system) (Odlin, 1996), none of which “alone satisfactorily covers the concerns of practitioners of pedagogical grammar (Noblitt, 1972 in Odlin, 1996, p.10).
use of a variety of pedagogic procedures to draw learners’ attention to linguistic problems in context, as they arise during communication” (p.317). Also, with regard to intentional learning, he argued that it “is brought to the aid of incidental learning, thereby improving the likelihood that a new form-meaning association will be perceived or perceived more quickly” (Long, 2015, p.317). Therefore, FonF is now viewed as a set of procedures rather than an approach, it involves intentionality on the part of the learners and it does not have to be necessarily implicit, but it could involve explicit grammar rules, on condition that these are provided when problems arise during communication (R. Ellis, 2016). Finally, Long (2015) acknowledged that focus on form can be non-interactive as well, for instance, during oral/written input processing, when the focus is on input comprehension and the learners’ attention is attracted or drawn to the target forms, which are somehow highlighted.

According to R. Ellis (2016)\textsuperscript{10}, “there is perhaps no construct in SLA that has proved so malleable and shifted in meaning so much” (p.1) as ‘focus on form’; this is so because constructs in Applied Linguistics evolve as research progresses and theory develops. Admittedly, aiming to incorporate some attention to form in communicatively-oriented lessons, researchers have ‘borrowed’ and expanded the concept focus on form to include both incidental and pre-planned focus on form (Doughty & Williams, 1998; Lightbown, 1998; Nassaji, 1999; Nassaji & Fotos, 2004; Spada, 1997; Williams, 2005; R.Ellis, 2016). For example, Doughty and Williams (1998) argued that FonF and FonFs “are not polar opposites”- rather they differ in that while FonF “entails” a focus on form, FonFs “is limited to” such a focus (Doughty & Williams, 1998, p. 4). They claimed that, although FonFs arguably involves explicit instruction situated in a structural syllabus, it can draw learners’ attention to form during communicative activities as well, i.e., as in the final stage of PPP, so it can be viewed as incorporating both a FonFs and a FonF, involving explicit presentation and controlled practice of linguistic forms and leading to free language production. Thus, PPP is seen as incorporating focus on form, which is, however, incompatible with Long’s accounts of focus on form (Ellis, 2016; Long, 2017).

\textsuperscript{10} See Ellis’s (2016) review on FFI for more details regarding the ways in which the term has expanded.
The concept of ‘focus on form’ has also been expanded in that it cannot only be incidental, as Long (1991) had argued; it can also be pre-planned, as in PPP, which is intended to elicit pre-planned target forms in a communicative context through unfocused (i.e. eliciting general L2 samples, leading to incidental attention to a variety of forms) or focused activities (i.e. leading to a pre-determined and intensive focus on specific forms) (R. Ellis, 2016). Further, Long (1991) conceived of FonF as occurring in response to a problem during interaction and negotiation of meaning and as involving unobtrusive feedback, i.e., comprehension checks, reformulations and recasts (Larsen-Freeman, 2015). Doughty & Williams (1998), however, suggested that FonF can occur both reactively, by responding to errors, and proactively by addressing possible target language problems before they occur and they argued that “leaving the learners to their own devices is not the best plan” (Doughty & Williams, 1998, p. 197). Besides, during ‘language related episodes’ (LREs), learners often “talk about the language they are producing, question their language use or self-correct” (Swain, 1998, p. 70), which results in negotiation of form occurring in the absence of any communication problem (Lyster, 2001; R. Ellis et al., 2001). Learners’ may pre-empt communication problems by asking questions about linguistic forms during meaning-focused activities, which can result in explicit FonF, even involving metalanguage. Moreover, teachers pre-empt communication breakdown caused by inaccurate use of grammatical form by reminding learners to attend to a certain form while performing an activity (R. Ellis, 2016). Finally, Long (2017), commenting on Ellis’s (2016) review on focus on form, clarified that his definition of focus on form has been consistent for 30 years, that focus on form has nothing to do with PPP, and that, although it ‘has been ‘stretched’ by others over time [...] focus on form has always been, by definition, reactive; ‘proactive focus on form’ is an oxymoron” (Long, 2017, p.38).

Apparently, the term ‘focus on form’ has been conceived differently by different researchers, but central to all these senses of ‘focus on form’ is the fact that learners’ attention is attracted to form-meaning mappings while they are engaged in an activity where the primary focus is on meaning. In light of the above, and from a pedagogical perspective, R. Ellis (2015b; 2016) offers the following definition of ‘focus on form’, which is a blend of the above-mentioned perspectives:
Focus on form occurs in activities where meaning is primary but attempts are made to attract attention to form. Thus, it is not an approach but rather a set of techniques deployed in a communicative context by the teacher and/or the learners to draw attention implicitly or explicitly and often briefly to linguistic forms that are problematic for the learners. The focus on form may be pre-planned and thus address (a) pre-determined linguistic feature(s) or it can be incidental as a response to whatever communicative or linguistic problems arise while learners are primarily focused on meaning. Focus on form activities can be interactive or non-interactive and involve both production and reception. They can be found in both explicit and implicit approaches to language teaching. They can also occur before a communicative task is performed or while it is being performed (R. Ellis, 2016, p. 7).

Ellis’ definition informs the intervention of the present study, in that it involves, as we shall see in greater detail in Chapter 3, explicit and implicit focus on form activities where meaning is primary. Learners engage in whole-class, individual or pair- and group-work input processing activities, which aim at learners’ receptive skills and require processing reading texts and focusing on meaning expressed through the predetermined grammatical forms, or they are involved in focused communicative tasks, which aim at learners’ productive skills and require the use of the target forms to communicate meaning.

2.4 Explicit vs. Implicit FFI, Learning and Knowledge

Instruction can be defined as “any systematic attempt to enable or facilitate language learning by manipulating the mechanisms of learning and/or the conditions under which these occur” (Housen & Pierrard, 2005, p.2). In essence, it aims to intervene in learners’ interlanguage development (R. Ellis, 2005) and has an effect on L2 learning processes. The underlying L2 system goes through three stages of change: knowledge internalization, knowledge modification, and knowledge consolidation. However, the non-linear nature of aspects of language development is acknowledged; this is a rather speculative description of the otherwise ‘multivariate and dynamic’ dimensions (Spoelman & Verspoor, 2010, p. 547 in Housen et al., 2012, p. 7) which interact but each of which has its own developmental dynamics (Housen et al., 2012, p. 8).
Instruction either aims to enable learners to internalize new L2 knowledge so that more sophisticated systems are developed and so that they can use more complex grammar; or, it can lead learners’ to modifying (i.e. restructuring or fine-tuning) their L2 knowledge and performance, that is the internalized L2 structures and particularly the deviant non-target-like aspects of their interlanguage (IL), so that they can use the TL more accurately; or it can result in consolidation (routinization, automatization and fluency) and proceduralization of L2 knowledge to develop performance control over the acquired structures and end up with more robust systems (Housen & Pierrard, 2005; Housen et al., 2012).

Further, as we have seen in Chapter 1, L2 learning takes place both implicitly and explicitly and it can result in both explicit and implicit knowledge. Given that instruction plays a significant role in L2 processes, it can also be implicit or explicit, by analogy, and grammatical forms can be taught both implicitly and explicitly.

More specifically, FFI can be viewed as implicit, that is, as instruction exposing learners to exemplars of a particular form while they are focused on meaning, that is, incidentally, and with the goal of enabling them to infer the rules underlying the form at hand without awareness. In this sense, it is implemented in an indirect way “by massively exposing learners to a specific form but without making them aware of the language feature they are being exposed to” (Spada, 2011, p. 227). In other words, there is no intention to develop any understanding of what is being learned, as learners internalize the underlying rule/pattern without their attention being explicitly focused on it (Ellis, 2008). Still, implicit instruction can involve attempts to induce learners to attend to form during meaning-focused activities, but this does not involve the teacher providing them with any rules or metalanguage. For instance, a target grammatical form may be predetermined by the instructor but it may be masked from the learners so that they are not aware of it, thus ‘enriching’ the learning environment with the target form, but without explicitly drawing learners’ attention to it (R. Ellis, 2016).

In contrast, explicit instruction involves conscious intentional learning on the part of the learners who are to internalize the target form while thinking about rules during the learning process (DeKeyser, 1998) and while being encouraged to develop
metalinguistic awareness of the rule (R. Ellis, 2012). Explicit FFI occurs when
teachers provide “overt instruction and corrective feedback, including the use of
metalinguage and clear signals to the learners that there was a right and wrong way to
say/write something” (Spada, 2011, p.227).

Therefore, the key difference between implicit and explicit FFI is that the former
‘attracts’ learners’ attention to exemplars of linguistic forms occurring in the input
without seeking to develop any awareness or conscious understanding of the ‘rules’
that describe these forms, whereas the latter ‘directs’ their attention to them (DeGraaff
& Housen, 2009) in order for learners to develop mental representations of them
(R. Ellis, 2012). Housen and Pierrard (2005) defined the two types of instruction
listing a number of characteristics, as shown in Figure 2, thus covering Long’s (1991)
FonF and FonFs:

<table>
<thead>
<tr>
<th>Implicit</th>
<th>Explicit</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attracts attention to target form</td>
<td>- Directs attention to target form</td>
</tr>
<tr>
<td>- Is delivered spontaneously (e.g., in an otherwise communication-oriented activity)</td>
<td>- Is predetermined and planned (e.g., as the main focus of a teaching activity)</td>
</tr>
<tr>
<td>- Is unscaffolded (minimal interruption of communication of meaning)</td>
<td>- Is obtrusive (interception of communicative meaning)</td>
</tr>
<tr>
<td>- Presents target forms in context</td>
<td>- Presents target forms in isolation</td>
</tr>
<tr>
<td>- Makes no use of metalanguage</td>
<td>- Uses metalinguistic terminology (e.g., rule explanation)</td>
</tr>
<tr>
<td>- Encourages free use of the target form.</td>
<td>- Involves controlled practice of target language.</td>
</tr>
</tbody>
</table>

Figure 2: Implicit and Explicit FFI (Housen & Pierrard, 2005, p.10)

At this point, it is vital that we consider implicit/explicit instruction in conjunction
with implicit/explicit knowledge. It must become clear that the terms explicit/implicit
instruction involve a perspective external to the learner (i.e. the teacher’s/material
designer’s perspective), while the terms explicit/implicit learning (i.e. process) and
knowledge (i.e. outcome) refer to learners’ perspective. Explicit FFI can result in
implicit learning as a result of incidental noticing of instances of language/forms.
Conversely, when exposed to implicit instruction, learners might figure out what the
target of instruction is and try to understand it through more explicit processes.
Therefore, “it does not follow that implicit instruction always results in implicit
learning or that explicit instruction necessarily leads to explicit learning” (R. Ellis et
al., 2009, p.18). Last but not least, the distinction between implicit and explicit
learning is defined at the level of their different resultant knowledge bases, as
Explicit as Against Implicit Instruction of Form in the L1 Greek-L2 English Young Learner Context

determined by the conditions under which the learning occurs and the type of input provided (Housen & Pierrard, 2005). Any attempt to determine the effects of any type of instruction should be made by taking into account the fact that different types of instruction can lead to different types of L2 knowledge (Housen & Pierrard, 2005), as these were described in Chapter 1.

2.5. Pedagogical FFI Options

FFI, which can be implicit or explicit, serves as a cover term for a range of pedagogical techniques derived from SLA or pedagogical theory (Ranta & Lyster, 2017) which can be incorporated in the design of more or less explicit or implicit FFI treatments. As it is impossible to refer to all the options/techniques mentioned in the literature here, only the ones incorporated in the explicit and implicit FFI treatments designed for the purposes of this study are described in this section.

2.5.1 Enriched Input, Input Flooding and Input Enhancement

*Enriched input*, *input flooding* and *input enhancement* are techniques implemented during FFI involving target forms learners have difficulty employing and which is intensively carried out for several lessons in a row; their efficacy depends on duration and intensity (Trendak, 2015). In our intervention, *enriched input*, which refers to linguistic data deliberately altered to include exemplars of the target form(s), is employed to “induce noticing of the target form in the context of meaning-focused activities” (R. Ellis, 2001, p. 20); *input flooding* is adopted to increase the frequency of occurrence of the target form to attract learners’ attention to it, assuming that the more often the target forms appear in the input the more likely the learner is to notice them; finally, *input enhancement*, which aims to facilitate noticing and processing the target forms that might go unnoticed in the input by increasing their salience (Sharwood-Smith, 1993) is implemented by emboldening, and colour-coding the target grammatical forms in our instructional materials, assuming that learners will notice and acquire the more noticeable and consequently more learnable target forms
incidentally, while reading for meaning (Ranta & Lyster, 2017; Nassaji & Fotos, 2011).

2.5.2 Consciousness Raising Tasks

Another technique adopted in our study is ‘consciousness-raising tasks’ (CRTs), which aim to promote explicit rather than implicit learning and which serve as a preparation stage where students become aware of the form to integrate it into their interlanguage (Roza, 2014). CRTs are incorporated to help learners develop explicit knowledge and encourage metalinguistic understanding of specific predetermined grammatical forms. Performed deductively, inductively, and collaboratively, they aim to enable learners to develop their own explicit knowledge of L2 forms (Ranta & Lyster, 2017), - that is, to acquire conscious knowledge by understanding the rules underlying the grammatical forms by themselves -, and to make form-meaning connections, which can facilitate their understanding of input and their monitoring of their output. Although some argue that CRTs involve FonFs activity (Doughty & Williams, 1998), falling under explicit instruction (Sharwood Smith, 1981), they could also be thought of as both FonF and FonFs: to the extent that they aim at developing explicit knowledge of the predetermined grammatical form, they constitute FonFs activities, but when they are performed in pairs or small groups they can give rise to meaning-centered interaction that involves ‘languaging’ (R. Ellis, 2012, p. 268), during which the target form “serves as the content to be talked about” (p. 275), as is the case in our instructional materials, they are FonF activities.

2.5.3 Focused Communicative Tasks

Focused communicative tasks are incorporated in our implicit FFI treatment to draw learners’ attention to the target forms during meaning-oriented activity; they are designed to elicit predetermined grammatical forms, which the learners are not explicitly asked to produce (i.e., they are unaware of them); yet, learners might end up focusing more on form than meaning, thus relying on their explicit knowledge, if they consciously work out what the target form is (Trendak, 2015). To ensure their
effectiveness, the tasks were designed so that (a) learners should produce the form naturally (task-naturalness); (b) performance should depend on learners’ employing a predetermined target form (task-essentialness); and (c) the utility of the target structure would be clear enough to make learners attend to it and use it correctly in order to complete the task successfully (task-utility) (Loschky & Bley-Vroman, 1990; R.Ellis, 1982).

2.5.4 Information Processing and Structured Input

Another pedagogical option informing both the implicit and explicit FFI material used in our intervention is structured input, that is, oral/written activities involving input designed to facilitate learners’ making form-meaning connections, by forcing them to attend to the target form and to process it for meaning. Structured input is employed in input-processing instruction, which holds that grammatical forms are best acquired when learners attend to and process them in input-rich environments (VanPatten, 1996, 2002); according to information processing theories, input and its frequency help learners form mental representations of the target language (Nassaji & Fotos, 2011). In designing these structured input activities, the following guidelines, as summarized by Nassaji & Fotos (2011, p.28-29), were followed: (a) focus on meaning to boost form-meaning mappings; (b) present items in a way that learners’ attentional resources are not drained by attempting to process too much information; (c) address learners’ different needs by incorporating both oral and written input; (d) ensure there is transition from sentences to connected discourse (i.e. input is eventually processed at the discourse level); (d) ensure learners ‘do’ something with the input, that is, engage in activities that prompt further processing (i.e. deciding on true/false statements, agreeing or disagreeing, matching pictures with words/sentences etc); and (e) make learners resort to appropriate processing strategies while processing input for meaning (i.e. encourage relying on morphemes, i.e., past simple -ed instead of lexical items, like yesterday, ago and so on). Structured input activities might be viewed as FonFs due to their explicit focus on grammatical forms, but VanPatten (2002) has argued that given that they aim at boosting learners’ making form-meaning connections, they should be viewed as a kind of FonF.
Conclusion

In conclusion, FFI, viewed as a set of pedagogical options attracting learners’ attention to grammatical form in meaning-oriented lessons, can be designed to be implicit or explicit and can result in implicit and/or explicit knowledge. However, we cannot be sure which type of learning and instruction is more effective in developing learners’ ability to comprehend and produce language. In line with weak interface positions, we are inclined to believe that explicit knowledge might have some role to play in L2 learning and that promoting conscious learning and noticing of the target forms is of the essence if learners’ are to use the language both fluently and accurately. Our research aims at shedding some light on the ways in which this could be achieved more effectively; this would be interesting and practically useful, as the findings could inform out future instructional decisions.

Chapter 3. Methodology

Introduction

This chapter is a detailed description of the research conducted. Section 3.1 presents the research questions, section 3.2 describes the participants, section 3.3 explains the research design, and section 3.4 describes the teaching intervention. Finally, Section 3.5 presents the data collection instruments and section 3.6 the method of analysis.

3.1 The research questions

This study examines the effect of explicit vs. implicit FFI on young learners’ knowledge of grammatical forms they have zero-knowledge of, as well as the extent to which the two instruction types have lasting effects. Also, it attempts to shed light on learners’ awareness of the knowledge they acquired. More specifically, it aims to answer the following questions:
1. Do explicit and implicit FFI have a different effect on learners’ knowledge of grammar?

2. Which of the two modes of instruction, explicit or implicit FFI, has more lasting effects?

3. To what extent might learners be aware of the knowledge they have gained following the two types of instruction?

### 3.2 Participants

The study was conducted with eight (N = 8) 10-year-old Greek learners of English as a Foreign Language (EFL), six girls and two boys, who attend state or private primary schools in Athens, Greece and have had private English lessons with the teacher-researcher for 3-4 years. The participants were randomly assigned to one of the experimental groups, henceforth referred to as the ‘explicit group’ (N = 4) and the ‘implicit group’ (N = 4). The participants’ proficiency in the target language (TL), as a background variable, was controlled for, by taking into account class level and years of instruction in the TL. Learners sat a standardized proficiency test, namely a Cambridge Key English Test (KET) was conducted to ensure that the groups were homogeneous in terms of TL knowledge and, therefore, comparable at the outset of the experiment (Larsen-Freeman & Long, 2014).

### 3.3 Research Design

The present study is a quantitative experimental one, following the typical design of studies examining learning that occurs as a result of two types of instruction (i.e. treatments) provided to two (or more) groups (Plonsky, 2017). All factors (i.e., randomly selected participants, age, proficiency level, treatments intensity and duration, exposure to the target forms and testing conditions) were held constant, except for a single factor, the instruction type, which was varied to see its effect on the phenomenon under investigation, namely the effect of implicit as opposed to explicit FFI on learners’ knowledge of modal auxiliary verbs (perfect aspect) and counterfactual conditionals. The overall sequence of the steps in the process is demonstrated in Figure 3 below:
As shown in Figure 3 above, an immediate posttest-delayed posttest design was followed to see if the post-treatment behaviour of the two groups differed; if so, then we could conclude that it differed as a consequence of their different treatments.

Posttests were used to compare the performance or outcome (i.e., evidence of learning) of participants in the two experimental conditions and to measure what might be called ‘absolute’ gains made over time (Plonsky, 2017). Given, however, that learning is a process (i.e., it does not occur at a single moment), the extent to which its effects are lasting may need to be determined. To this end, in addition to immediate posttests, delayed posttests were administered six weeks after the treatments to measure the longer-term effects of implicit, as opposed to explicit FFI (Plonsky, 2017; Mackey & Gass, 2016).

This study follows a post-test only design. Although in experiments like ours a pre-test is conducted to establish learners’ prior knowledge of the target forms, it was the researcher’s conscious choice not to include one in the design to avoid alerting learners to the target forms (Leow, 2015). Doing so may have resulted in uncertainty...
regarding initial group comparability, which is problematic when measuring learners’ knowledge as a result of the types of instruction. This issue was resolved, however, by matching learners on a variable related to the dependent one, through learners’ unfamiliarity with the grammatical forms under investigation; they “are above their assumed developmental stage, given that they appear in more advanced stages of language learning, yet they are considered to be learnable and teachable” (Mackey & Gass, 2016, p.203).

3.4 The Teaching Intervention

The teaching intervention, which took place in Athens, Greece in February-January 2020, consisted of a series of six 90-minute lessons per group, three on modal-auxiliary verbs (perfect aspect) and three on counterfactual conditionals. The instructional materials were designed by the teacher-researcher and involved implicit and explicit FFI pedagogical options, as presented in Chapter 2.

3.4.1 The Target Forms

To begin with, we were interested in the internalization of (a) epistemic modality, that is, the use of modal auxiliary verbs must/can’t (certainty/probability) and could/may/might (possibility) to indicate the degree of belief in the truth of statements (Choi, 2014), as in (1), and (b) deontic modality, that is, the use of modal auxiliary verbs such as should/shouldn’t, (advice, obligation), and could (criticism), used to socially regulate behavior, as in (2) below:

(1) They must/can’t/could/might/may have used only one camera.

(2) The crew could/should/shouldn’t have relit and rearranged the set.

The second grammatical form under investigation is counterfactual conditionals (‘contrary to facts’) or hypotheticals (‘contrary to assumptions’) (Quirk et al., 1985, p. 1091), - usually called ‘mixed conditionals’ in lay terms. These are sentences indicating impossible states of affair and composed of a conditional/if-clause, or protasis, beginning with the superordinate conjunction if, and a main clause, or
apodosis, dealing with the state of affairs dependent on the condition represented in the protasis (Werth, 1997), as in (3) and (4) below:

(3) If there were water on Mars, we might (or would or could) have already colonized it.

[Unreal present condition]                 [Unreal past result]

Typical form: protasis: present subjunctive or past simple apodosis: modal perfect (would/could/might have + past participle)

(4) If we hadn’t sent rovers to Mars, we wouldn’t have so many photos of it.

[Unreal past condition]                 [Unreal present result]

Typical form: protasis: past perfect tense; apodosis: modal (would/could/might) + bare infinitive.

Regarding meaning, in both (3) and (4), the content of the if-clause and the main clause is regarded as not possible or contrary to facts or the current state of the world (Taylor, 1997).

The grammatical forms focused on are forms Greek EFL learners are usually exposed to in later developmental stages. Nevertheless, and given the general inability to “concretely connect acquisition order to practice because the process is still not fully understood” (Schenck & Choi, 2013, p. 48), in this study the idea of a hypothesized universal order of morphosyntactic development is somehow challenged; both forms are regarded as teachable and learnable by younger learners.

### 3.4.2 Explicit and Implicit Group Treatments

As part of explicit and implicit FFI, twelve ninety-minute lessons, three on each target form per group, were designed by the teacher-researcher. An overview of the

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12 The ‘Natural Order Hypothesis’ in ‘Monitor Theory’ (Krashen, 1981, 1982; Krashen & Terrell, 1983) supports that grammatical structures, especially morphemes, are acquired in a predictable order, often referred to as the Natural Order of Acquisition. Also, Pienemann’s (1988) Processability Theory argues that grammatical structures are acquired in a hypothetical fixed order.

13 Unfortunately, the COVID-19 pandemic put a damper on our original intention of teaching 4 different forms.
characteristics of the implicit and explicit group FFI treatments, the twelve lessons, and the corresponding lesson plans are available in Appendix I (p. 81), and Appendices III-VI (pp.83-159) and VII-X (pp.160-189). Our instructional choices for the explicit group constitute ‘focus on form’ rather than ‘focus on formS’ as they do not entail isolation or extraction of linguistic forms from context or from communicative activity, nor do they follow a PPP procedure, as it is usually the case with FonFs lessons (Doughty & Williams, 1998).

The input the two groups were exposed to incorporated articles, videos and video transcripts derived from various internet sources. These authentic linguistic data, however, were tampered with to: (a) insert more instances of the target forms where possible, present them in context rather than in isolation, and facilitate learners’ form-meaning mappings; (b) increase salience of the target forms through visual input enhancement (i.e. colour-coding and emboldening) so that learners would attend to and notice them; (c) simplify the texts where they involved highly complex structures and lexical items that were thought to make heavy cognitive demands on learners’ processing of the input, and which, in turn, would have had an adverse effect on their attending to the target forms.

3.4.2.1 Explicit Focus-on-form Treatment

All lessons intended for the explicit group treatment were designed to promote conscious, intentional learning, by explicitly drawing learners’ attention to the target forms. The learners were cognizant of the purpose of instruction (i.e. to learn the specific forms). The lesson activities aimed at raising their consciousness of the target forms, and they involved rules and metalinguistic explanations, which the learners had to induce after being exposed to contextualized exemplars; they were required to process them for meaning, detect recurrent patterns and arrive at their own generalizations, accounting for the regularities perceived, and formulating the rules on their own, on the basis of the input. Also, the lesson activities catered for both production (i.e. activities that explicitly required learners to use the target forms) and reception (i.e. activities that required processing the target forms for meaning). The explicit FFI materials were designed to lead to explicit knowledge of the target forms,
acquired through deliberate conscious effort, by paying focal attention to the choice of grammatical forms.

3.4.2.2 Implicit Focus-on-Form Treatments

In contrast, the *implicit* group treatments involved lessons designed to promote non-intentional, unconscious learning, through *attracting*, rather than drawing, learners’ attention to the target forms, which were masked from the learners; in other words, the learners were not cognizant of the aim of the lesson activities. Still, the lessons were designed to attract attention to the target forms by increasing their frequency and salience in the input, through input flooding, and enriched, visually enhanced input, i.e. through emboldening and color-coding, thus inducing *detection* and *noticing*. There was no explicit rule provision involved; neither was there any intention to develop any metalinguistic awareness in the learners. They experienced exemplars of the target forms in the absence of any systematic attempt to teach them; they were primarily concerned with input processing and they engaged in activities that required them to comprehend (i.e., activities that required processing the target forms for meaning), as well as to produce messages (i.e., activities meant to elicit the production of the target forms, but without learners being aware of the linguistic focus, i.e. modal perfect or mixed conditional forms). The implicit group materials were designed to lead to implicit, i.e., intuitive, abstract, non-verbalisable knowledge of the target forms, acquired unconsciously as a by-product of engaging in input processing and communication.

3.5 Data collection instruments

In order to measure the effects of explicit and implicit FFI on the participants knowledge of the target forms four tests (for the rationale underlying the tests see Appendix II, p.82) were designed: a picture-cued Oral Production Test (OPT), a Timed Grammaticality Judgment Test (TGJT), a Written Production Test (WPT), and an Untimed Grammaticality Judgement Test (UGJT) (see Appendices XI-XVIII, pp.120-228). The tests were administered in this order. The data collection instruments enabled the researcher to measure learners’ knowledge in terms of both production and reception of the target forms.
3.5.1 The Untimed Grammaticality Judgement Test

An UGJT was administered in writing. It provided a judgment accuracy percentage score based on the participants’ dichotomous responses (grammatical/ungrammatical). The total number of items in the modal perfect UGJT was 24. More specifically, the test included 4 sentences for must/can’t (epistemic modality - certainty) and another four for should/could (deontic modality). Two out of four were grammatical, one was ungrammatical in terms of aspect (present vs. perfect), and the fourth one was ungrammatical in terms of modal auxiliary appropriacy. Also, the test included 8 sentences for the might/may/could modal auxiliaries (epistemic modality - possibility), 4 grammatical, 2 ungrammatical in terms of aspect, and 2 ungrammatical in terms of modal auxiliary appropriacy. Therefore, the modal perfect UGJT included 6 ungrammatical in terms of accurate form/aspect sentences, and another six which were ungrammatical in terms of modal auxiliary appropriacy. The participants received 1 point for each correct judgement.

The counterfactual conditionals UGJT consisted of 24 sentences, 6 grammatical, three if-clause first and 3 main-clause first, and six ungrammatical ones, three in terms of wrong main clause (i.e., *If he had saved some money last year, he would have bought a new car this year) and three in terms of incorrect if-clause (i.e., *If we didn’t sent rovers to Mars over the past few years, we wouldn’t know so much about its surface now). The participants received 1 point for each correct judgement.

3.5.2 The Timed Grammaticality Judgement Test

A TGJT, which also provided a judgment accuracy percentage score based on the participants’ dichotomous responses (grammatical/ungrammatical) was administered. Unlike the UGJT, however, the TGJT, which was administered via a computer, involved time-pressure, with reaction-time 8 seconds per sentence judgement. Although some researchers doubt whether a limited amount of time makes learners draw on implicit knowledge (DeKeyser, 2003; Suzuki et al., 2006; Vafaee et al., 2016; Suzuki, 2017), that is, although “simply ensuring that test performance is pressured cannot guarantee that learners draw on their implicit knowledge as they may have been able to access explicit automatized knowledge” (R. Ellis, 2015b; R.
Ellis & Roever, 2018, p. 6), the procedure is commonly applied for this purpose (R. Ellis, 2005; 2015). The TGJT incorporated the same sentences as the UGJT. However, 8 of them were slightly modified or replaced with novel ones, and they were randomized to control for any potential test effect, i.e., participants remembering the targeted items from the UGJT. The time lapse between the two tests was 3 days. The participants received 1 point for each correct judgement.

3.5.3 The Written Production Test

The WPT, a fill-in-the-gap exercise, aimed to measure learners’ explicit knowledge. The modal perfect WPT incorporated 20 sentences; 12 experimental, that is, two sentences per modal auxiliary verb, and 8 distractors, that is, sentences which did not require perfect aspect. The participants received 2 points for accurate form and appropriate modal auxiliary choice. They received only 1 point when they made an appropriate modal auxiliary choice, but they used an inaccurate form, and so did they when they made an inappropriate modal auxiliary choice, but they used an accurate form. No mark was given when they used an inappropriate modal auxiliary and an inaccurate form.

The counterfactual conditionals WPT incorporated 20 sentences, 14 experimental and 6 distractors. Seven out of the fourteen experimental sentences described an unreal past condition with an unreal present result; conversely, the remaining seven described an unreal present condition with an unreal past result. The distractors described unreal present situations with unreal present results or possible future situations. The participants received 2 points for accurate forms in both if- and main-clause, 1 point for partly accurate responses (i.e. accurate if-clause, but inaccurate main-clause, and vice versa). No point was given when neither the if- nor the main-clause were formed accurately.

3.5.4 The Oral Production Test

The OPT, a picture-cued task, aimed at tapping learners’ implicit knowledge. It was devised to elicit oral responses containing the target forms with the learners focusing on meaning; it was intended to render production of the target forms task-essential
(i.e. the learners would not fail to produce the target forms), which would, in turn, make it a reliable measure of implicit knowledge (Loschky & Bely-Vroman, 1993; Spada et al., 2015). It was delivered via a computer and it involved time-pressure with a reaction-time of 10 seconds, under the assumption that real-time language processing would cause learners to draw on their implicit knowledge. The modal perfect OPT incorporated 15 experimental pictures and 5 pictures acting as distractors to preempt participants’ mechanical responses. The participants were instructed to look at the pictures and answer a question devised to elicit a particular modal-auxiliary verb (perfect aspect). All modal auxiliaries were tested, except ‘would’ because it proved too difficult to elicit in this way, and because it would be later tested as part of the counterfactual conditionals.

The counterfactual conditionals OPT involved 20 pictures, 14 experimental and 6 distractors. The participants were asked to work out the unreal present/past conditions and their unreal past/present results from 14 pictures and their matched statements to produce an if-conditional sentence to describe imaginary situations.

3.5.5 Subjective Measures of Awareness

Grammaticality judgement tests (GJT) cannot show the kind of knowledge learners draw on, so subjective ratings were obtained to establish whether participants’ judgements are accompanied by conscious awareness and searching for a rule (R.Ellis & Roever, 2018). In order to shed some light on learners’ confidence and awareness levels, the teacher-researcher collected source attribution ratings and confidence ratings during the UGJT (Dienes et al., 1995). For each judgement they made, the participants indicated whether they attributed their knowledge to guess or intuition, which could indicate they are not aware of the knowledge they acquired, or memory or rule, which could indicate awareness. Also, they indicated how confident they were about their judgements: very confident, confident, somewhat confident, not confident at all. Given that our participants are young learners and so as to avoid forcing them to form an opinion by adopting a rather forced 4-point Likert scale, an ‘I don’t know’ option was adopted to ensure the results would not be distorted if a learner felt s/he had no opinion. Further, in order to ensure the learners understood the difference
among the ratings, they were given in both the L2 and their L1; also, the difference between guess and intuition was clarified by explaining that guess is similar to what we do when we toss a coin, while intuition is what we have when we have a feeling in our guts that something is right but we cannot say why this is so (see Appendix XVII, p.211).

3.6 Method of Analysis

The data collected from each participant through the four tests were inserted in Microsoft EXCEL and organised in data spreadsheets. Table 1 shows the highest scores possible for each test:

<table>
<thead>
<tr>
<th></th>
<th>Modal Perfect</th>
<th>Mixed Conditionals</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT</td>
<td>30</td>
<td>28</td>
</tr>
<tr>
<td>TGJT</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>WPT</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>UGJT</td>
<td>24</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 1 Highest scores possible in the four production and reception tests

In addition, the participants’ responses in the four tests were also analyzed with SPSS using both descriptive (t-tests) and inferential (independent samples tests and paired samples tests) statistics. The means of all variables were calculated for each research tool separately. For full descriptive/inferential statistics for all four research tools please refer to Appendices XIX-XXII (pp.229-380).14

14 The SPSS results for each research tool are appended separately. Group 1 refers to the implicit group throughout, while Group 2 refers to the explicit group.
Conclusion

In this chapter, the research questions and research design, the participants’ profiles, the target forms, the teaching intervention, as well as the research tools and method of analysis were presented. The findings of the research are presented and discussed in the next chapter.

Chapter 4. Findings

Introduction

The average scores of the two groups were calculated and data representations were created. Also, after running t-tests, independent samples t-tests and paired sampled t-tests, the mean score (M) and Standard Deviation (SD) calculated are reported along with the (non-) statistically significant differences. In this chapter, section 4.1 is a detailed presentation of the data, supported where necessary by descriptive and inferential statistics results, while section 4.2 is a discussion on the findings.

4.1 Data Presentation

Subsection 4.1.1 and 4.1.2 present the immediate and the delayed post-test results respectively. Subsection 4.1.3 presents the immediate test results in comparison with the delayed ones, while subsection 4.1.4 is a presentation of the confidence and source attribution ratings collected during the UGJT.

4.1.1 Immediate Post-test Results

As shown in Table 2 below, the explicit group achieved higher scores in all four modal perfect production and reception tests. Interestingly, no substantial difference is observed in the OPT scores of the two groups:
A t-test revealed that the explicit group ((M=.92, SD = .064) outperformed the implicit group (M=.72, SD =.064); (F=.000, p = 1.000 > 0.05) in the WPT. The OPT results showed that the explicit group (M= 1.2, SD = .06) did slightly better than the implicit one (M= 1.1, SD=.10); (F=1.000, p. = .35 > 0.05). Also, our findings reveal that the explicit group (M = .97, SD = .11) did much better than the implicit one (M= .77, SD = .08); (F = 1.800, p = .22 >0.05) in the TGJT too. Finally, the t-test indicates that the explicit group achieved higher scores (M=.98, SD = .08) than the implicit group (M =.77, SD = .08); (F = 1.80, p = .22 > 0.05) in the modal perfect UGJT immediately after the intervention.

Regarding the mixed conditionals immediate post-test results presented in Table 3, the explicit group achieved higher scores in all four tests. Interestingly, the implicit group achieved a very low score in the TGJT and a much lower one in the WPT than the explicit group. Once again, a big between-group difference is observed in the WPT.
It must be noted that both groups obtained similarly lower scores in the mixed conditional immediate post-tests than they did in the modal perfect form; their performance was not as high in the mixed conditionals as it was in the modal perfect form.

T-tests and independent samples test were also run to examine the possible effect of explicit as opposed to implicit FFI on participants’ knowledge of the mixed conditionals immediately after the intervention. The WPT results indicate that, once again, the explicit group (M=.85, SD = .60) by far outperformed the implicit one (M=.56, SD =.038); (F = .513, p = 0.501 > 0.05) in the immediate posttest condition. Turning to the OPT mean scores, the explicit group (M=.77, SD = .52) only slightly outperformed their implicit counterparts (M=.72, SD=.49); (F = .017, p = .9 > 0.05). Similarly, in the TGJT, the explicit group (M=.71, SD = .49) outperformed the implicit group (M = .62, SD = .42); (F = .061, p = .81 > 0.05). Finally, the t-test revealed a slight advantage of the explicit group (M=.68, SD = .49) over the implicit one (M = .63, SD = .43); (F = .017, p = .89 > 0.05) in the UGJT.
4.1.2 Delayed Post-tests Results

Turning to the delayed post-test results, Table 4 shows that the explicit group outperformed the implicit group in all four modal perfect tests. In fact, relatively high score differences between the two groups are observed in all four tests:

![Delayed Post-tests Modal Perfect Scores](image)

Table 4 Delayed Post-test Modal perfect Scores

Descriptive and Inferential statistics through SPSS shed more light on our findings as running t-tests and independent samples t-tests revealed some discrepancy. Unlike what we originally assumed, it turned out that the explicit group did not outperform the implicit one in all four tests. More specifically, mean scores calculations for the OPT allowed us to discern that the implicit group (M = 1.0, SD = .12) retained their knowledge of the modal perfect target form slightly better than their explicit counterparts (M = .87, SD = .61); (F = 3.64, p = .105 > 0.05) six weeks after the intervention. Similarly, the mean scores calculated for the TGJT indicate that the implicit group (M = .77, SD = .08) did slightly better than the explicit one (M = .76, SD = .51); (F = 5.48, p = .058 > 0.05). The t-test revealed that in the delayed modal perfect condition the explicit group did slightly better (M = 1.0, SD = .044) in the WPT than the implicit one (M = .63, SD = .047); (F = 6.71, p = 0.41 > 0.05). This is so for the UGJT too where the explicit group (M = .88, SD = .08) also outperformed the implicit one (M = .71, SD = .07); (F = .000, p = 1.00 > 0.05), though with a higher mean scores difference this time.
Turning to the mixed conditional delayed post-test results shown in Table 5 indicate that the explicit group achieved higher scores than the implicit one in all four tests. The greatest differences are observed in the TGJT, OPT and UGJT. The two groups achieved similarly low scores in the WPT six weeks after the treatments. In fact, a relatively robust decrease in the mixed conditional WPT of the explicit group is observed:

![Bar chart showing delayed post-test mixed conditional scores for explicit and implicit groups.]

Table 5 Delayed Post-test Mixed Conditional Scores

Once again using SPSS allowed us to shed more light on our findings. Unlike what it originally seemed to be the case with the WPT results (see Table 5 above), running t-tests and independent sample t-tests revealed that it was the implicit group (M= .76, SD=.07) that retained the acquired knowledge better -though slightly- than the explicit group (M=.75, SD = .53); (F = 4.130, p = .088 > 0.05). Similarly, the delayed mixed conditional posttest results for the OPT show that, once again, the implicit group (M=.82, SD = .49) slightly outperformed their explicit counterparts (M= .78, SD = .52); (F = 4.8, p = .07 > 0.05). The TGJT mean scores, however, show that the explicit group (M =. 66, SD = .45) has a small advantage over the implicit one (M = .62, SD = .13); (F = 3.36, p = .116 > 0.05). Finally, the UGJT mean scores indicate that the explicit group (M = .60, SD = .42) did slightly better than the implicit one (M= .56, SD = .38); (F = .014, p=. .91 > 0.05) six weeks after the intervention.
4.1.3 Immediate vs. Delayed Post-test Results

Table 6 below shows that the explicit group achieved higher scores in the delayed TGJT post-test for the modal perfect. There was no difference in their scores in the OPT. They achieved lower scores in both the UGJT and the WPT in the delayed post-tests than in the immediate ones:

<table>
<thead>
<tr>
<th></th>
<th>Immediate Post-test</th>
<th>Delayed Post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGJT</td>
<td>19.5</td>
<td>20.33</td>
</tr>
<tr>
<td>OPT</td>
<td>24.75</td>
<td>24.75</td>
</tr>
<tr>
<td>UGJT</td>
<td>19.75</td>
<td>17.75</td>
</tr>
<tr>
<td>WPT</td>
<td>19.5</td>
<td>17.6</td>
</tr>
</tbody>
</table>

Table 6 Explicit Group Immediate Vs. Delayed Post-tests Modal Perfect Scores

Regarding the mixed conditionals, as shown in Table 7, an increase is observed in the UGJT and OPT scores of the explicit group and a decrease in the TGJT and WPT six weeks after the treatments:
As shown in Table 8, the implicit group achieved the same score in the immediate and delayed TGJT for the modal perfect forms. A slight decrease is observed in their OPT, UGJT and WPT scores:

**Paired-samples tests** were also conducted to investigate the difference between the results of the two testing times (immediate vs. delayed posttest) and determine the extent to which each group improved or did not improve over time. Inferential
statistics revealed some discrepancies between our previous assumptions and the paired samples tests results and we were, thus, allowed to gain an insight into the extent to which implicit and explicit FFI had a lasting effect.

We compared the effect of implicit and/or explicit FFI on learners’ knowledge of the modal perfect grammatical form immediately after the intervention and six weeks later. There was not a difference in the OPT scores of the implicit group immediately after the intervention (M = 1.10, SD = .10) and their scores six weeks later (M = 1.10, SD = .12); t (3) = 1, p = .39 > 0.05. There was a slight difference in the OPT scores of the explicit group immediately after the intervention (M = 1.23, SD = .062) and their scores six weeks later (M = .87, SD = .61); t (3) = 1.07, p = .39 > 0.05.

The paired samples tests showed that there was not a significant difference of the modal perfect TGJT scores of the implicit group immediately after the intervention (M = .77, SD = .08) and six weeks later (M = .77, SD = .086); t (3) = .000, p = 1.00 > 0.05. There was a difference in the TGJT scores of the explicit group in the immediate condition (M = .97, SD = .11) and the delayed one (M = .76, SD = .51); t (3) = 1, p = .39 > 0.05.

There was not a significant difference between the scores of the implicit group in the modal perfect UGJT in the immediate posttests (M = .77, SD = .08) and the delayed ones (M = .71, SD = .007); t (3) = 5.0, p = .01 > 0.05. There was a difference between the immediate UGJT scores of the explicit group (M = .98, SD = .08) and the delayed posttest scores (M = .88, SD = .08); t (3) = 2.4, p = .09 > 0.05.

Regarding the WPT results for the implicit group, the paired samples tests indicate that the there was an insubstantial difference between their immediate posttest scores (M = .72, SD = .06) and the delayed posttest scores (M = .63, SD = .04); t (3) = 3.65, p = .35 < 0.05. As for the explicit group, our findings indicate that there is a great difference between their scores immediately after the intervention (M = .97, SD = .06) and six weeks later (M = .66, SD = .44); t (3) = 1.3, p = .275 > 0.05.
Table 9 shows a decrease in all delayed mixed-conditionals tests except for the WPT in which their performance remained stable:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Immediate Post-test</th>
<th>Delayed post-test</th>
</tr>
</thead>
<tbody>
<tr>
<td>TGJT</td>
<td>16.6</td>
<td>15.25</td>
</tr>
<tr>
<td>OPT</td>
<td>12.5</td>
<td>15.0</td>
</tr>
<tr>
<td>UGJT</td>
<td>19.3</td>
<td>16.5</td>
</tr>
</tbody>
</table>

Table 9 Implicit Group Immediate Vs. Delayed Post-tests Mixed Conditional Scores

After running paired samples tests to compare the effect of implicit and/or explicit FFI on learners’ knowledge of the **mixed conditionals** grammatical form immediately after the intervention and six weeks later, we found that there was no difference between the implicit group **TGJT** scores immediately after the intervention (M = .62, SD = .42) and six weeks later (M = .62, SD = .13); t (3) = .000, p = 1.00> 0.05. On the contrary, there was a difference between the explicit group immediate posttest scores (M = .71, SD = .49) and their delayed ones (M = .66, SD = .45); t (3) =1.00, p = .39> 0.05. Regarding the **UGJT** results, there was a small difference between the implicit group scores in the immediate condition (M = .63, SD = .43) and the delayed condition scores (M = .56, SD = .38); t (3) = .96, p = .40> 0.05. There was a very small difference between the scores of the explicit group immediately after the intervention (M = .68, SD = .49) and their scores six weeks later (M = .60, SD = .42); t (3) = 2.33, p = .10> 0.05. The performance of the implicit group slightly improved six weeks after the intervention, as there was a difference between their WPT scores in the immediate condition (M =.56, SD = .38) and the delayed one (M = .76, SD = .07);
t (3) = -1.000, p = .391 > 0.05. In contrast, the performance of the explicit group in the WPT dropped six weeks later, as there was a difference between their immediate posttest scores (M = .85, SD = .60) and their delayed ones (M = .75, SD = .53); t(3) = 2.449, p = .092 > 0.05.

Overall, as can be seen in Table 10, the explicit group outperformed the explicit group in all immediate and delayed post-tests for both target forms and both groups achieved higher scores in the modal perfect forms than in the mixed conditionals ones. Post- and delayed post-test differences were not substantial, though there was generally a decrease:

<table>
<thead>
<tr>
<th></th>
<th>Implicit - Modals Immediate</th>
<th>Implicit - Modals Delayed</th>
<th>Explicit - Modals Immediate</th>
<th>Explicit - Modals Delayed</th>
<th>Implicit - Conditional Immediate</th>
<th>Implicit - Conditional Delayed</th>
<th>Explicit - Conditional Immediate</th>
<th>Explicit - Conditional Delayed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implicit - Modals Immediate</td>
<td>22</td>
<td>20.25</td>
<td>24.75</td>
<td>24.75</td>
<td>19.3</td>
<td>16.5</td>
<td>20.6</td>
<td>21</td>
</tr>
<tr>
<td>Implicit - Modals Delayed</td>
<td>15.5</td>
<td>15.5</td>
<td>19.5</td>
<td>20.33</td>
<td>16.6</td>
<td>12.5</td>
<td>19</td>
<td>17.6</td>
</tr>
<tr>
<td>Explicit - Modals Immediate</td>
<td>14.5</td>
<td>12.75</td>
<td>19.5</td>
<td>17.6</td>
<td>15</td>
<td>15.25</td>
<td>22.6</td>
<td>20</td>
</tr>
<tr>
<td>Explicit - Modals Delayed</td>
<td>15.5</td>
<td>14.25</td>
<td>19.75</td>
<td>17.75</td>
<td>17</td>
<td>15</td>
<td>18.3</td>
<td>16</td>
</tr>
</tbody>
</table>

Table 10 Immediate vs. Delayed Post-test Results
4.1.4 Subjective Measures of Awareness Results

Our third research question concerned the extent to which the participants were aware of the knowledge they acquired. The confidence and source attribution ratings results are presented, in this order, below.

There was a big difference in confidence between the two groups. In both target forms, both immediately after the intervention and six weeks later, the explicit group was very confident (Modal Perfect: immediate M = 17.5, SD = 3.6; delayed M = 15, SD = 1.4/ Mixed Conditionals: immediate M = 17.3, SD = 7.6; delayed M = 12, SD = 5.29) or confident (Modal Perfect: immediate M = 4, SD = 2.9; delayed M = 4.7, SD = 1.7/ Mixed Conditionals: immediate M = 4.6, SD = 4.5; delayed M = 7.0, SD = 3.6) about their responses in most instances, while the implicit group claimed to have been either confident (Modal Perfect: immediate M = 10, SD = 1.8; delayed M = 9.5, SD = 1.2/ Mixed Conditionals: immediate M = 10.3, SD = 1.5; delayed M = 9, SD = 2.6) or somewhat confident (Modal Perfect: immediate M = 6.75, SD = .95; delayed M = 7.2, SD = 1.7/ Mixed Conditionals: immediate M = 8.0, SD = 1.0; delayed M = 7.3, SD = 2.08) about their grammaticality judgements in most instances; also, the implicit group often claimed to have been not confident at all (Modal Perfect: immediate M = 3.75, SD = 2.21; delayed M = 4.5, SD = 1.9/ Mixed Conditionals: immediate M = 3.0, SD = 2.6; delayed M = 5, SD = 3.6), but, in the case of the explicit group instances of no confidence (Modal Perfect: immediate M = .25, SD = 5; delayed M = 1.0, SD = .81/ Mixed Conditionals: immediate M = .66, SD = 1.15; delayed M = 1.3, SD = .57) were marginal. Overall, both groups appear to have maintained the same confidence levels during the immediate and delayed post-tests for the modal perfect, but their confidence about their mixed conditionals judgements dropped - slightly for the implicit group (immediate M = 10.3, SD = 1.5; delayed M = 9, SD = 2.6) and substantially for the explicit one (immediate M = 17.3, SD = 7.6; delayed M = 12, SD = 5.29) - six weeks later; still, the explicit group were substantially more confident than their implicit group counterparts.
Regarding the source attribution ratings results, our results show that for both target forms, both immediately after the intervention and six weeks later, the explicit group attributed their grammaticality judgement choices mostly to *rule* (Modal Perfect: Immediate $M = 18.75$, $SD = 4.78$; delayed $M = 16.06$, $SD = 4.5$; Mixed Conditionals: immediate: $M = 21.3$, $SD = 3.78$; delayed $M = 18$, $SD = 3.6$) whereas the implicit group attributed them to *intuition* (Modal Perfect: Immediate $M = 10.25$, $SD = 4.11$; delayed $M = 10.75$, $SD = 2.21$; Mixed Conditionals: immediate: $M = 15$, $SD = 2.6$; delayed $M = 13.6$, $SD = 1.52$) and *memory* (Modal Perfect: Immediate $M = 7.75$, $SD = 2.6$; delayed $M = 4.75$, $SD = 2.0$; Mixed Conditionals: immediate: $M = 3.3$, $SD = 2.08$; delayed $M = 2.0$, $SD = 1.0$) and less to *guess* (Modal Perfect: Immediate $M = 4.5$, $SD = 1.7$; delayed $M = 7.25$, $SD = 1.5$; Mixed Conditionals: immediate: $M = 2.3$, $SD = 4.0$; delayed $M = 8.3$, $SD = 1.15$); as expected, *rules* (Modal Perfect: Immediate $M = 1.5$, $SD = 1.7$; delayed $M = 0.75$, $SD = 0.95$; Mixed Conditionals: immediate: $M = 3.3$, $SD = 3.51$; delayed $M = 0.00$, $SD = 0.00$) were hardly ever
mentioned, except in the immediate mixed conditional tests, where, surprisingly the implicit group attributed their knowledge to rules. Further, the explicit group attributed their knowledge of both target forms more to intuition (Modal Perfect: \( M = 4 \), \( SD = 1.8 \) / Mixed Conditionals: \( M = 3.3 \), \( SD = 1.52 \)) than memory (Modal Perfect: \( M = 3.75 \), \( SD = 2.3 \) / Mixed Conditionals: \( M = 2.0 \), \( SD = 1.0 \)) during the delayed post-tests, while instances of guess were negligible. The implicit group attributed their judgements more to guess (Modal Perfect: \( M = 7.25 \), \( SD = 1.5 \) / Mixed Conditionals: \( M = 8.3 \), \( SD = 1.15 \)) and less to memory (Modal Perfect: \( M = 4.75 \), \( SD = 2.0 \) / Mixed Conditionals: \( M = 2.0 \), \( SD = 1.0 \)) in the delayed post-tests:

![Source Attributions](image_url)

Table 12 Source Attribution Ratings Results

### 4.2 Discussion

Our first research question addressed the effects of explicit, as against implicit, FFI on learners’ knowledge of the modal perfect form and mixed conditional forms. Our findings indicate that explicit FFI had a stronger effect on learners’ productive and receptive knowledge of both target forms than implicit FFI. However, it is worth mentioning that implicit and explicit FFI appear to have had a similar effect on
learners’ modal perfect oral production skills, in particular, as the difference between their OPT scores was negligible immediately after the intervention. Interestingly, six weeks after the intervention the participants exposed to implicit learning conditions achieved higher scores in the modal perfect and mixed conditionals OPT and TGJT than those exposed to explicit learning conditions and whose scores were, in contrast, substantially higher in the UGJT and the WPT. Our findings show that implicit FFI had a greater effect on learners’ knowledge of both target forms in the long term, but only in terms of the OPT and TGJT scores.

Our second research question addressed the durability of the effects of implicit and explicit FFI. Our findings show that, despite some minor decreases and/or increases in the participants’ scores in particular research tools, both types of instruction had a lasting effect on learners’ knowledge of both the modal perfect grammatical form. More specifically, we observe that the effect of explicit FFI on learners’ knowledge of the modal perfect form was not as long-lasting as that of implicit FFI, as the performance of the explicit group in the OPT and the TGJT deteriorated six weeks after the intervention, whereas that of the implicit group remained stable. However, the performance of both groups dropped slightly in the UGJT and dramatically in the WPT six weeks later. Turning to the mixed conditionals results, our findings show that, despite a minor decrease observed in the participants’ TGJT, UGJT, and WPT scores six weeks after the intervention, explicit FFI had a lasting effect on learners’ knowledge. It appears that explicit FFI had a more lasting effect on learners’ oral production skills, as a slight improvement was observed six weeks later. However, our findings revealed that implicit FFI had a more lasting effect on learners’ knowledge of the mixed conditionals than explicit FFI as their performance in the delayed posttests either remained stable, as in the TGJT, or slightly improved, as in the WPT and the OPT; only their UGJT scores were slightly lower six weeks later.

Interestingly, the OPT and the TGJT aimed at learners implicit knowledge, whereas the WPT and UGJT were designed to tap their explicit knowledge (for the rationale underlying the tests, please refer to Appendix II, p. 25). This could explain the substantially high score differences of the two groups in the WPT and UGJT, with the explicit group outperforming the implicit one. Still, this cannot be but an only tentative conclusion, since we cannot account for what was going on in the learners’ mind during instruction.
The third research question addressed the extent to which learners were aware of the knowledge they acquired. The results indicate that explicit FFI evidently led to higher confidence and awareness levels than implicit FFI. Our findings support previous studies (Norris & Ortega, 2000; Spada & Tomita, 2010), which demonstrated that explicit types of instruction were more effective than implicit ones, and that the effectiveness of L2 instruction was durable.

These findings contradict the ‘no-interface’ position (Krashen, 1981; 1985), which renounces the importance of explicit knowledge in L2 learning; rather, they support a weak interface position which posits that explicit knowledge acquired through conscious attention to grammatical forms can contribute to the development of implicit knowledge leading to spontaneous language use, but that not all language features can be learned implicitly, and even if they can, they take a long time to do so (R. Ellis, 1990; 1997). While the minor between-group differences observed in the immediate OPTs, which are thought to tap implicit knowledge, might suggest that explicit and implicit FFI had a similar effect on learners’ implicit knowledge, the fact that the explicit group outperformed the implicit one in all tests indicates that implicit FFI treatments involving the modal perfect and the mixed conditionals forms might be more effective if they were carried out over a longer period of time.

Further, the teacher-researcher observed that, during the OPTs, most explicit group participants often resorted to modifying their output online, which, on first glance, alludes to Krashen’s (1981;1982) Monitor Theory, positing that the only role for explicit knowledge is that of a ‘monitor’ and that it cannot be converted into implicit knowledge. However, given the strong effects of explicit FFI as indicated by the explicit group scores in all tests, especially in the OPTs and the TGJTs, which were designed to tap implicit knowledge, it might as well be the case that explicit knowledge was called in whenever implicit knowledge failed the participants, which is a widespread usage-based/statistical learning view of language acquisition (N. Ellis, 2011).

In addition, the substantial between-group score difference observed in the mixed conditionals WPTs could be accounted for by the fact that, during the treatments, the
explicit group had engaged in similar fill-in-the-blanks activities, which must have given them an advantage over the implicit group, who did not engage in similar practice. This could mean that controlled practice, - also supported by some ‘strong interface’ proponents (i.e. DeKeyser, 1998; Sharwood-Smith, 1981) - which required conscious reflection on and conscious application of the rules the explicit group had been equipped with, had a positive effect on their ability to produce the target form accurately. Although we cannot be sure whether explicit knowledge turned into implicit, we can observe that it must have assisted it (N.Ellis, 2005). The explicit group was exposed to entirely new semantic/pragmatic concepts, which were to be mapped onto the L2 forms and it appears that drawing learners’ attention to form, so that they could learn the relevant associations, has facilitated learning; it should be noted that this is so despite the fact that the learners were exposed to challenging and generally considered above their developmental stage grammatical forms, which, also, challenges the importance often attributed to proper timing of instruction (i.e. see R.Ellis, 1990; 2008).

With regard to awareness, the explicit group, as opposed to their implicit counterpart, were aware of the knowledge they acquired. The awareness differences discovered between the two groups suggest that performance differences in the UGJT are, among other things, due to differences in learners’ awareness. Further, although we cannot account for the nature of the learning process that took place in the learners’ brains during exposure (Leow, 2015; R. Ellis, 2016), the implicit group scores suggest that they became sensitive to the grammatical forms they were exposed to and to have developed conceptual models which reflect the form to some degree; they might have abstracted some knowledge of the underlying regularities without intending to, but even if they did, they could not reason about their choices during the UGJT, which they attribute mostly to intuition; this means that acquisition was not driven by conscious beliefs and that the acquired knowledge was not explicit. From an implicit statistical learning perspective (see section 1.3), the implicit group, who engaged in learning taking place unconsciously upon exposure to input, accumulated some linguistic knowledge on the basis of the distributional properties of the input, but they might have underperformed because grammatical form emerges over time after many
exposures of the target structures (N.Ellis, 2008; N. Ellis & Larsen-Freeman, 2006). Although we cannot be sure whether their knowledge was unconscious or not, we could argue that the implicit group performance bears some of the basic characteristics of implicit statistical learning: the implicit group quickly acquired knowledge from a complex stimulus domain (i.e. they acquired some knowledge of two challenging grammatical forms during three 90-minute lessons per target form), they appear to know they have acquired some knowledge and yet, they are not aware of what that knowledge is; they attributed it to intuition and as we have seen implicit learning seems to be accompanied by a sense of intuition (Dienes & Scott, 2005; Rebuschat & Williams, 2012). Another characteristic of implicit statistical learning is that it might be held in memory more easily than explicit learning (Allen & Reber, 1980), which is not supported by our results.

Finally, the fact that learning occurred at short intervals may account for the better immediate post-test results and the poorer delayed post-test ones. It is likely that longer intervals between practice sessions, which tax memory, might have led to more robust scores on delayed post-tests (Cepeda et al., 2006; Leow & Sato, 2017).

**Conclusion**

In conclusion, our findings show that explicit FFI had a greater effect on learners’ knowledge of the target forms. Overall, explicit FFI had more lasting effects than implicit FFI, but Implicit FFI appears to have had more lasting effects regarding learners’ oral production skills. Moreover, explicit FFI affected learners’ confidence levels more positively than implicit FFI and the explicit group was more aware of the knowledge they had acquired than the implicit group.

**Chapter 5. Conclusion**

This is a concluding chapter. Section 5.1 presents our conclusions and the pedagogical implications of the study, while section 5.2 sets out its limitations and implications for further research.
5.1 Conclusions and Pedagogical Implications

The present study found explicit FFI, promoting intentional learning and involving consciousness-raising, input processing and structured input activities, input and output practice, provision of rules and metalinguistic explanations and explicit corrective feedback, more effective than implicit FFI, which involves attending to and noticing the target forms during ‘enhanced input’ processing and structured input, and input and output practice, but promotes unintentional learning excluding rules and explicit feedback. Still, our findings suggest that implicit FFI has had some - though lesser - effect, on learners’ knowledge of both target forms, too. Given the minor decrease observed in the delayed post-tests, it could be assumed that implicit FFI could also have been effective if the treatments were more widely spaced and lasted longer.

Although our findings cannot be generalized, they can point to a number of pedagogical implications. To begin with, FFI can help young learners internalize challenging forms, such as modal perfect and mixed conditionals, by facilitating their form-meaning mappings. Explicit FFI, which raises learners’ consciousness of the target forms through conscious deduction of pedagogical grammar rules, and provision of metalinguistic explanations and explicit corrective feedback, seems to facilitate L2 learning; these two quite complex grammatical forms can be better learned though explicit FFI, so EFL teachers teaching 10-year-old Greek learners should acknowledge the important role of conscious attention to and noticing of grammatical forms and make sure they provide learners with such opportunities. Also, teachers should take into account that explicit FFI may have a more positive effect on learners’ confidence than implicit FFI, which could, in turn, have an effect on their motivation and, consequently, on L2 learning generally. Alternatively, and because the small score differences between the two groups indicate there might be room for both types of instruction, when EFL teachers opt for more implicit FFI techniques, they might need to provide adequate exposure to the target forms over longer periods of time.

Overall, we would claim that adopting a ‘no-interface’ position, which entails “imparting linguistic ability implicitly, through unanalyzed experience with the
language, especially in processing linguistic input” (Truscott, 2015, p. 129), and which downplays the role of explicit language learning/knowledge, does not seem to be our best option as practitioners. We are inclined to believe that instructional practices informed by weak interface positions, which acknowledge the importance of implicit learning without undermining explicit knowledge, can facilitate the internalization of challenging grammatical forms.

5.2 Limitations of the Study and Implications for Further Research
Due to the small sample size and the experimental design our study may not be generalisable to the participant population and other similar settings. The small sample size did not allow us to run descriptive statistics tests and determine the instructional effects more accurately. Moreover, although the variables that could possibly allow for an alternative interpretation of the results were controlled for carefully and a quite high level of internal validity was maintained, individual differences (i.e., learning styles, language aptitude) were not controlled for, which could have had some effect on our results. Another limitation is the duration of the study; given that acquisition of complex forms requires longer exposure (Long & Robinson, 1998) future studies should involve longer treatments always controlling for extraneous variables that might influence the participants. Further, six weeks might have been a short delayed post-test period; administering more delayed post-tests over time might have offered us a better insight regarding the durability of the effects of the two types of instruction. Finally, the tests might not have followed the form-meaning interface of the instruction in the implicit condition in particular.

Total Word Count: 15,000
References


Explicit as Against Implicit Instruction of Form in the L1 Greek-L2 English Young Learner Context


explicit as against implicit instruction of form in the L1 Greek-L2 English young learner context


Appendices
### Appendix I: An Overview of the Implicit and Explicit Group Treatments

<table>
<thead>
<tr>
<th>Explicit focus on form treatment</th>
<th>Implicit focus on form treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-planned (predetermined form)</td>
<td>pre-planned (predetermined form)</td>
</tr>
<tr>
<td><em>draws</em> attention to form</td>
<td><em>attracts</em> attention to form</td>
</tr>
<tr>
<td>induce attending to and noticing form explicitly</td>
<td>induce attending to and noticing form implicitly</td>
</tr>
<tr>
<td>learners cognizant of the purpose of the lesson</td>
<td>target forms almost masked from learners</td>
</tr>
<tr>
<td>intentional conscious learning</td>
<td>unconscious, non-intentional learning</td>
</tr>
<tr>
<td>promotes explicit learning and knowledge (but: it can result in implicit learning as a result of noticing instances of language)</td>
<td>promotes implicit learning and knowledge (but: the learners may work out the target of instruction and seek to make their understanding of it explicit)</td>
</tr>
<tr>
<td>highly obtrusive: interruption of communication</td>
<td>unobtrusive: minimal interruption of communication</td>
</tr>
<tr>
<td>focus on form initiated by teacher and learners</td>
<td>focus on form initiated by learners</td>
</tr>
<tr>
<td>focus on accuracy</td>
<td><strong>X</strong></td>
</tr>
<tr>
<td>rules and metalinguistic explanations</td>
<td><strong>X</strong></td>
</tr>
<tr>
<td>explicit, overt, corrective (at times negative) feedback with use of metalinguistic clues or explanations and clear signals that there is a right and wrong way to say something</td>
<td>recasts, reformulation of learners’ inaccurate utterances, requests for clarifications or repetitions, relatively unplanned spontaneous provision of feedback</td>
</tr>
<tr>
<td>reception and production activities</td>
<td>reception and production activities</td>
</tr>
<tr>
<td>controlled practice and free use of the target form</td>
<td>free use of the target form</td>
</tr>
<tr>
<td>focused communicative tasks</td>
<td>focused communicative tasks</td>
</tr>
<tr>
<td>input processing-structured input</td>
<td>input processing-structured input</td>
</tr>
<tr>
<td>consciousness-raising activities</td>
<td><strong>X</strong></td>
</tr>
<tr>
<td>input flood</td>
<td>input flood</td>
</tr>
<tr>
<td>enriched input</td>
<td>enriched input</td>
</tr>
<tr>
<td>input enhancement</td>
<td>input enhancement</td>
</tr>
<tr>
<td>positive and negative evidence of the target forms</td>
<td>positive evidence of the target forms</td>
</tr>
<tr>
<td>inductive &amp; deductive</td>
<td>mainly inductive</td>
</tr>
<tr>
<td>before, while and after a(n) (communicative) activity is performed</td>
<td>while or after a(n) (communicative) activity is performed</td>
</tr>
<tr>
<td>presents the target forms in context</td>
<td>presents the target forms in context</td>
</tr>
</tbody>
</table>
**Appendix II: The Rationale Underlying the Tests**

<table>
<thead>
<tr>
<th>Test</th>
<th>Type of Measure</th>
<th>Description</th>
<th>Design Features</th>
<th>Type of Knowledge</th>
<th>Presumably Measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral Production Test (OPT)</td>
<td>Constrained, constructed response (production of the target forms)</td>
<td>pictures devised to elicit oral response containing the target forms from the learners</td>
<td>time pressure focus on meaning no metalanguage</td>
<td>Implicit</td>
<td></td>
</tr>
<tr>
<td>Timed Grammaticality Judgment Test (TGJT)</td>
<td>Metalinguistic Judgement (comprehension/reception and accuracy judgement of the target forms)</td>
<td>participants decide whether the sentences including the target forms are grammatical or ungrammatical reaction time: 8 seconds</td>
<td>time pressure focus on form no metalanguage</td>
<td>Implicit</td>
<td></td>
</tr>
<tr>
<td>Written Production Test (WPT)</td>
<td>Metalinguistic Judgement (production of the target forms)</td>
<td>fill-in-the blanks task learners complete the missing target forms</td>
<td>rule no time pressure focus on form metalanguage</td>
<td>Explicit</td>
<td></td>
</tr>
<tr>
<td>Untimed Grammaticality Judgement Test (UGJT)</td>
<td>Metalinguistic Judgement (comprehension/reception and accuracy judgement of the target forms)</td>
<td>participants decide whether the sentences including the target forms are grammatical or ungrammatical -almost the same sentences were used in the TGJT-slightly modified and randomized This test incorporates collection of the following subjective awareness measures 1. source attribution ratings based on the participants’ reported use of guess/intuition, memory/rule) 2. confidence ratings based on the participants’ reported state of being very confident, somewhat confident, not very confident, not confident at all)</td>
<td>rule no time pressure form focus on form metalanguage</td>
<td>Explicit</td>
<td></td>
</tr>
</tbody>
</table>
Appendix III: Explicit Group-Modal Perfect Lessons

Lesson 1: Movie Mistakes Part I: Home Alone

Activity 1 Discuss.
a) Do you like watching comedies? What’s your favourite comedy?
b) Have you ever watched the Home Alone movie? Did you like it? Why? Why not?
c) Have you ever watched a film and noticed that the filmmakers have made mistakes?

Activity 2a Read a summary of the Home Alone movie. Complete the text with the words given: defend - awkward - scares - take care of - disappeared - sets up excited - let - burglars - give up

Home Alone

The McCallisters live in Chicago. Kevin is their youngest son. His cousins and uncles, and Buzz, his brother, think that he is (1) ....................... The truth is that Kevin does things right, but in the end, something always goes wrong and everyone nags or laughs at him. Kevin wishes his family (2) ....................... He wishes he lived alone.

The family decides to go on a trip to spend a pleasant Christmas in Paris. The night before the trip, his mum makes him sleep in the attic. The next morning, the McCallisters leave for the airport without Kevin, who wakes up to an empty house and he starts to believe that his wish to have no family has come true. Kevin is (3) ....................... because he now has the house all to himself so he can do whatever he pleases. He can do all these things his parents would not (4) ....................... him do. He can jump on the beds, pry into his parents’ and his brother’s things and eat what he likes. Of course, being home alone is not easy as he has to (5) ....................... himself, go shopping, and cook by himself. Also, he has to go downstairs to the basement to wash his clothes, which (6) ....................... him very much as he really believes there are ghosts down there.

Kevin’s excitement does not last long though as he soon finds out that two (7) ....................... , Marv and Harry, are planning to break into his house now that the family is away for Christmas. Kevin realizes that he alone must protect the family home. At first, he does whatever he can to show the robbers that there are people in the house. He hopes he will be able to scare them away. However, the burglars do not (8) ....................... and they find out that the only person who lives in the house is a ...child. So they come up with a plan to break into the house. Kevin is determined to (9) ....................... it. He makes a battle plan and (10) ....................... all sorts of traps to keep the burglars from entering, which, believe it or not, work just fine!

Text Source: https://www.imdb.com/title/tt0099785/plotsummary
https://en.wikipedia.org/wiki/Home_Alone
Activity 2b Read the following statements. Find evidence in the summary above and decide on who could have said it: Kevin, Kevin’s Mum, Marv the burglar, or Buzz.

1. ‘You shouldn’t have opened my drawers without asking first’, complained ............
2. ‘They could have woken me up’, thought ..........................................................
3. ‘Oh, no! We can’t have forgotten about him’, said ...........................................
4. ‘I can’t hear anything. They must have left the house’, whispered..................
5. ‘I would have jumped through the window, but I wasn’t sure the room was empty’, said........
6. ‘They may have believed that lots of people are in the house’, said....................
7. ‘We shouldn’t have left without him’, argued ....................................................
8. ‘Look! They must have forgotten to turn the lights and the TV off’, thought ............
9. ‘Where is everybody? Wow, my dream must have come true’, exclaimed ............
10. ‘They can’t have left a child home alone, can they?’, wondered ........................
11. ‘I should have let him sleep in his bedroom’, sighed .......................................
12. ‘They could have come back for me. But why didn’t they?, wondered..................
13. ‘You shouldn’t have looked into my closet’, screamed ........................................
14. ‘Oh, what was that sound? It might have been a ghost’, thought......................
15. ‘I shouldn’t have come down here all alone’, thought ....................................
16. ‘The lights are on. They must have come back’ said ........................................
17. ‘I would have gone back for him, but I didn’t want to miss my flight’, said...........

Activity 3a Modal Perfect: Study the sentences in Activity 2b. Pay close attention to how modals are used to talk about past situations. Can you find out what the rule for forming modal perfect forms is? Write down the rule in the box below.

<table>
<thead>
<tr>
<th>MODAL PERFECT</th>
<th>to talk about the past</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ possibility</td>
<td>certainty/assumption</td>
</tr>
<tr>
<td>+ criticism</td>
<td>suggestion</td>
</tr>
<tr>
<td>– criticism</td>
<td>willingness</td>
</tr>
</tbody>
</table>

Activity 3b First, list the different kinds of modal perfect forms you have identified so far. Then look at the sentences given below and try to figure out what each form is used for.

possibility (x2) – certainty/assumption (x2)- criticism/suggestion –criticism – willingness
<table>
<thead>
<tr>
<th>modal perfect</th>
<th>function</th>
<th>explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>We can use it to say that.....</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....it would be better if we had done something in the past, but we didn’t do it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.....we were not supposed to do something in the past, but we did it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....it is likely that something happened in the past</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....it is unlikely that something happened in the past</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....we it was possible for us to do something in the past, but we didn’t do it</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....we are almost sure that something happened in the past</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....we are almost sure that something did not happen in the past</td>
</tr>
<tr>
<td></td>
<td></td>
<td>....we were willing to do something in the past, but, for some reason, we did not</td>
</tr>
</tbody>
</table>

**Activity 3c** Rewrite the following sentences using a modal perfect form.

1. I’m sure that Kevin didn’t believe that his parents disappeared because he d’ always wished to live alone.
2. It is likely that Kevin’s parents thought that he had got into the car.
3. It is certain that Kevin felt really excited when he realized that he was home alone.
4. It is likely that the burglars did not believe that there were lots of people in the house.
5. Kevin’s brother asked him not to touch his things, but Kevin opened his closet.

**Activity 3d** Some of the following sentences are wrong! Find and correct the mistakes.

1. Oh, no! The bus is leaving! We should have left home earlier. We’re going to be late!
2. Mary didn’t turn up at my birthday party last weekend. I think she could call me at least; it’s been a week now and I haven’t heard from her yet!
3. You should see a doctor the moment you realized you had trouble walking. Now it’s too late.
4. I’ve looked everywhere, but I can’t find my English notebook! I must leave it at school!
5. Jake didn’t play well in yesterday’s tennis match. His coach told him he could have done better!
6. I don’t think you should call Mr. Robinson at work so early in the morning. He can’t arrive at his office yet. He usually gets there at 9am and it’s only 7.30am now.
7. Where are my cookies? My sister can’t eat them! I know she hates cookies.
8. Mike hasn’t shown up yet. He might have missed the bus.
9. Look what you’ve done! Emma’s crying! You shouldn’t talk to her like this! You’ve hurt her feelings!
10. Mum, I would do my homework while you were at work, but I fell asleep. I promise it won’t happen again!

**Activity 4 Whole class:** Watch the video clips with scenes from the ‘Home Alone’ Movie. Look at the clues given below and try to spot the mistakes the filmmakers have made.

**Video 1 at the supermarket:** plastic bottle  
**Video 2 running home:** clothes  
**Video 3 having dinner:** food  
**Video 4 taking a shower:** bottle  
**Video 5 doing the laundry:** bottle  
**Video 6 doing kitchen chores:** clothe

**Activity 4b** Read the article about the ‘Home Alone’ movie. Have you spotted the same mistakes as those mentioned in the article?

---

37 **Text Sources:**  
[www.moviemistakes.com](http://www.moviemistakes.com)  
[https://www.youtube.com/watch?v=fGAsP1OxQE](https://www.youtube.com/watch?v=fGAsP1OxQE)
‘Home Alone’ is a great film! We’ve watched it million times since it was released back in 1990 and we know it inside out and back to front. But do we? It appears that the filmmakers did not pay much attention to small details in this movie! In fact, one cannot help but wonder how they could have made so many mistakes! As we are about to find out, the film directors should have been more careful and perhaps so should we, the viewers!

Well, to begin with, you can’t have forgotten the scene in which Kevin rides down the stairs on his sled, have you? As Kevin gets ready for his ride, the door is halfway open but when the camera switches angles, we see that the door is almost all the way open all of a sudden. Kevin might not have been home alone after all! There may have been a ghost in that room! Just kidding!

And do you remember the scene showing Kevin in the bathroom, looking at himself in the mirror, and talking about his washing habits? We can see him comb his hair and put on some deodorant in order to smell nice! We can also see the bottles of shower gel, aftershave and deodorant to his left by the sink. Mysteriously, when the camera cuts a close shot, a new bottle appears in the scene, while the shower gel is now facing away from Kevin! Someone must have added a bottle of fragrance to the scene! Or it could have been the ghost messing up with Kevin’s cosmetics this time! Besides, everyone knows how ghosts love smelling nice!

What’s more, at some point, Kevin goes shopping at the supermarket. He buys, among other things, a big plastic bottle of Tide detergent, because, now that his parents are away, he has to wash his clothes by himself! Sadly, on his way back home from the supermarket, the two shopping bags break. Well, it must have been very heavy! But, guess what! No Tide detergent falls out of these bags! Well, Kevin must have left the bottle at the supermarket. Or he might have changed his mind about buying it! Still, a little while later, back at the house, Kevin gets to do the laundry using some…. Tide detergent. Where could he have found that bottle? Well, we guess he might have had some left at home! Or, who knows? He may have returned to the supermarket to get the forgotten bottle!

But this is not the only mistake about this laundry scene! Just as he takes the clothes out of the dryer, he kicks the cupboard door shut and puts the orange bottle of detergent on the washing machine. Then he turns and walks towards the metal heater, which, by the way has always given him the creeps! When the shot comes back to Kevin, we get another shot of the detergent too. If we look closely, we can notice that the bottle is now turned around with its handle facing outwards! You must have missed that too, haven’t you?

Next, there’s a scene in which Marv, the burglar, is outside Kevin’s house listening at the back door, while Kevin is doing chores in the kitchen. We can see that Kevin’s sleeves are rolled up. Then, he creeps over to the door, puts a pot down and reaches for a drawer. As he opens the drawer, we see his sleeves rolled down. When the camera switches from Marv back over to Kevin we can see that his sleeves are rolled up again. Well, he can’t have rolled his sleeves up and down so fast, can he?
In the evening, Kevin goes to church, where he talks with an old man who lives next door to him. Then, he leaves the church quickly, because he knows the robbers will be at his house by 9 pm. So, we watch him running down the sidewalk in his cute little green trousers, but, between leaving the church and getting home, his trousers are no longer green! They are now blue jeans all of a sudden. Also, when he gets to his house, we watch him open the front door without a key. So, why did Kevin leave the door open if he knew that the robbers would come at 9 o’clock? Well, this is a serious mistake! Kevin shouldn’t have left the door unlocked the entire time he was gone. Am I the only one to think that the robbers could have got into? Luckily, they didn’t! The point is that the directors could have given Kevin a key to avoid this serious mistake! Anyway, later, we see Kevin roll out his battle plans and set up the traps for the bad guys, and….guess what! His trousers have turned back to green again! Isn’t it amazing? Kevin’s jeans must have been really special! You can’t have seen such colour-changing jeans before, have you?

Finally, just before the battle against the burglars takes place, we see Kevin sitting at the dining table to have a nice meal of macaroni and cheese on a plate. When Harry and Marv, the bad guys, arrive, Kevin has to leave his dinner behind to fight them. But, when Harry makes it into the dining room, we can see Kevin’s dinner again placed on the dining table among the mess and it’s quite different this time! So much for detail! Well, we think that someone must have been really hungry at the studio that day! And, no, the ghost can’t have eaten it! No way! Ghosts don’t eat, do they?

All in all, we think that the directors should have tried a little bit harder! What do you think? Well, the next time you watch the ‘Home Alone’ film watch closely. You see, the filmmakers might have made more mistakes which we may have not managed to spot!

Activity 4b Complete the fist column with the missing modal verbs. Then, look for example sentences in the text and write them down in the appropriate box.

<table>
<thead>
<tr>
<th>MODAL</th>
<th>DEGREE OF CERTAINTY</th>
<th>EXAMPLES FROM THE TEXT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>90-100% true</td>
<td></td>
</tr>
<tr>
<td></td>
<td>90-100% not true</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50% true</td>
<td></td>
</tr>
<tr>
<td></td>
<td>50% not true</td>
<td></td>
</tr>
</tbody>
</table>
Activity 5a Guess: What could have happened at the studio on the day of filming?

a) Why do you think the plate of mac and cheese has been replaced by a three-part microwave meal from one scene to the next? What could have happened?
b) Why does Kevin wear different trousers? What might have happened to him?

Example: I think that they might have had many plates in the studio that day so they might have mixed up the plates.

Activity 5b Whole class: Imagine you are the film directors who created the Home Alone film. Tell the class about some things you shouldn’t have done. Also, explain what you could have done differently!

Example: I shouldn’t have asked Kevin to barge into his house like this, as if the door were unlocked. We could have given him a key and could have asked him to unlock the door.
Lesson 2: Movie Mistakes Part II

Activity 1 Discuss. a) What kinds of movie mistakes are often to be found in movies?
   b) What can one do to reduce or avoid mistakes in films.

Activity 2 What do the following statements express? Match.

A. **certainty** that something happened
B. **certainty** that something did not happen
C. we had a **chance** to do sth, but we did not
D. **willingness** to do sth, but, for some reason we did not do it
E. we **expected** sth which **didn’t happen**
F. we did **not expect** sth to happen, but it did
G. **possibility** that something is true
H. **possibility** that something is not true

1. ‘.. I think the make-up artist **might have seen** his tie was askew and she tried to fix it’.
2. ‘.. Who knows? I suppose they noticed the mistake, but they **may not have had** enough time to reshoot the scene!’
3. ‘.. Oh dear! They **can’t have used** mobile phones in a movie set in the Renaissance!’
4. ‘.. The film editor **must have got** confused. Look at this! He used the wrong scene!’
5. ‘.. Can you see those wires? We **should have removed** them’.
6. ‘.. We **would have removed** that mirror but the wall was too dirty!’
7. ‘.. They **shouldn’t have left** the microphone hanging above the actor, but no one saw it was there’.
8. ‘.. We **could have used** more cameras that day, but it did not even cross our mind’.

Activity 3a The following texts describe different **kinds of movie mistakes**. Read and label them.

- **Visible Crew Errors**
- **Historical Inaccuracies/Factual errors**
- **Scientific Errors**
- **Visual Continuity Error**

---

Text Sources: [https://www.youtube.com/watch?v=aL4hH_xT9QU](https://www.youtube.com/watch?v=aL4hH_xT9QU)
A. A number of films show huge battles set in space. Noisy spaceships, thunderous explosions and powerful-weapons scenes are usually accompanied by great sound effects. However, space is a vacuum, so there’s no medium, say air, for the sound wave to be transmitted through. The explosions, therefore, would just leave a deathly silence. Therefore, sound in space is a violation of a huge scientific truth!

B. Small or big changes take place from scene to scene without any obvious reason or explanation. There is an inconsistency with a certain fact, character, object, or place in a film where there shouldn’t be one. For example, the amount of water in a drinking glass changes between shots, without the character taking a sip.

C. A cameraman or other people who help shoot the film suddenly appear in the scene when they shouldn’t. Sometimes, a stuntman’s face is revealed, which actually ruins the scene, or mysterious hands appear to fix an actor’s costume. Also, lights, microphones or wires or other pieces of equipment appear in a scene.

D. Fiction films show past events within a certain period or era. Objects that had not been invented yet appear in scenes set in the past. Actors and actresses wear wrong clothes and accessories (i.e. jeans or watches in a movie set in Roman period).

Activity 3b What type of mistake have they made? Match the comments with a type of mistake from exercise 2a. Complete the texts using an appropriate modal perfect form using the verbs given.

......Ron: ‘How no one (notice) the make-up artist standing right next to the camera? I mean someone (see) her. And why on earth would she step into the scene? OK, I (notice) that one coming! Goofs like that keep happening when we leave the studio. We (not shoot) the film on location in the first place!’

......Jake: ‘Hmm, I’m not so sure. I think I heard someone talking about the human brain during the shooting but I didn’t pay much attention back then. They (know) that the whole idea of our using only 10% of our brain is totally mistaken. I don’t know, perhaps we (avoid) this one. Anyway, now it’s too late!

......Sharon: ‘Hey guys, did you see that? He’s holding a plastic bottle! What were they thinking? They (not use) plastic bottles in a movie set in medieval times! They (use) a wooden or clay mug instead!’

......Bethany: ‘He (eat) the croissants. I had an eye on him the whole time. Someone else (grab) a bite to eat. But this is of little concern right now. The point is that in the next scene there is only one croissant! In other words, we’re doomed!’

Activity 4a Watch a video[^19] on various mistakes and complete the table.

[^19]: Video: [https://www.youtube.com/watch?v=aL4hH_xT9QU](https://www.youtube.com/watch?v=aL4hH_xT9QU)
<table>
<thead>
<tr>
<th>film</th>
<th>kind of mistake</th>
<th>the mistake</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>visual continuity</td>
<td>trainers</td>
</tr>
<tr>
<td>b</td>
<td>factual error/historical inaccuracy</td>
<td>car</td>
</tr>
<tr>
<td>c Teen Wolf</td>
<td></td>
<td>exposed extra</td>
</tr>
<tr>
<td>d The Incredibles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e The Star Wars</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>factual error/historical inaccuracy</td>
<td>gas cylinder</td>
</tr>
<tr>
<td>g</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>h Harry Potter</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>i Pirates of the Caribbean</td>
<td>factual error</td>
<td></td>
</tr>
<tr>
<td>j Pulp Fiction</td>
<td></td>
<td>bullets</td>
</tr>
</tbody>
</table>

**Activity 4b** The following statements are based on the video you have just watched. Complete the sentences in the table with modal perfect forms using the verbs given in brackets. You must decide whether you need to express criticism/expectations, certainty or possibility.

**Activity 4c** Match the statements to the excerpts from the videos making any necessary changes in the modal perfect forms you have used.

1. The film editors (not miss) this error as it involved the character’s most important trait. They (create) this mistake on purpose to show that, as the movie progressed, the main character changed and so did his or her appearance.

2. The filmmakers (replace) an object many times in this film. They (use) several objects so they never noticed the small difference among them.

3. The editor (not fix) the mistake although he noticed it because this scene was too difficult to re-shoot. Also, in this film, the filmmaker (make) more mistakes except the ones mentioned in the video.

4. The person involved in the mistake (not be) a main actor or actress, but it (be) a woman who thought that no one would notice her trying to fix her costume as everyone around was celebrating a victory.

---

*Texts Sources: [https://www.youtube.com/watch?v=aL4hH_xT9QU](https://www.youtube.com/watch?v=aL4hH_xT9QU)  
5. The filmmakers .......................... (skip) a part in this film. They .......................... (want) to save time so they avoided creating an extra scene.

6. There were two similar scenes in this film and the editor .......................... (use) the wrong shot. He .......................... (add) the shot intended for a similar scene that took place later in the movie to the scene that happened earlier.

7. The fans of this film .......................... (get) really upset when they realized that the mistake was corrected in later versions of the film.

8. The filmmakers .......................... (double-check) on the extras taking part in this scene. They .......................... (see) that the extra did not blend in with the rest of the actors.

9. The film editors .......................... (forget) to remove something from the film. It .......................... (be) really difficult for them to spot this mistake because it involved one of the most natural things in the world.

10. The film director .......................... (include) this mistake on purpose as he tends to leave some clues in his movies. However, in this film, he .......................... (notice) the mistake as it appears only in one scene. So it .......................... (be) a hint.

Excerpts from the video:

a) ....... ‘Hearing footsteps is the most natural thing in the world and that’s probably why the editor didn’t remember to remove the sound’.

b) ....... ‘After the DVD hit the shelves they were angry, after seeing the car wasn’t there anymore. They wanted to show it to their friends and prove they weren’t just tripping while watching the movie in the theater, but it was gone’.

c) ....... ‘The build and appearance of the person in question suggests it’s actually a woman. Over three decades later, it’s widely believed that this extra noticed her fly was unzipped. She pulled her shirt down and tried to fix it and used her jacket to cover up when it didn’t work’.

d) ....... ‘Violet’s hair switched sides several times and animators even admitted that this is not a coincidence. They’ve done it on purpose, as an attempt to ease the animation
process. Hair was one of Violet’s most important character traits. As the movie progresses and she gains more confidence the young heroine slowly stopped hiding behind it’.

e) ........ ‘It’s probably just another movie mistake that happened because they used several droids and the editors never noticed there’s a small difference between them’.

f) ........ ‘It’s hard to say if the editor didn’t notice the gas cylinder or if he just let it slide. After all, this inconsistency doesn’t seem so hard to swallow when compared to the other mistakes the movie made’.

g) ........ ‘Animators probably didn’t want to waste time showing the characters removing the rope and just skipped that part altogether’.

h) ........ ‘It’s obvious the editor used the wrong shot, since Daniel Radcliffe wore the darker shirt during another nightmare that took place later in the movie’.

i) ........ ‘One of the crew members is standing on the deck looking out to the sea, but he doesn’t really blend in with a bunch of greedy pirates’.

j) ........ ‘It’s true Tarantino likes to leave small hidden clues here and there, but this probably wasn’t one of them. After all, the bullet holes were only there for one shot, not the whole time!’

**Activity 5a** Read the text\(^{21}\). Are the suggestions for avoiding movie mistakes the same as yours?

**Ways to avoid movie mistakes**

There are a few ways to limit the number of errors in a film. Film production companies can prevent continuity errors by filming all the shots for a particular scene together. This allows actors to remain in costume, in character, in the same location, and with the same weather, if shooting on location.

Regarding avoidance techniques, one can avoid shooting on location and entirely film everything on studio set instead. This allows weather and lighting to be controlled, as the shooting is indoors. It also allows for all clothing and sets to be stored in one place to be hauled out the next day from a secure location. One can also try and avoid certain elements in their film such as drinks, clocks, and fires, all of which are constantly changing and are, as a result, hard to maintain consistency with.

Another major technique is for costume designers, production designers, prop masters, and make-up artists to take instant photographs of actors and sets at the beginning and end of

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\(^{21}\)Text Sources: [https://www.premiumbeat.com/blog/9-common-filmmaking-mistakes-to-avoid/](https://www.premiumbeat.com/blog/9-common-filmmaking-mistakes-to-avoid/)  
[https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/](https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/)
each day’s shooting, which used to be made possible only with Polaroid cameras, but now it’s done with digital cameras and cell phones as well. This allows the various workers to check each day’s clothing, set, props and make-up against a previous day’s.

Needless to say, hiring a script supervisor, preferably one who has a background in editing is another effective method. A director has too many things to think about during a shoot. Getting someone whose sole purpose it is to keep track of props, lighting, costume, etc., and to make sure continuity remains unbroken will definitely make it easier on them!

Also, hiring and consulting with some scientists and historians when shooting science fiction or period films is the best way to avoid serious historical inaccuracies, factual errors, as well as hideous violations of scientific truths.

Finally, rehearsing seems to be of the essence. A lot of continuity errors occur as a result of the actors slightly changing their performance between takes. To limit the risk of that happening, rehearsing the scene a few times will help keep them on point.

**Activity 5b Pair-Work** Read the following prompts. What techniques could you have employed to avoid these mistakes? What are the reasons why you did not do what you were supposed to do despite your willingness to do it?

Write your ideas down in the space provided. Make sure you use the appropriate modal perfect form (i.e. show that someone had the chance or willingness to do something, but they did not). An example is given to help you
<table>
<thead>
<tr>
<th>the mistakes what shouldn't have happened</th>
<th>techniques that could have been employed to avoid the mistakes</th>
<th>explaining the reason why you did not do what you could have done</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>visual continuity:</strong> scar on the left cheek – scar on the right</td>
<td>i.e. The make-up artist could have taken a photo of the actors face. He or she could have also asked to watch the footage if they did not remember where to draw the scar.</td>
<td>i.e. I’m the make-up artist. I would have taken a photo of the actor, but he did not let me do so. He said I had no right to take pictures of him.</td>
</tr>
<tr>
<td><strong>historical inaccuracy:</strong> they included telescopes in the film but telescopes had not been invented yet</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>visual continuity:</strong> during the police chase the road is wet in one scene, but dry in the next one</td>
<td></td>
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<tr>
<td><strong>Scientific mistake:</strong> they used a light microscope to see in detail how the virus changes - this is possible only with an electron microscope</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>visual continuity:</strong> the actress runs towards the window - the cameraman’s reflection appears on the window</td>
<td></td>
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</tr>
</tbody>
</table>
Lesson 3: Movie Mistakes Part III

Activity 1 Brainstorming: Why are there mistakes in movies? Discuss.

Activity 2a Read the following text. List the reasons why movie mistakes occur. Check your answers with your partner. Were your ideas similar to the ones mentioned in the text?

<table>
<thead>
<tr>
<th>Reasons behind movie mistakes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
</tr>
</tbody>
</table>

**Why do movie mistakes occur?**

Quite often the answer lies in the high pressure world of commercial film making. Directors generally work under tight budget and time restraints, and re-shooting scenes can be a logistical nightmare. If an occasional movie slip-up manages to sneak into the final cut of a film, it may be best to leave it in rather than arrange for an expensive re-shoot or other post-production fix.

Most movie mistakes are caused by the standard practice of shooting out of sequence. Very few movies are filmed in a linear progression according to the script. The producers may

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22 **Text Sources:**
https://en.wikipedia.org/wiki/Continuity_(fiction)
https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/
https://www.wikihow.com/Find-Mistakes-in-Movies
only have access to a particular location for a short amount of time, so the director and actors must shoot all of the scenes based at that location at one time, regardless of where the scenes fit in the overall narrative. This leads to continuity errors, such as having a dirty costume suddenly appear clean again. Shooting out of sequence can also lead to differences in an actor’s appearance or use of certain props. In cinema, special attention must be paid to continuity because films are rarely shot in the order in which they are presented. The shooting schedule often depends on location permit issues. For example, a character may return to Times Square in New York City several times throughout a movie, but as it is extraordinarily expensive to close off Times Square, those scenes will likely be filmed all at once to reduce permit costs. Weather, the ambience of natural light, cast and crew availability or any number of other circumstances can also influence a shooting schedule.

Continuity problems in movies can also be triggered by the long process of lighting, arranging and filming a set. During a dinner scene, for example, the actors may first perform the “master shot,” a wide shot of the entire dinner table with all actors eating and speaking. For close-ups of individual actors or smaller groupings, the whole set may be completely re-arranged and re-lit. It is nearly impossible to keep track of every single movement of every single actor during several days of filming, so the resulting scene in the film could have any number of mistakes, as objects change position or food disappears and reappears at random.

What’s more, when a film is shot, more often than not, it’s shot with one camera. Every scene is the result of 10, 20, and maybe even up to 100 different takes shot from different angles. With every new take, the odds that something will change increase — whether it’s the way the actor is holding their cup or something bigger, like the position of the sun and the shadows it casts. This gets increasingly more difficult to manage the longer a shoot is.

Ignorance often results in factual errors or anachronisms. Sometimes, lack of historic or scientific knowledge can result in mistakes. If a movie is set in a particular time period, such as the 1920s, it is up to the set designers and others to make sure all props and backgrounds are historically accurate. In the film ‘O Brother Where Art Thou?’, for instance, one scene includes an audience singing along to a performance of the song "You Are My Sunshine." In reality, the song was not even released until several years after the date of the movie. The song’s lyrics worked well artistically, but it would be considered a movie slip-up by film buffs.

Sometimes cast or crew members create movie mistakes by stepping into the shot or allowing a piece of equipment to appear. Boom microphones, which are used to record sounds, are especially difficult to wrangle without dipping them into the frame; so many modern cameras have built-in safety zones which prevent such accidental intrusions from microphones or crew members. This is the basic error Steven Spielberg committed during the shooting of ‘Duel’, stepping past the established safety zone while filming a climactic scene between actor Dennis Weaver and an unseen truck driver.
Considering how collaborative the film making process can be, it is actually amazing there aren't even more major movie mistakes. Databases such as the Internet Movie Data Base (IMDB) include movie goofs and continuity problems, largely contributed by observant movie buffs. Some movie mistakes are not actually mistakes, however, but inside jokes or deliberate incongruities created for effect by directors or producers. A few hardcore film buffs will analyze every frame of a favorite movie in search of technical or artistic bloopers, many of which would be considered too difficult to spot for average moviegoers.

Activity 2b Answer the following questions.

1. What can lead to continuity errors?
2. Film producers and film directors are often well-aware of certain mistakes in their movies, but, nevertheless, they do nothing about it? Why is this so?
3. How does advanced technology help cameramen avoid making visible crew mistakes?

Activity 3 Read the following situations. Use ideas from Activity 2b. Use must have + past participle or can’t have + past participle to make deductions about the situations.

<table>
<thead>
<tr>
<th>Situations</th>
<th>Reasons/Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> ‘Who ......................... (use) we would have to put off shooting today? The cameraman won’t make it today and we are expected to empty building by midnight. What are we supposed to do?’</td>
<td>e.g. They must have run out of time. Their location permit must have expired.</td>
</tr>
<tr>
<td><strong>2</strong> ‘I know we ......................... (place) a black umbrella between the light source and the actor, softening the light a bit. I mean we .........................(do) so, but it was practically impossible in such a narrow corridor!’</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> ‘What do you mean when you say we ......................... (be) more careful? We shot 23 takes from different angles.’</td>
<td></td>
</tr>
<tr>
<td><strong>4</strong> ‘The main actor .................................. (treat) the younger actors so rudely. It is his bad manners that led us to this disaster. And, by the way, he .......................... (rehearse) before filming like he says he did! I mean, why is it that he couldn’t even remember half of his words then?’</td>
<td></td>
</tr>
<tr>
<td><strong>5</strong> ‘We .......................... (make) so many changes on the studio set, but we had to shoot some close-ups of the protagonist. It is tough work but it’s always worth the effort!’</td>
<td></td>
</tr>
<tr>
<td><strong>6</strong> ‘You knew we .......................... (keep) within budget. And the worst part is that the crew has not been paid yet’</td>
<td></td>
</tr>
</tbody>
</table>
‘As it turned out, it was the Aztecs who performed such cruel rituals, not the Mayans. The Yucatec Maya people that live in Mexico today feel really disappointed when they watched the film!'

‘It’s not entirely our fault. The editor asked us to shoot the scenes in this order. We thought he has a reason so we did what he asked.’

**Activity 4a Pair-Work:** Ls compare their answers to their partners’ answers. Watch a video showing a movie mistake from the ‘Avengers: Endgame film’.

a) Read the text about the film. Spot and correct the mistakes.

b) Have you got any ideas on what else could have happened on the day this scene was shot?

In ‘The Avengers: Endgame’ film, Hulk eats breakfast with Cap, Nat and Scott. The crepe on the top is cut in two. In the next shot it's in one piece, then in two again. The filmmakers must have shot the scenes on different days and they must use a different crepe. They shouldn’t replace the whole crepe with a different one. Something must have happened to the first crepe. It might fall off the table. A member of the crew might have destroyed the sandwich accidentally or eaten it so they had to replace it. The film editors might have noticed the mistakes but they might have not wanted to shoot the scene again for some reason. They may have run out of time or the actors may refuse to do the scene again. They should have been more careful. The film editors might have avoided making this visual continuity error. They could have made a new sandwich that looked like the one in the previous scene.

**Activity 4b** By now, you must have learned some things about the various kinds of movie mistakes, the reasons why they happen and what one can do to avoid them.

a) Describe the movie mistake. Say what the filmmakers should or shouldn’t have done.

b) Offer a reasonable explanation of what you think must have happened.

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23 **Source Video**: [https://www.youtube.com/watch?v=9tKr3m6r9NI](https://www.youtube.com/watch?v=9tKr3m6r9NI)

**Text Source**: [www.moviemistakes.com](http://www.moviemistakes.com)
c) Consider some other possible explanations. What else might have happened?

d) Make a suggestion on what the filmmakers could have done differently.

Activity 4c Now look at your partner’s picture and read the paragraph he or she has written. Express your opinion on their text. What can your partner do improve his/her presentation? Also, come up with other ideas (at least two) he or she might have not included in his/her presentation.

Activity 4d Add your partner’s ideas to your text, make any necessary changes or corrections, and present it to your classmates.

Movie mistakes Pictures (from www.moviemistakes.com): Cut the pictures. Give each learner one.
**Picture 3** Movie: The Wizard of Oz Key-word: plaits – hair – wig- extension

**Picture 4** Movie: Terminator 3: Rise of the Machines Key Words: plane number

**Picture 5** Movie: X-Men 2 Key Words: blue folder paper sheets - pen
**Picture 6** Movie: Batman: Hush  
Key Words: bottles-shelf

**Picture 7** Movie: Ocean’s Eleven  
Key-Words: glass- plate

**Picture 8** The Lord of the Rings: The Return of the King  
Key Words: waistcoat
Appendix IV: Implicit Group - Modal Perfect Lessons

Lesson 1: Movie Mistakes Part I: Home Alone

Activity 1 Discuss.
   a) Do you like watching comedies? What’s your favourite comedy?
   b) Have you ever watched the ‘Home Alone’ movie? Did you like it? Why? Why not?
   c) Have you ever watched a film and noticed that the filmmakers have made mistakes?

Activity 2a Read a summary of the Home Alone movie and complete the text with the words given: defend - awkward - scares - take care of - disappeared - sets up - excited - let - burglars - give up

Home Alone

The McCallisters live in Chicago. Kevin is their youngest son. His cousins and uncles, and Buzz, his brother, think that he is (1) ....................... The truth is that Kevin does things right, but in the end, something always goes wrong and everyone nags or laughs at him. Kevin wishes his family (2) ........................ He wishes he lived alone.

The family decides to go on a trip to spend a pleasant Christmas in Paris. The night before the trip, his mum makes him sleep in the attic. The next morning, the McCallisters leave for the airport without Kevin, who wakes up to an empty house and he starts to believe that his wish to have no family has come true. Kevin is (3) ........................ because he now has the house all to himself so he can do whatever he pleases. He can jump on the beds, pry into his parents’ and his brother’s things and eat what he likes. Of course, being home alone is not easy as he has to (4) ................... him do. He can jump on the beds, pry into his parents’ and his brother’s things and eat what he likes. Of course, being home alone is not easy as he has to (5) ...................... himself, go shopping, and cook by himself. Also, he has to go downstairs to the basement to wash his clothes, which (6) .......................... him very much as he really believes there are ghosts down there.

Kevin’s excitement does not last long though as he soon finds out that two (7) ......................, Marv and Harry, are planning to break into his house now that the family is away for Christmas. Kevin realizes that he alone must protect the family home. At first, he does whatever he can to show the robbers that there are people in the house. He hopes he will be able to scare them away. However, the burglars do not (8) .......................... and they find out that the only person who lives in the house is a ...child. So they come up with a plan to break into the house. Kevin is determined to (9) ...................... it. He makes a battle plan and (10) .......................... all sorts of traps to keep the burglars from entering, which, believe it or not, work just fine!

Activity 2b Work in pairs: Read the following statements. Find evidence in the summary above and decide on who could have said it: Kevin, Kevin’s Mum, Marv the burglar, or Buzz.

1. ‘You shouldn’t have opened my drawers without asking first’, complained ..................
2. ‘They could have woken me up’, thought .................................................................
3. ‘Oh, no! We can’t have forgotten about him’, said ..................................................

Text Source: https://www.imdb.com/title/tt0099785/plotsummary
https://en.wikipedia.org/wiki/Home_Alone
4. ‘I can’t hear anything. They must have left the house’, whispered.................................
5. ‘I would have jumped through the window, but I wasn’t sure the room was empty...........
6. ‘They may have believed that lots of people are in the house’, said..............................................
7. ‘We shouldn’t have left without him’, argued ..........................................................
8. ‘Look! They must have forgotten to turn the lights and the TV off’, thought ..................
9. ‘No one is here! My dream must have come true’, exclaimed ..............................................
10. ‘They can’t have left a child home alone, can they’, thought ...........................................
11. ‘I should have let him sleep in his bedroom’, sighed ..........................................................
12. ‘They could have come back for me. But why didn’t they?, wondered............................
13. ‘You shouldn’t have looked into my closet’, shouted .........................................................
14. ‘Oh, what was that sound? It might have been a ghost’, thought..........................................
15. ‘I shouldn’t have come down here all alone’, thought ......................................................
16. ‘The lights are on. They must have come back’ said ............................................................
17. ‘I would have gone back for him, but we didn’t want to miss our flight’, said....................

Activity 3 Watch the video clips with scenes from the ‘Home Alone’ Movie. Look at the clues given below and try to spot the mistakes the filmmakers have made.

- Video 1 at the supermarket: plastic bottle
- Video 2 running home: clothes
- Video 3 having dinner: food
- Video 4 taking a shower: bottle
- Video 5 doing the laundry: bottle
- Video 6 doing kitchen chores: clothes

Activity 4a Read the article about the ‘Home Alone’ movie. Have you spotted the same mistakes mentioned in the article?

Texte Sources: www.moviemistakes.com
https://www.youtube.com/watch?v=fGAsP1OxQE
Home Alone

Home Alone’ is a great film! We’ve watched it million times since it was released back in 1990 and we know it inside out and back to front. But do we? It appears that the filmmakers did not pay much attention to small details in this movie! In fact, one cannot help but wonder how they could have made so many mistakes! As we are about to find out, the film directors should have been more careful and perhaps so should we, the viewers!

Well, to begin with, you can’t have forgotten the scene in which Kevin rides down the stairs on his sled, have you? As Kevin gets ready for his ride, the door is halfway open but when the camera switches angles, we see that the door is almost all the way open all of a sudden. Kevin might not have been home alone after all! There may have been a ghost in that room! Just kidding!

And do you remember the scene showing Kevin in the bathroom, looking at himself in the mirror, and talking about his washing habits? We can see him comb his hair and put on some deodorant in order to smell nice! We can also see the bottles of shower gel, aftershave and deodorant to his left by the sink. Mysteriously, when the camera cuts a close shot, a new bottle appears in the scene, while the shower gel is now facing away from Kevin! Someone must have added a bottle of fragrance to the scene! Or it could have been the ghost messing up with Kevin’s cosmetics this time! Besides, everyone knows how ghosts love smelling nice!

What’s more, at some point, Kevin goes shopping at the supermarket. He buys, among other things, a big plastic bottle of Tide detergent, because, now that his parents are away, he has to wash his clothes by himself! Sadly, on his way back home from the supermarket, the two shopping bags break. Well, they must have been very heavy! But, guess what! No Tide detergent falls out of these bags! Well, Kevin must have forgotten the bottle at the supermarket. Or, he could have changed his mind about buying it! Still, a little while later, back at the house, Kevin gets to do the laundry using some.... Tide detergent. Where could he have found that bottle? Well, we guess he might have had some left at home! Or, who knows? He may have gone back to the supermarket to get the forgotten bottle!

But this is not the only mistake about this laundry scene! Just as he takes the clothes out of the dryer, he kicks the cupboard door shut and puts the orange bottle of detergent on the washing machine. Then he turns and walks towards the metal heater, which, by the way has always given him the creeps! When the shot comes back to Kevin, we get another shot of the detergent too. If we look closely, we can notice that the bottle is now turned around with its handle facing outwards! You must have missed that too, haven’t you?

Next, there’s a scene in which Marv, the burglar, is outside Kevin’s house listening at the back door, while Kevin is doing chores in the kitchen. We can see that Kevin’s sleeves are rolled up. Then, he creeps over to the door, puts a pot down and reaches for a drawer. As he opens the drawer, we see his sleeves rolled down. When the camera switches from Marv back over to Kevin we can see that his sleeves are rolled up again. Well, he can’t have rolled his sleeves up and down so fast, can he?

In the evening, Kevin goes to church, where he talks with an old man who lives next door to him. Then, he leaves the church quickly, because he knows the robbers will be at his house by 9pm. So, we watch him running down
the sidewalk in his cute little green trousers, but, between leaving the church and getting home, his trousers are no longer green! They are now blue jeans all of a sudden. Also, when he gets to his house, we watch him open the front door without a key. So, why did Kevin leave the door open if he knew that the robbers would come at 9 o’clock? Well, this is a serious mistake! Kevin shouldn’t have left the door unlocked the entire time he was gone. Am I the only one to think that the robbers could have got into? Luckily, they didn’t! The point is that the directors could have given Kevin a key to avoid this serious mistake! Anyway, later, we see Kevin roll out his battle plans and set up the traps for the bad guys, and guess what! His trousers have turned back to green again! Isn’t it amazing? Kevin’s jeans must have been really special! You can’t have seen such colour-changing jeans before, have you?

Finally, just before the battle against the burglars takes place, we see Kevin sitting at the dining table to have a nice meal of macaroni and cheese on a plate. When Harry and Marv, the bad guys, arrive, Kevin has to leave his dinner behind to fight them. But, when Harry makes it into the dining room, we can see Kevin’s dinner again placed on the dining table among the mess and it’s quite different this time! So much for detail! Well, we think that someone must have been really hungry at the studio that day! And, no, the ghost can’t have eaten it! No way! Ghosts don’t eat, do they?

All in all, we think that the directors should have tried a little bit harder! What do you think? Well, the next time you watch the ‘Home Alone’ film watch closely. You see, the filmmakers might have made more mistakes which we may have not managed to spot!

Activity 4b Pair Work: Read the statements and decide whether you agree or disagree.

<table>
<thead>
<tr>
<th></th>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The writer believes most people have watched the Home Alone film many times.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>The writer suggests that most viewers have already spotted the mistakes in the Home Alone film.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>The writer is sure that apart from Kevin there is someone else in the house too.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>The writer is certain that, in the end, Kevin decided not to buy the detergent.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>The writer thinks that the robbers had a chance to get into Kevin’s house.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>The writer does not know why Kevin wears different trousers.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>The writer isn’t sure that the cameraman ate Kevin’s mac and cheese.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>The writer suggests that there are more mistakes in the Home Alone film.</td>
<td></td>
</tr>
</tbody>
</table>

Activity 4c Read the following questions and try to guess what could have happened at the studio on the day of filming!

a) Why do you think the door is halfway open in one scene and then miraculously wide open when Kevin rides his sled down the stairs? What could have happened?

b) Why do you think the plate of mac and cheese has been replaced by a three-part microwave meal from one scene to the next? What may have happened?

c) Why does Kevin wear different trousers? What might have happened?

d) Why is it that no bottle of Tide detergent falls out of the shopping bags Kevin is carrying home? What might have happened?
Example:

- It might have been windy that day. The wind could have blown the door open and the crew might not have noticed it.
- They might have opened the door on purpose. Kevin’s sled might have been too big to go through the halfway open door.

**Activity 5a** Imagine you are one of the film directors directing the Home Alone movie. You have just gone over the film and have realized that you have made lots of mistakes. Consider **what you shouldn’t have done and what you could have done differently**. Write down your ideas in your notebooks. Here’s an example:

   We shouldn’t have asked Kevin to barge into his house like this, as if the door were unlocked. We could have given him a key and could have asked him to unlock the door.

**Activity 5b Group Work:** Now imagine you and the other filmmakers have a meeting to discuss the progress of your movie. Join the other filmmakers and exchange ideas. Write all your suggestions down on a piece of paper. Go through the text and try to come up with as many as suggestions as possible. Your teacher will soon ask you to hand in your reports. The Group that has come up with more suggestions wins!
Lesson 2: Movie Mistakes Part II

Activity 1 Discuss. a) What kinds of movie mistakes are often to be found in movies? b) What can one do to reduce or avoid mistakes in a film?

Activity 2a The following texts describe different kinds of movie mistakes. Read and label them.
- Visible Crew Errors
- Historical Inaccuracies/Factual errors
- Scientific Errors
- Visual Continuity Errors

A. A number of films show huge battles set in space. Noisy spaceships, loud explosions and powerful-weapons scenes are usually accompanied by great sound effects. However, space is a vacuum, so there's no medium, say air, for the sound wave to be transmitted through. The explosions, therefore, would just leave a deathly silence. Sound in space is a violation of a huge scientific truth!

C. A cameraman or other people who help shoot the film suddenly appear in the scene when they shouldn't. Sometimes, a stuntman's face is revealed, which actually ruins the scene, or mysterious hands appear to fix an actor's costume. Also, lights, microphones or wires or other pieces of equipment appear in a scene.

B. Small or big changes take place from scene to scene without any obvious reason or explanation. There is an inconsistency with a certain fact, character, object, or place in a film where there shouldn't be one. For example, the amount of water in a drinking glass changes between shots, without the character taking a sip.

D. Fiction films show past events within a certain period or era. Objects that had not been invented yet appear in scenes set in the past. Actors and actresses wear wrong clothes and accessories (i.e. jeans or watches in a movie set in Roman period).

Text Sources: https://en.wikipedia.org/wiki/Continuity_(fiction)  
Activity 2b What type of mistake have they made? Match the comments with a type of mistake from exercise 2a.

......Ron: ‘How could no one have noticed the make-up artist standing right next to the camera? I mean someone should have seen her. And why on earth would she step into the scene? OK, I should have seen that one coming! Goofs like that always happen when we leave the studio. We shouldn’t have shot the film on location in the first place!’

......Jake: ‘Hmm, I’m not so sure. I think I heard someone talking about the brain during shooting but I didn’t pay much attention back then. They might have known that the whole idea of our using only 10% of our brain is totally mistaken. I don’t know, perhaps we could have avoided this one. Anyway, now it’s too late!’

......Sharon: ‘Hey guys, did you see that? He’s holding a plastic bottle! What were they thinking? They shouldn’t have used plastic bottles in a movie set in medieval times! They could have used a wooden or clay mug instead!’

......Bethany: ‘He can’t have eaten the croissants. I had an eye on him the whole time. Someone else must have grabbed a bite to eat. But this is of little concern right now. The point is that in the next scene there is only one croissant! In other words, we’re doomed!’

Activity 3a Watch a video on various mistakes and complete the table.

<table>
<thead>
<tr>
<th>film</th>
<th>kind of mistake</th>
<th>the mistake</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>visual continuity</td>
<td>trainers</td>
</tr>
<tr>
<td>b</td>
<td>factual error/historical inaccuracy</td>
<td>car</td>
</tr>
<tr>
<td>c Teen Wolf</td>
<td>visual continuity</td>
<td>exposed extra</td>
</tr>
<tr>
<td>d The Incredibles</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>e The Star Wars</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>f</td>
<td>factual error/historical inaccuracy</td>
<td>gas cylinder</td>
</tr>
<tr>
<td>g</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>h Harry Potter</td>
<td>visual continuity</td>
<td></td>
</tr>
<tr>
<td>i Pirates of the Caribbean</td>
<td>factual error</td>
<td></td>
</tr>
<tr>
<td>j Pulp Fiction</td>
<td>visual continuity</td>
<td>bullets</td>
</tr>
</tbody>
</table>

Activity 3b The following statements are based on the video you have just watched. Which film are they about?

27 Video: [https://www.youtube.com/watch?v=aL4hH_xT9QU](https://www.youtube.com/watch?v=aL4hH_xT9QU)
### Activity 4a

Read the text. Are the suggestions for reducing movie mistakes the same as yours?

<table>
<thead>
<tr>
<th>Film</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity 4a</strong> Read the text. Are the suggestions for reducing movie mistakes the same as yours?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Ways to avoid movie mistakes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>There are a few ways to limit the number of errors in a film. Film production companies can prevent continuity errors by filming all the shots for a particular scene together. (2) This allows actors to remain in costume, in character, in the same location, and with the same weather, if shooting on location.</td>
</tr>
</tbody>
</table>

Regarding avoidance techniques, one can avoid shooting on location and entirely film everything on studio set instead. This allows weather and lighting to be controlled, as the shooting is indoors. It also allows for all clothing and sets to be stored in one place to be |

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[https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/](https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/)
hauled out the next day from a secure location. One can also try and avoid certain elements in their film such as drinks, clocks, and fires, all of which are constantly changing and are, as a result, hard to maintain consistency with.

Another major technique is for costume designers, production designers, prop masters, and make-up artists to take instant photographs of actors and sets at the beginning and end of each day’s shooting, which used to be made possible only with Polaroid cameras, but now it’s done with digital cameras and cell phones as well. This allows the various workers to check each day’s clothing, set, props and make-up against a previous day’s.

 Needless to say, hiring a script supervisor, preferably one who has a background in editing is another effective method. A director has too many things to think about during a shoot. Getting someone whose sole purpose it is to keep track of props, lighting, costume, etc., and to make sure continuity remains unbroken will definitely make it easier on them! Also, hiring and consulting with some scientists and historians when shooting science fiction or period films is the best way to avoid serious historical inaccuracies, factual errors, as

Finally, rehearsing seems to be of the essence. A lot of continuity errors occur as a result of the actors slightly changing their performance between takes. To limit the risk of that happening, rehearsing the scene a few times will help keep them on point.

**Activity 5** Pair-Work Read the following prompts. What techniques could you have employed to avoid these mistakes? What are the reasons why you did not do what you were supposed to do despite your willingness to do it?

<table>
<thead>
<tr>
<th>the mistakes: what shouldn’t have happened</th>
<th>techniques they could have employed to avoid the mistakes</th>
<th>explaining the reason why you did not do what you could have done</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>visual continuity:</strong> scar on the left cheek – scar on the right</td>
<td>i.e. The make-up artist <strong>could have taken</strong> a photo of the actors face. He or she <strong>could have also asked</strong> to watch the footage if they did not remember where to draw the scar.</td>
<td>i.e. I’m the make-up artist. I <strong>would have taken</strong> a photo of the actor, but he did not let me do so. He said I had no right to take pictures of him.</td>
</tr>
<tr>
<td><strong>historical inaccuracy:</strong> they included telescopes in the film but telescopes had not been invented yet</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>visual continuity:</strong> during the police chase the road is wet in one scene, but dry in the next one</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Ten Worst movie mistakes that slipped through editing

**Number 10: Black Panther- Sneakers:** Shuri’s amazing inventions are one of the best parts of Black Panther, but one small mistake in the editing room made it seem like the young genius doesn’t know what she’s talking about! The child’s youngest sister was the one who designed this upgraded suit but also came up with a special pair of shoes called sneakers. Sure he picked up this name because they absorb sound and let the wearer walk around silently. It’s a great idea because it allows Black Panther to sit behind his enemies without being noticed, but it doesn’t seem to work every time. Not because Shuri made a mistake not because sound editors completely forgot about her invention. Sneakers make no sound inside Shuri’s lab but when her brother runs and leaps wearing them later in the movie they are just as noisy as any other shoes. Hearing footsteps is the most natural thing in the world and that’s probably why the editor didn’t remember to remove the sound.

**Number 9: Lord of the Rings- Smoking car:** Modern vehicles have the tendency to pop at the worst of times during period dramas and fantasy pieces. That’s exactly what happened during one of the scenes in the Lord of the Rings-The Fellowship of the Ring. As we watch Frodo and Sam walking through a field, there’s something in the distance that wouldn’t be anywhere near the Shire. If you look up at the top right corner of the screen, you’ll notice a car driving by. Many viewers spotted this error and Peter Jackson revealed the car was digitally removed from the DVD release. Fans usually don’t like it when their favourite movies make mistakes because it ruins the illusion, but they actually enjoyed this one, but they actually enjoyed this one. After the DVD hit the shelves, they were angry after seeing the car wasn’t there anymore. They wanted to show it to their friends and prove they weren’t just tripping while watching the movie in the theater, but it was gone!
Number 8: Teen Wolf-exposed extra: Some mistakes are more iconic than the movies they were in, and that’s certainly the case with one with one scene from Michael J Fox’s comedy Teen Wolf in 1985. After Scott Howard wins his last basketball game, everyone runs off the bleachers to celebrate his victory. One of the extras in the background, however, is too busy doing something else! According to the urban legend the mysterious individual used this moment to expose himself in front of the cameras. Fans of the movie don’t believe this is what really happened, because the build and appearance of the person in question suggests it’s actually a woman. Over three decades later, it’s widely believed that this extra noticed her fly was unzipped. She pulled her shirt down and tried to fix it and used her jacket to cover up when it didn’t work. Editors probably should have noticed it just like everyone else who has seen Teen Wolf at least once. But, if they did their job, we wouldn’t have one of the most legendary slip-ups in movie history. So it’s probably for the best!

Number 7: The Incredibles: Violet’s hair: Pixar is the epitome of perfection in the world of animated movies, but it’s not incapable of making mistakes. Each of their films has a few slip-ups and Violet’s hair in ‘The Incredibles’ is one of the most notable examples. If you watch really closely, you’ll notice her hair switched sides several times and animators even admitted that this is not a coincidence. They’ve done it on purpose, as an attempt to ease the animation process. Since they knew that the moody teenager is bound to give them hell. Violet’s long hair was apparently the most difficult part to animate since they’ve never tried to do it before ‘The Incredibles’ came along. The studio had to come up with a whole new technology to accomplish this task. Animators created five different hairstyles for Violet and modified them to suit different circumstances and environmental conditions in the movie. It sounds like a hassle but it was necessary in this case because hair was one of Violet’s most important character traits. As the movie progresses and she gains more confidence the young heroine slowly stopped hiding behind it.

Number 6: Star Wars-BB8’s Antenna: Star War fans paid no mind for the small mistakes in the ‘Force Awakens’ because they spent years waiting for that movie to happen. Being highly anticipated doesn’t make it flawless though and so one of the biggest slip-ups in this film is connected to everyone’s favourite new droid BB-8. During their first encounter Rainn notices that his antenna was bad and decided to help him out. She removed, straightened and reinstalled the antenna, which was metallic at the time. However, during the next shot it seems the color magically changed and it suddenly had a white coating. The shade of BB8’s antenna keeps changing throughout the film and no signs indicate there’s a logical explanation behind this strange occurrence. It’s probably just another movie mistake that happened because they use several droids and editors never noticed there’s a small difference between them.

Number 5 Gladiator: It’s impossible to find a period piece with zero mistakes and even if it exists it’s certainly not Gladiator. Despite winning five Oscars, Ridley Scott’s film is far from perfect and has more errors than anyone can count. Gladiator’s got everything from licorice shots to modern sunglasses, but one of the biggest errors can’t be blamed in the costume department. During a reenactment of the battle of Carthage in the Coliseum, one of the chariots slides sideways and ends up flipping over. As the dust settles on the fallen chariot, we can see a gas canister hiding underneath it. This invention had nothing to do in ancient
Rome since it took centuries for it to be invented. These kinds of Scenes tend to be pretty difficult to shoot so it’s hard to say if the editor didn’t notice the gas cylinder or if he just let it slide. After all, this inconsistency doesn’t seem so hard to swallow when compared to the other mistakes the movie made.

**Number 4: Frozen-missing rope:** Frozen is one of Disney’s biggest hits, but there’s still few things animators missed when putting it together. One of the most notable examples is the rope Anna and Kristoff were tied with. After facing Elsa’s giant snow master named Marshmallow, the two heroes escape his grasp, when Anna makes the right call and cuts them loose. As they fall down the mountain, the two are still tied together, but that changes after they make a safe landing. The rope is suddenly gone and Kristoff helps Anna get up after being stuck in the snow. It’s highly unlikely that the rope magically untied itself since they weren’t falling down for too long. Animators probably didn’t want to waste time showing the characters removing the rope and just skip that part altogether.

**Number 3: Harry Potter-Magical Shirt:** Magical things happen in the Harry Potter universe all the time so it’s easy to dismiss some of the mistakes that are pretty obvious. One of the most notable ones involves a seemingly magical T-shirt Harry wore in ‘The Order of the Phoenix’. During his first nights at Hogwarts, the teen wizard had a terrifying nightmare that takes place inside the Department of mysteries. As he tosses and turns, we can clearly see his wearing a light blue shirt with short sleeves, but it’s nowhere to be found when Harry wakes up. It’s suddenly replaced with a dark blue shirt with buttons. It’s easy to pretend that his T-shirt magically transformed in the scene. After all, it probably wouldn’t have been the weirdest thing to ever happen in one of the Harry Potter movies. However, it’s obvious the editor used the wrong shot, since Daniel Radcliffe wore the darker shirt during another nightmare that took place later in the movie.

**Number 2: Pirates of the Caribbean- Cowboy on the deck:** The crew of Jack Sparrow shipped the Black Pearl. It is a collection of weird and shady characters and as it turns out, some of them aren’t even pirates. And no, we’re not talking about Will Turner and Elizabeth Swann this time around. Those two fit right in when compared to one crew member who as caught on camera during Pirates of the Caribbean the Black Pearl. After Johnny Depp delivers the line on deck scabrous dogs, we can catch an outcast on the left edge of the screen. One of the crew members is standing on the deck looking out to sea, but he doesn’t really blend in with a bunch of greedy pirates. For starters, he’s wearing a tan cowboy hat, white short-sleeved shirt and sandglasses, not really a part of the usual pirate attire. But it’s possible that Jack’s been a little short of staff recently and he’s decided even cowboys can come in handy.

**Number 1: Pulp fiction- Bullet holes:** This cult favourite put Quinton Tarantino on the map and redefined cinema as we know it but that doesn’t make it perfect. Just any other movie, Pulp Fiction made its fair share of mistakes and one of them is discussed to this day. When Vincent and Jules go to Bret’s apartment to get the briefcase, they’re caught off guard when one of his associates tries to shoot them. Before the showdown takes place, bullet holes are clearly visible in the wall behind them. The scene probably had to be shot several times so it’s quite obvious how and why this mistake was made. Some of the fans, however, are
suggesting Tarantino put the holes there on purpose. They believe the guy who tries to
shoot the two hit men was actually using a fake gun and he was firing blanks the whole time.
It’s true Tarantino likes to leave small hidden clues here and there, but this probably wasn’t
one of them. After all, the bullet holes were only there for one shot, not the whole time!
Thank you very much for watching today’s video. Make sure to subscribe to our
Lesson 3: Movie Mistakes Part III

Activity 1 Brainstorming: Why are there mistakes in movies? Discuss.

Activity 2a Read the following text. List the reasons why movie mistakes occur. Check your answers with your partner. Were your ideas similar to the ones mentioned in the text?

<table>
<thead>
<tr>
<th>Reasons behind movie mistakes</th>
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<tbody>
<tr>
<td>1.</td>
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<tr>
<td>2.</td>
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<tr>
<td>3.</td>
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<tr>
<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
</tr>
</tbody>
</table>

Why do movie mistakes happen?

Quite often the answer lies in the high pressure world of commercial film making. Directors generally work under tight budget and time restraints, and re-shooting scenes can be a logistical nightmare. If an occasional movie slip-up manages to sneak into the final cut of a film, it may be best to leave it in rather than arrange for an expensive re-shoot or other post-production fix.

Text Sources:
- https://vimeo.com/blog/post/we-all-make-mistakes-understand-reduce-continuity/
- https://www.wikihow.com/Find-Mistakes-in-Movies
Some movie mistakes are caused by the standard practice of shooting out of sequence. Very few movies are filmed in a linear progression according to the script. The producers may only have access to a particular location for a short amount of time, so the director and actors must shoot all of the scenes based at that location at one time, regardless of where the scenes fit in the overall narrative. This leads to continuity errors, such as having a dirty costume suddenly appear clean again. Shooting out of sequence can also lead to differences in an actor's appearance or use of certain props. In cinema, special attention must be paid to continuity because films are rarely shot in the order in which they are presented. The shooting schedule often depends on location permit issues. For example, a character may return to Times Square in New York City several times throughout a movie, but as it is extraordinarily expensive to close off Times Square, those scenes will likely be filmed all at once to reduce permit costs. Weather, the ambience of natural light, cast and crew availability or any number of other circumstances can also influence a shooting schedule.

Continuity problems in movies can also be triggered by the long process of lighting, arranging and filming a set. During a dinner scene, for example, the actors may first perform the "master shot," a wide shot of the entire dinner table with all actors eating and speaking. For close-ups of individual actors or smaller groupings, the whole set may be completely re-arranged and re-lit. It is nearly impossible to keep track of every single movement of every single actor during several days of filming, so the resulting scene in the film could have any number of mistakes, as objects change position or food disappears and reappears at random.

What's more, when a film is shot, more often than not, it's shot with one camera. Every scene is the result of 10, 20, and maybe even up to 100 different takes shot from different angles. With every new take, the odds that something will change increase — whether it's the way the actor is holding their cup or something bigger, like the position of the sun and the shadows it casts. This gets increasingly more difficult to manage the longer a shoot is.

Ignorance often results in factual errors or anachronisms. Sometimes, lack of historic or scientific knowledge can result in mistakes. If a movie is set in a particular time period, such as the 1920s, it is up to the set designers and others to make sure all props and backgrounds are historically accurate. In the film 'O Brother Where Art Thou?', for instance, one scene includes an audience singing along to a performance of the song "You Are My Sunshine." In reality, the song was not even released until several years after the date of the movie. The song's lyrics worked well artistically, but it would be considered a movie slip-up by film buffs.

Sometimes cast or crew members create movie mistakes by stepping into the shot or allowing a piece of equipment to appear. Boom microphones, which are used to record sounds, are especially difficult to wrangle without dipping them into the frame; so many modern cameras have built-in safety zones which prevent such accidental intrusions from microphones or crew members. This is the basic error Steven Spielberg committed during
the shooting of ‘Duel’, stepping past the established safety zone while filming a climactic scene between actor Dennis Weaver and an unseen truck driver.

Considering how collaborative the film making process can be, it is actually amazing there aren’t even more major movie mistakes. Databases such as the Internet Movie Data Base (IMDB) include movie goofs and continuity problems, largely contributed by observant movie buffs. Some movie mistakes are not actually mistakes, however, but inside jokes or deliberate incongruities created for effect by directors or producers. A few hardcore film buffs will analyze every frame of a favorite movie in search of technical or artistic bloopers, many of which would be considered too difficult to spot for average moviegoers.

**Activity 2b** Answer the following questions.
1. What can lead to continuity errors?
2. Film producers and film directors are often well-aware of certain mistakes in their movies, but, nevertheless, they do nothing about it? Why is this so?
3. How does advanced technology help cameramen avoid making visible crew mistakes?

**Activity 3** Read the following situations and match them to the reasons.

<table>
<thead>
<tr>
<th>Situations</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  ‘Who <strong>could have guessed</strong> we would have to put off shooting today? The cameraman won’t make it today and we are expected to empty building by midnight. What are we supposed to do?’</td>
<td>a  They <strong>can’t have managed</strong> to collaborate under these circumstances.</td>
</tr>
<tr>
<td>2  ‘I know we <strong>should have placed</strong> a black umbrella between the light source and the actor, softening the light a bit. I mean we <strong>would have done</strong> so, but it was practically impossible in such a narrow corridor!’</td>
<td>b  They <strong>must have relit</strong> and <strong>rearranged</strong> the set.</td>
</tr>
<tr>
<td>3  ‘What do you mean when you say we <strong>should have been</strong> more careful? We shot 23 takes from different angles.’</td>
<td>c  They <strong>must have used</strong> only one camera.</td>
</tr>
<tr>
<td>4  ‘The main actor <strong>shouldn’t have treated</strong> the younger actors so rudely. It is his bad manners that led us to this disaster. And, by the way, he <strong>can’t have rehearsed</strong> before filming like he says he did! I mean, why is it that he couldn’t even remember half of his words then?’</td>
<td>d  They <strong>can’t have known</strong> enough about this period in history.</td>
</tr>
</tbody>
</table>
5  ‘We wouldn’t have made so many changes on the studio set, but we had to shoot some close-ups of the protagonist. It is tough work but it’s always worth the effort!’

6  ‘You knew we should have kept within budget. And the worst part is that the crew has not been paid yet’

7  ‘As it turned out it was the Aztecs who performed such cruel rituals, not the Mayans. The Yucatec Maya people that live in Mexico today must have felt really disappointed when they watched the film!’

8  ‘It’s not entirely our fault. The editor asked us to shoot the scenes in this order. We thought he must have had a reason so we did what he asked.’

Activity 4a Watch a video30 showing a movie mistake from the ‘Avengers: Endgame’ film and then read the text. Have you got any ideas on what else could have happened on the day this scene was shot?

In ‘The Avengers: Endgame’ film, Hulk eats breakfast with Cap, Nat and Scott. The crepe on the top is cut in two. In the next shot it’s in one piece, then in two again. The filmmakers must have shot the scenes on different days and they must have used a different crepe. They shouldn’t have replaced the whole crepe with a different one. Something must have happened to the first crepe. It might have fallen off the table. A member of the crew might have destroyed the sandwich accidentally or eaten it so they had to replace it. The film editors might have noticed the mistakes but they might not have wanted to shoot the scene again for some reason. They may have run out of time or the actors may have refused to do the scene again. They should have been

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30 Source Video: https://www.youtube.com/watch?v=9tKr3m6r9NI
Text Source: www.moviemistakes.com
more careful. The film editors could have avoided making this visual continuity error. They could have made a new sandwich that looked like the one in the previous scene.

Activity 4b By now, you must have learned some things about the various kinds of movie mistakes, the reasons why they happen and what one can do to avoid them.

a) Describe the movie mistake. Say what the filmmakers should or shouldn’t have done.

b) Offer a reasonable explanation of what you think must have happened.

c) Consider some other possible explanations. What else might have happened?

d) Make a suggestion on what the filmmakers could have done differently.

Activity 4c Now look at your partner’s picture and read the paragraph he or she has written. Express your opinion on the text you have read. What can your partner do improve his/her presentation? Also, come up with other ideas (at least two) he or she might have not included in his/her presentation.

Activity 4d Add your partner’s ideas to your text, make any necessary changes or corrections, and present it to your classmates.

Movie mistakes Pictures: Cut the pictures. Give each learner one.
**Picture 3** Movie: The Wizard of Oz Key-word: plaits – hair – wig- extension

**Picture 4** Movie: Terminator 3: Rise of the Machines Key Words: plane number

**Picture 5** Movie: X-Men 2 Key Words: blue folder paper sheets - pen
**Picture 6** Movie: Batman: Hush  
Key Words: bottles-shelf

**Picture 7** Movie: Ocean’s Eleven  
Key-Words: glass- plate

**Picture 8** The Lord of the Rings: The Return of the King  
Key Words: waistcoat
Appendix V: Explicit Group- Counterfactual Conditionals

Lessons

Lesson I: Planet Mars-Part I

Activity 1 Listen to the Planet Mars Songs and sing along.

A. Planet Mars

Chorus
Let’s visit the planet of Mars
There’s so much to learn
On the planet of Mars
The red planet in a billion stars
Come and sing along
About the planet of Mars
I’m the fourth planet
From our burning sun
And the second smallest
Planet in our solar system
I have the tallest mountain
Named Olympus Mons
It’s the biggest volcano
In our whole system
Phobos and Deimos
Are my two moons
Phobos is the larger
Of the orbiting two

B. The Planet Mars Song

Chorus: Planet Mars, Planet Mars
Fourth planet from the Sun among the stars
I can’t think of nothin’ for these four bars
So let’s keep talking about Planet Mars
Now Planet Mars is 142 million miles from the Sun
Outside of Planet Earth, Planet Mars is the most researched one
If you compare Mars to Earth by diameter, Mars is roughly half its size
It’s called the Red Planet and its color comes from dust that’s made from iron oxide
(Chorus)
Mars has seasons like Earth ’cause its axis is tilted 25 degrees
If you lived on Mars you’d weigh less than you would on Earth due to gravity
It takes 687 Earth days for Mars to orbit the Sun
It’s got the largest volcano in the Solar System and its name is Olympus Mons
(Chorus)
Now Planet Mars has a couple of moons, and we didn’t want to leave that out Deimos and Phobos - Fear and Panic--now what’s that all about?

Well Mars was named for the god of war in the legends of ancient Rome
Deimos and Phobos were his twin sons so you know they were bad to the bone
(Chorus)
One day on Mars is about as long as one day on Earth, you see
Their is 24 hours and 37 minutes with a slower rotational speed
Now we’ve sent missions up to Mars to find out what we can
Like Spirit, Opportunity and Curiosity roamin ’round on Martian land
Planet Mars, Planet Mars
Fourth planet from the Sun among the stars
I can’t think of nothin’ for these four baaaaaaaarrrrrrrrrrrrrrrssssssssssssss....
That’s all we have to say about planet Mars/
Activity 2 Read the article and decide whether the following sentences are True or False.

1. We **wouldn’t know** there is life on Mars if Schiaparelli **hadn’t seen** the lines on Mars,
2. We **wouldn’t have** a map of the planet now if humans **hadn’t set** foot on Mars.
3. Scientists have sent spacecraft on and near Mars to find out more about it.
4. We know a lot of things about Mars because we have many pictures of it.
5. Robotic vehicles have helped us learn a lot about Mars’ surface.
6. Scientists know about the materials Mars is made of.
7. Rovers can send us information about the rocks on different parts of Mars.
8. NASA’s missions **would have failed** if there **weren’t** Rovers on most planets of our solar system.
9. We **might know** nothing about Mars if NASA hadn’t sent Rovers.
10. If the conditions on Mars **were** better, scientists **might have** already **found** life on it.

**The Red Planet**

During the 19th century the idea that Mars had life and civilizations was really popular. In 1887, astronomer Giovanni Schiaparelli, the creator of the first map of Mars, looked through a telescope and saw lines on the planet’s surface. He thought that these lines, which he called ‘canalis’, were created by living creatures. Other people called the lines ‘canals’ and that became the source of stories and science fiction ideas about life on Mars. People believed there was life on Mars until new telescopes were developed that were more powerful and let astronomers see that the lines were really just a natural part of the surface.

Humans have not yet been to Mars, but scientists have sent spacecraft there to help them research this fascinating planet. The first spacecraft to land on Mars were the **Viking Landers**, which touched down on the surface in **1976**. Since then, we have discovered lots of things about the ‘red planet’! If scientists **hadn’t sent** spacecraft to orbit or even land on Mars, we **wouldn’t have** hundreds of photos of it, so we **might know** even less about it. In addition, if scientists **hadn’t sent** special robotic spacecraft such as rovers, which have wheels and can move around to different spots on the planet, we **wouldn’t know** so much about its surface. Mars is made up of lots of different types of rocks, so if we **didn’t have** rovers that can study the different chemicals in rocks, scientists **wouldn’t have been able** to work out what different parts of the planet are made of. In other words, scientists **wouldn’t have figured out** how the environment changed rock over time if these rovers **weren’t able** to drive around and take measurements.

Mars is the only planet in our solar system we have sent rovers to. NASA has successfully sent four Rovers so far, each one to a different area of the planet. **Sojourner** landed on Mars in 1997 and it was the first wheeled robot to rove the Red Planet. In 2004, **Spirit** and **Opportunity** landed on Mars to look for evidence of water on Mars. Curiosity landed on
Mars to find out if Mars once had what all life needs: lasting water and the right chemical ingredients. The Mars 2020 rover will be heading to the Red Planet sometime in 2020. It specializes in looking for signs of past or present life and seeing if humans could one day explore Mars.

**Activity 3a** Look at the 3 types of conditional sentences and the examples.

### Conditional Sentences

<table>
<thead>
<tr>
<th>First Conditional (future) TYPE 1</th>
<th>if-clause present condition</th>
<th>main-close possible future result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>if + present simple,</td>
<td>will + infinitive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or modal verb</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or imperative</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Conditional (unreal present) TYPE 3</th>
<th>present unreal condition</th>
<th>present unreal result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>if + past simple,</td>
<td>would + infinitive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or could</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or might</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Conditional (unreal past) TYPE 3</th>
<th>past unreal condition</th>
<th>past unreal result</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>if + past perfect simple</td>
<td>would have + past participle</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or could</td>
</tr>
<tr>
<td></td>
<td></td>
<td>or might</td>
</tr>
</tbody>
</table>

**Examples:**

1. If we **send more** rovers to Mars, we **may find** out if there is any form of life on it.  
   [It is possible to happen in the future]
2. If humans **lived** on Mars, I **would move** there too.  
   [But no humans live on Mars so I won’t or can’t go there]
3. If I **had been** on Mars, I **would have taken** photos of Phobos and Deimos.  
   [But I have never travelled to Mars (in fact, no one has yet) so I haven’t taken any photos of Mars’ moons]

**Activity 3b** Now go back to Activities 2a and 2b. Find and underline all if-conditional sentences. **These conditional sentences are a mix of the past and the present!** Can you find out what the rule for forming the two types of mixed conditional sentences is? Complete the table.
**Mixed Conditional Sentences**

A mix of: if-clause past unreal condition (3rd type) main-clause present unreal result (2nd type)

if + .................................................., ........................................

A mix of: if-clause present unreal condition (2nd type) main-clause past unreal result (3rd type)

if + .................................................., ........................................

**True present:** Rovers are able to drive around and take measurements.

**True Past:** We figured out how the environment changed rock over time.

**Let’s imagine something different:**

**Present conditional:** If Rovers weren’t able to drive around and take measurements

**Past imagined result:** we wouldn’t have figured out how the environment changed rock over time.

**Activity 3c** Complete the tables with an example sentences from Activities 2a and 2b.

<table>
<thead>
<tr>
<th></th>
<th>past unreal condition</th>
<th>present unreal result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>present unreal result</td>
<td>past unreal condition</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 3b Game-like Activity: Which Rover is it? Write sentences.

a) Choose a rover and find something this rover helped scientists with, and imagine what we wouldn’t know if we hadn’t sent this rover to Mars. Then write a sentence.
Example: If scientists hadn’t sent this rover to Mars, we wouldn’t know what Martian rocks and dirt are made of. Which Rover is it?

b) Spot a characteristic a rover has and imagine what would have happened if the rover didn’t have this characteristic. Write more sentences.
Example: If this rover didn’t have cameras that function as eyes, it might have not have spotted dangers as it drove around Mars, so it might have been destroyed. Which Rover is it?

Act 3c Put all the sentences/questions you have written into the box. Take turns picking out a sentence and reading it out to the other group asking them which group it is you are referring to. When your group answers the question correctly in time, you can keep it; otherwise, you must put it back in the box. The group that manages to answer more questions by the time you run out of questions wins.
The Sojourner Rover

In 1997, NASA scientists did something pretty amazing. For the first time they used a small wheeled robot to study the surface of Mars. It was very small. However, it went on to share lots of important information with scientists.

Sojourner wasn’t alone on its journey to Mars. It travelled within a spacecraft called a lander. The lander was shaped like a pyramid and was covered in airbags. The airbags helped the lander have a safe, bouncy landing. The pyramid shape helped ensure the lander and rover could be flipped right-side-up, no matter how they landed. After the lander touched down on Mars, a panel opened and Sojourner rolled out to start exploring.

The rover explored an area of Mars near its landing site called Ares Vallis. Scientists were interested in this area because it looked like the site of an ancient flood. The rushing water of a flood would have pushed lots of rocks and dirt into one place. This means the rover could study lots of different types of rocks without travelling very far. Engineers also liked the area because it seemed like a flat, safe place for Sojourner to land.

As Sojourner drove short distances, it used its camera to take pictures of the Martian landscape. It sent back more than 550 pictures of the Red Planet. The rover used instruments to study what the nearby Martian rocks and dirt are made of. Its lander also collected information about winds and other weather factors on Mars.

From far away, Mars looks cold, dry, and rocky. But Sojourner’s photos and information told a much different story. We learned that a long time ago, Mars used to be a warmer and wetter place.

Mars Rover 2020 (not named yet)

Rovers on Mars have collected evidence of water and some of the chemical building blocks of life. Scientists think it might be possible that life existed on Mars a long time ago. If there were living things, they were probably teeny tiny little organisms—something like bacteria here on Earth. But, did life actually ever get started on Mars?

The Mars 2020 mission hopes to answer that question. The mission will send a rover very similar to Curiosity to explore the rocks, dirt, and air on Mars. Like Curiosity, the Mars 2020 rover is the size of a small SUV. The new rover has a different goal and different instruments. It will look directly for signs of past life on Mars. The new rover will also experiment with a natural resource that would be helpful in planning a human mission to Mars.

The atmosphere of Mars is made mostly of a gas called carbon dioxide. But many living things (including humans) need oxygen to breathe. If a human were to go to Mars, they would have to bring lots of oxygen. However, there isn’t much room on the spacecraft to carry liquid oxygen. The rover will test a method for getting oxygen from the air in the Martian atmosphere. This will help NASA plan for the best designs to send human astronauts to explore Mars one day.

Mars 2020 will land in a region of Mars called Jezero Crater. This crater is interesting to scientists because it is a very old region of Mars, and it may have once been the site of an ancient river delta. The rocks in this region could tell us about the history of the Red Planet and may have preserved signatures of past life on Mars. Stay tuned!
**Spirit and Opportunity**

After the success of the Sojourner rover, NASA wanted to send more rovers to learn about Mars. So, in 2003, they sent two rovers named *Spirit* and *Opportunity*, which were made as twins. They both carried all of the same scientific instruments and they could take photos with their cameras.

On Earth, where there is water, there is life. Spirit and Opportunity were sent to Mars to find more clues about the history of water there, and to see if the Red Planet could ever have supported life. To do this, scientists sent the two rovers to two different landing sites. The rovers landed on opposite sides of the planet.

*Spirit* landed in a region called Gusev Crater. Scientists wanted to explore the crater because they thought it could have held water long ago. From pictures taken by satellites, scientists thought it looked like several large rivers flowed into Gusev Crater. Opportunity landed on the other side of Mars in an area called Meridiani Planum. This region was nice because it was a flat, safe spot for the rover to land. Also, studies with a satellite around Mars showed that it might contain a mineral called grey hematite. On Earth, grey hematite is often found in the presence of water.

On its journey, Spirit took the first color photos taken by a rover on another planet. Spirit also found several signs of past water, and evidence of geothermal, or volcanic activity. It explored sites that may have been hot springs millions of years ago. Not to be outdone by its twin, Opportunity also took many color photos of the Martian landscape. It found evidence of water, too. Opportunity studied layers of minerals in the rock near its landing site. The evidence it collected suggested that its landing site was once the shoreline of a salty sea.

The rocks that Spirit and Opportunity studied showed scientists that a long time ago, water on Mars may have looked a lot like water on Earth. Mars once had lakes and rivers on the surface. Like Earth, it also had water below the ground, as well as water vapor in the atmosphere.

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**Curiosity**

On Earth, where there is water, there are living things. We know that Mars had water a long time ago. But did it also have other conditions life needs?

To find out, NASA sent the Curiosity rover to Mars. Curiosity is the largest robot to ever land on another planet. It is about the size of a small SUV.

Because Curiosity is so big, it also has bigger wheels than the previous rovers. This helps it to roll over rocks and sand without getting stuck. However, even on a long driving day, it still only travels about 660 feet.

Curiosity landed in Gale Crater. This crater is special because it has a tall mountain in the middle. The mountain has many layers of rock. Each layer is made of different minerals from different time periods. These minerals could tell scientists about the history of water on Mars.

The rover uses many scientific instruments to study the rocks in Gale Crater. Curiosity used its drill to make a hole in a rock that once was mud at the bottom of a lake. One of its other instruments studied the powder drilled from the rock. This information helped scientists learn that the Gale crater had ingredients that ancient life would have needed to survive.

Scientists sent Curiosity to Mars to measure lots of other things, too—including radiation. Radiation is a type of energy that can come from the sun. It travels in high-energy waves that can be harmful to living things. Curiosity found that Mars has high, dangerous levels of radiation. NASA will use Curiosity’s radiation data to design missions to be safer for human explorers.

Curiosity brought 17 cameras with it to the Red Planet—more than any other rover. It uses some of its cameras to take photos of its journey. Cameras also act as Curiosity’s eyes, helping it to spot and stay away from danger. One of Curiosity’s cameras—at the end of its 7 foot long robotic arm—even acts like a sort of “selfie stick.” It can hold the camera two meters away and take a selfie to send back to Earth!
Lesson II: Humans on Mars - Terraforming Mars

Activity 1a Read the mixed conditional sentences. These sentences describe imaginary past and present situations. Identify the true situations and write them down in the space provided. Then, watch a video on Mixed Conditionals and check your answers.

Imagine a different past: If Jake hadn’t eaten my old salad, she wouldn’t feel sick now.
True past: ........................................................................................................................................
True present: ....................................................................................................................................

Imagine a present that is different from reality: If Jake didn’t love food, she wouldn’t have stolen my lunch.
True present condition: ......................................................................................................................
True past condition: ...........................................................................................................................

Activity 1b Read the sentences and circle the option that is true according to the sentence.

1. If more USA presidents had given NASA money for its Mars Missions, there might be humans on Mars as we speak.
a) USA presidents did not give NASA money.
b) There are humans on Mars.

2. If Mars weren’t so cold, it might have been easier to send humans to explore it.
a) Mars is not cold.
b) Sending humans to explore Mars hasn’t been easy.

3. If it were possible to make quick money from sending manned missions to Mars, the Americans might have supported the idea.
a) We can make quick money from sending manned missions to Mars.
b) The Americans did not agree with the idea of sending manned missions to Mars.

4. If scientists knew it were safe to send people to the Red Planet, they would have sent astronauts to there.
a) Scientists have sent astronauts to the Red Planet.
b) Scientists don’t know if it’s safe to send humans to the Red Planet.

5. If Mars weren’t similar to Earth, scientists might have never considered terraforming it.
a) Mars is similar to Earth.
b) Scientists haven’t considered terraforming Mars.

Activity 1c Read the following true present conditions and true past results. Imagine things were different and write mixed conditional sentences.

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Source Video: https://www.coursera.org/lecture/noun-clauses-conditionals/mixed-conditionals-pzVOg
<table>
<thead>
<tr>
<th></th>
<th>True present condition: Sending people to Mars is very challenging.</th>
<th>True past result: We haven’t found ways to make landing safer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>True present condition: Scientists don’t know how the trip to Mars would affect astronauts’ psychology.</td>
<td>True past result: Scientists haven’t sent humans to Mars yet.</td>
</tr>
<tr>
<td>3</td>
<td>True present condition: Scientists are not certain that hibernation can reduce astronauts’ metabolic rate.</td>
<td>True past result: Scientists haven’t sent astronauts to Mars.</td>
</tr>
<tr>
<td>4</td>
<td>True present condition: Scientists are not sure that the cold will not destroy the crop.</td>
<td>True past result: Scientists have not sent manned missions to Mars.</td>
</tr>
<tr>
<td>5</td>
<td>True present condition: We don’t have big rockets</td>
<td>True past result: We haven’t managed to send all the necessary supplies to Mars.</td>
</tr>
<tr>
<td>6</td>
<td>True present condition: Countries don’t have enough money to sent supplies to Mars in multiple shifts.</td>
<td>True past result: We haven’t sent building materials to Mars.</td>
</tr>
<tr>
<td>7</td>
<td>True past condition: We haven’t figured out how we can make fuel and oxygen from Martian atmosphere.</td>
<td>True present result: Sending astronauts to Mars isn’t safe.</td>
</tr>
<tr>
<td>8</td>
<td>True past condition: Humans haven’t set foot on Mars yet.</td>
<td>True present result: They aren’t sick because of microbes on Mars surface</td>
</tr>
</tbody>
</table>
**Activity 2a** No human has ever set foot on Mars so far. Why do you think this is so? Read the text\(^{32}\) to find out more about it.

**Activity 2b** Go back to the sentences in **Activity C** and decide whether you agree or disagree with the statements. Justify your answer.

**There’s still not human on Mars!**

Scientists have dreamt of sending humans to Mars for years! As NASA has successfully sent humans to the Moon, one can’t help wondering why it has taken us almost 30 years –since the Apollo missions in the early 1970s- to set foot on Mars! So far, the Red Planet has only been explored by robotic rovers. There is no footprint on the red dust! Well, sending humans to Mars is not going to be an easy ride and there are lots of challenges to both landing and living on the Martian surface.

A one-way trip to Mars takes between seven and nine months and astronauts need to be kept safe and healthy the entire way. It is important that they are strong upon arrival at Mars. Humans will have to stay in zero gravity for a long time, which can harm their bodies. Over nine months in space, muscle mass and bone density will seriously decreases unless the astronauts exercise every day, so they will also have to carry exercise equipment along. Also, humans will be isolated from other humans for a long time. Scientists do not know how this will affect their psychology. On top of that, the capsule carrying them won’t be very big, so claustrophobia, the fear of being in a small closed space, is another possible problem. The European Space Agency (ESA) have been working on a very small capsule and the process of putting the astronauts to sleep during the months-long journey to Mars. The idea is to reduce an astronauts’ basic metabolic rate by 75% - similar to what we can see in nature with large hibernating animals like bears. ESA has also been working on protection against radiation, what to do in case of emergencies, how to handle human safety and what effect hibernation would have on the psychology of the team.

Nine months of food and water for all the crew have to be carried which makes a manned mission to Mars not only more difficult to prepare but also more expensive. When the crew arrives at Mars, they’ll need a sustainable food source, and space farming seems to be a nice solution. But Mars has some wild surface temperatures (from 20°C at the equator to -153°C at the poles). To grow crops on Mars, the plants would need to be protected of these extreme temperatures in a greenhouse. A back plan B for food is required, just in case a crop fails.

Although we have the rockets and technology to leave Earth and head for Mars, we currently don’t have rockets large enough to carry the enormous amounts of rocket fuel, supplies, and building materials (not to mention the astronauts!) needed for a long-duration

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\(^{32}\)Sources Texts : https://spacecentre.co.uk/blog-post/arent-mars-yet/
journey to Mars. It’s very expensive to send anything into space, and if we don’t have the ability for everything to go at once, it means that supplies must be sent in multiple shifts. If national economies could afford the cost, we might have already sent such multiple shifts. Since 2014, NASA has been working on the ‘Space Launch System’, an exploration vehicle that would be the biggest rocket made. ‘Space Launch System’ cost about 18 billion dollars to develop and it will cost 1 billion dollars every time NASA sends it to space. As of 2018, there are exciting new plans underway to create heavy launch vehicles by commercial companies such as SpaceX and others, but developing and testing these rockets takes many years.

We haven’t yet sent humans to Mars, but the Red Planet has been explored by spacecraft and rovers over the past few years. This is because we think that a few million years ago Mars was very similar to the Earth. We now know that water flowed on Mars, and we also see evidence of geological activity and volcanism. On Earth, life required all of these things to arise, so it’s possible that once there used to be life on Mars too. The COSPAR policy from the International Astronomical Union protects planets like Mars from possible contamination from us. Sending humans to Mars greatly increases the chance of us contaminating its surface with microbes from Earth. Until we know for sure if life ever existed, or could ever exist, on Mars, it would be a shame for us to risk destroying an alien life-form, however small.

These are just a handful of the difficulties we need to deal with in order to send people to Mars, but we’re talking about going to Mars as never before. Currently, NASA’s Mars 2020 Rover is scheduled to leave planet Earth in July 2020 and land on the red Planet in February 2021. This is a chance to test new technologies for making fuel and oxygen from Martian atmosphere, which will help scientists plan safe future explorations of Mars by humans.

Activity 3a Read the text about terraforming Mars. Work in pairs. Use information from the text to complete the sentences in the tables. Write down your completed sentences in your notebook.

<table>
<thead>
<tr>
<th>past unreal condition (3rd)</th>
<th>present unreal result (2nd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>If Mars’ atmosphere hadn’t escaped into space,</td>
<td>?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>past unreal result (3rd)</th>
<th>present unreal condition (2nd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>would/could/might have + past participle</td>
<td>if ?</td>
</tr>
<tr>
<td>Scientists might have never considered terraforming Mars</td>
<td></td>
</tr>
</tbody>
</table>
Today, scientists might not be considering sending humans to the Red Planet if they hadn’t found out that that Mars used to look a lot like Earth.

The planet used to have a large sea under oxygen rich skies, and as far as we know, all the right conditions for life. According to Bruce Jakosky, a scientist at the University of Colorado Boulder, we can tell that before most of Mars’ atmosphere escaped to space over the last four billions years, there used to be water, the atmosphere was thicker, and heat from the Sun was trapped making the planet warmer. So some scientists have reasons to believe it might be possible to ‘fix’ or ‘terraform’ Mars. **Terraforming** is a term that was first used in science fiction, but today the idea is discussed by a handful of actual scientists. According to Robert Lillis from the University of California Berkeley, terraforming, put simply, is changing the atmosphere of a planet so that that people can live there without the need for spacesuits.

Well, Mars isn’t exactly like Earth, but it’s by far the most livable other place in our entire solar system. For starters, there is water, mostly frozen, in the polar ice caps and in thin clouds. On Earth, almost everywhere there is water there is life too. Whether the water is boiling hot or frozen, some sort of creature seems to live in it. This means that there might be tiny life forms, like bacteria, even on Mars even now. Also, there is carbon and oxygen in the form of **carbon dioxide**, and nitrogen. In addition, it has an **axial tilt** extremely close to Earth (Earth 23.5°- Mars 25°) so it can have seasons, which are twice as long as Earth’s. Finally, it is the second closest planet to Earth so, although it takes almost nine months, it is easy to get there. The Moon and Venus are even closer to Earth and easier to get to. However, Venus, the hottest planet, is a storm of carbon dioxide and has high wind speeds, while the Moon doesn’t have any carbon, oxygen or nitrogen, so it would be more expensive to terraform.

Although Mars is similar to Earth, it doesn’t seem to be a human-friendly planet and this is why no human has set foot there yet. Well, to survive on Mars we need to be able to do a few simple things: breathe, stay conscious, and not freeze to death. Mars is freezing cold desert world with average temperature -63 Celsius degrees. It has an atmosphere 100 thinner than the atmosphere of Earth so it’s impossible to breathe. Also, it hasn’t got any **magnetosphere** so it’s not protected by solar winds and dangerous radiation. As it is now, Mars is not a place any human could live in. But what if we if we could terraform it? We **might have sent** manned missions to Mars and we **might have even colonized** it if we **knew** how to create conditions like those found on earth.

The first step in terraforming Mars would be to make it warmer so that its average temperature would be close to Earth’s average temperature, which is 15 Celsius degrees. In fact, early Earth atmosphere was rich in carbon dioxide, but it changed into breathable air a long time ago. We can try making this happen on Mars too. Mars has an atmosphere of 95.3% carbon dioxide (CO2). Changing this carbon dioxide could make Mars’ atmosphere thicker and create a **greenhouse effect**. This would make the planet warmer. This warming
process would be relatively easy, but it would take around 100 years. Of course, some people, like Elon Musk, think that we should nuke Mars’ polar ice caps to create this greenhouse effect much faster, but what if we destroyed the planet? What if we ended up making it even colder than it is now?

Having higher temperatures is not enough, however. Humans and other earthly creatures need breathable air to survive. This is much more difficult than making the planet warmer and it would take thousands of millennia. Like we said, Mars atmosphere is so thin that humans cannot set foot on it without wearing a mask and carrying oxygen on their back. On Earth we have an atmosphere made of around 21% oxygen, 78% Nitrogen and 1% of everything else. We need a similar amount of oxygen on Mars. There is certainly enough water locked up in ice on Mars to get some oxygen. Unfortunately, there probably isn’t enough nitrogen that we could easily get to, to build an Earth-like, mostly nitrogen atmosphere. But scientists have not given up! They are working on new ideas and technologies in order to speed up the process. For example, they have invented an oxygen factory that can be used on Mars. It is a machine that works with solar energy. It can make pure oxygen from the carbon dioxide that is found in Mars’ thin atmosphere. Another way to make the air breathable is to take out some soil on Mars. Plants photosynthesize. This means they can take sunlight and turn it into energy. When they do this they produce oxygen too. This sounds simple, but there is a problem: we would also need to bring bacteria that produce ammonia in the Martial soil in order to take nitrogen from the atmosphere to cover the needs of large plants. This process could take hundreds of years. Also, bringing bacteria or microorganisms to Mars is unethical as we might contaminate any possible life form on the planet.

Terraforming Mars would also involve fixing its magnetosphere. Around Planet Earth, there is an area with a magnetic field. It acts like a shield and protects it from solar winds which send deadly radiation our way. Mars used to have a magnetic field like the Earth’s which protected its atmosphere and made it warm, wet and hospitable, but it disappeared 4.2 billion years ago. NASA has thought of sending a magnetic field to Mars to protect its atmosphere. This would make manned missions easier. Also scientists are trying to make special spacesuits and special houses, which will be built by robots. These can protect the human body from radiation.

While the idea of making Mars a place where we could breathe, walk around without our blood boiling and our head exploding or even grow crops and enjoy blue sunsets sounds amazing, for the foreseeable future, at least, any humans that do go to Mars will be using spacesuits and enclosed habitats to explore the red planet, much as we did for the human exploration of the moon in the late 1960s and early 1970s.

Act 3b Work in pairs. Read the sentence below and come up with as many different endings as you can in 10 minutes. Take turns to read out your completed sentences. The group that cannot come up with another complete sentence loses.

<table>
<thead>
<tr>
<th>past unreal result (3rd)</th>
<th>present unreal condition (2nd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>would/could/might have + past participle</td>
<td>if + past simple</td>
</tr>
<tr>
<td>We might have already sent people to Mars</td>
<td>if ?</td>
</tr>
</tbody>
</table>
Glossary

1. **Solar Energy** It is light, heat and other forms of energy given off by the Sun. It can be collected to heat buildings and to make electricity.

2. **Radiation** It is energy that moves from one place to another. Light, sound, heat and X-rays are examples of this. Its different kinds fall into a few general categories, like electromagnetic, mechanical, nuclear, and cosmic rays.

3. **Terraforming** It means ‘earth-shaping’. It is the process of changing a planet, moon, or other body into an atmosphere, temperature or ecology in which humans can live.

4. **Colonize** When a group of people leave their country and go and settle in another land. The country these people are from keeps some control over this land.

5. **Greenhouse effect** is a warming of Earth’s surface and the air above it. It is caused by gases in the air that trap energy from the Sun. The most common gases are water vapor, carbon dioxide, and methane. Without it, Earth would be too cold for life to exist.

6. **Gravity** It is a force of attraction that pulls together all matter. The more matter something has, the greater the force is. It is the reason why things fall on the ground. It is the reason why our feet stay on earth and we do not float.

7. **Global dust storm** It is a cloud of sand and dirt. It happens when a strong wind blows sand and dirt from a dry surface. The wind drops sand and dirt in another place.

8. **Carbon dioxide** It is a heavy colorless gas that is formed by burning fuels, by the burning of animal or plant matter, and by the act of breathing. It is absorbed from the air by plants in photosynthesis.

9. **Axis tilt** It happens when a planet rotates around an axis that is tilted. It means that as the planet revolves around the Sun, it is tilted.

10. **Nuke** It is a nuclear weapon that suddenly releases the energy on the nucleus of certain types of atoms. When triggered, it releases a huge amount of energy in the form of an explosion. This explosion can destroy a city and kill most of its people. They also make people very sick.

11. **Magnetosphere** It is the area around an astronomical object. It stops most of tiny pieces from the Sun, which are carried in solar wind, from hitting the planet. It also protects a planet from dangerous radiation.
Lesson 3: Colonizing Mars-Part III

Activity 1a Watch a video about spaceships and rockets which are going to travel to Mars. Why do you think it is difficult to keep sending spaceships to Mars and back?

Activity 1b Read the text about colonizing Mars. Discuss:

a) Do you agree with Elon’s plans to colonize Mars? Why? Why not?
b) Do you think that NASA and other private companies like SpaceX will manage to colonize Mars? Why? Why not?
c) If we had already colonized Mars, would you go and live there? Why? Why not?

Colonizing Mars

Ever felt like getting off this planet? Elon Musk, the owner of the Tesla Car Company and founder and lead designer of SpaceX certainly has! Elon doesn’t want to just stop at electric cars. He’s looking up and has his eyes set on the stars. Or, more specifically, on Mars! Under his company SpaceX, Elon shared his plans for colonizing Mars.

According to Elon’s plans, the colonization of Mars should involve one million people, which is about the size of a large city. The first thing he wants to do is to build the Starship, which could take humans there. The Starship is a 35-storey space vehicle that he started building at the beginning of 2018. While we have no word on when exactly it’ll be completed, Elon is planning to launch the first commercial starship in 2023. Elon’s specialty is transportation and technology so he wants to make sure that colonizers could get around with state-of-the-art space vehicles. The Starship will be able to transport about a hundred people. What will be truly remarkable about the starship is that it will be reusable making travel to Mars much more economical. It will be very roomy. There will be 31 engines that will propel the Starship to Mars and they will also give it a controlled landing. It is designed to land anywhere in the solar system.

But why does Elon want to colonize Mars? For starters, Elon thinks that humans can be a multiplanetary species. While he wants to make Mars a new home for humans, he’s truly looking beyond Mars when it comes to the future of mankind’s relationship with space. The fun doesn’t have to stop at Mars. He’s already thinking about how these rockets will help us move around the solar system. Apart from this, Elon is worried about the future of the human race. If history has told us anything, it’s that we’re likely to have another World War sometime in the future. Nuclear weapons and Artificial Intelligence just might be the end of our species. And if that happens, then where can humans run to? For Elon, a safe place is going to be Mars!

Sources Texts: https://www.youtube.com/watch?v=dOaLc24iQVU
https://www.youtube.com/watch?v=BEemOzPcleRw
https://www.youtube.com/watch?v=0qo78R_yYFA
Colonizing Mars sounds a great idea, but Elon needs money to pay for it. *Space X* seems to have a lot of money, but what they’re doing is really expensive! Getting a trip on the *Starship* and moving to Mars is going to cost 10 billion dollars per person. In case you’re wondering, Elon knows that a price like that won’t help the survival of mankind. But, if you want to compare this ticket to NASA’s Apollo Moon missions of the past, that program cost about 100 to 200 billion dollars and to only send 12 people to the Moon. Elon wants to make these trips as economical as possible so that it won’t just be the rich people who can afford it. He wants the trips to cost as much as buying a house, which is about 200,000 dollars. We can already see it now. Instead for saving money to buy a house, people will be saving to pay for moving to Mars. It doesn’t sound too crazy when you put it that way now, does it?

Although Elon has talked a lot about the technology, how he will get to Mars safely and how we will pay for it, he hasn’t talked a lot about what will happen when humans get there. How will we even breathe? Last we checked, Mars hasn’t got much oxygen! And how are we going to deal with dangerous radiation and the only 38% of gravity? Will humans be floating all the time? Will they have to live underground? Well, it seems that people will be living under a dome full of oxygen. Elon believes that people will be able to live a life like the one they’re living on Earth. He’s even joked about having ‘bars on Mars’! He also imagines the colony having restaurants, pizza joints and he thinks that Mars inhabitants will have social lives. The biggest thing that people have to keep in mind when they decide to move to Mars is that there is no promise that they will ever be able to come back to Earth. At least, that’s the case for the early stages. As for radiation and gravity, in his public talks about the Mars colonization project, Elon Musk has said that he doesn’t think it’s too big of a deal. Also, he has said that the first colonizers have to be willing to face the end of their life, as they decide to take part in a test project. Well, we can’t wait to hear more from Elon on how exactly people are going to survive out there!

*SpaceX* has less than a 10% chance of actually pulling this off! Elon risks a lot of money, but he says he likes the challenge! He doesn’t want to waste the investors’ money so he’s working hard to make this happen! Besides, Elon wants to move to Mars too. Well, he claims that there’s a 70% chance that he’ll move there himself. Elon can certainly afford the price ticket for the Starship, but hopefully he’d get there for free as he is the guy in charge. Cargo missions will start as soon as 2020 and missions with actual humans will start in 2024, so it seems like it can all happen in less than a decade away. Still, there’s a lot for Elon to think about beyond completing the Starship. Colonizing Mars might not be as easy as Elon is making it sound!

**Activity 2** Read people’s thoughts on colonizing Mars. Complete the sentences using the correct form of the verbs in brackets. Also, decide whether they are against or in favour of building a colony on Mars. **Remember:**

<table>
<thead>
<tr>
<th>past unreal condition (3rd type)</th>
<th>present unreal result (2nd type)</th>
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<tbody>
<tr>
<td>if + past perfect simple,</td>
<td>would/could/might + infinitive&lt;sup&gt;15&lt;/sup&gt;</td>
</tr>
<tr>
<td>present unreal condition (2nd type)</td>
<td>past unreal result (3rd type)</td>
</tr>
<tr>
<td>if + past simple,</td>
<td>would/could/might have + past participle</td>
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<sup>15</sup> infinitive: the base form of the verb, e.g., go, come, have, etc.
A. “Colonizing Mars? Is this even possible? Well, that sounds crazy, but I think that if we (1) ................................ (colonize) Mars, you know, if we (2) ...................... (live) on this remote desert-like place for a while, we (3) ............................... our home planet Earth more now. Actually, we’d better take care of Earth before we start exploring other planets. Building spacecraft to send to Mars involves using Earth’s natural resources, doesn’t it? Well, is it worth destroying Earth to build cities on a planet like Mars?”

Alicia, New York

B. “Are you kidding me? If we (4) ...................... (be) able to colonize Mars, we (5) ...................... already ................ (send) people out there. Last time I checked, we haven’t. What I mean is that if we (6) ...................... (know) what is the best way to terraform it, we (7) ...................... already ................ (do) so. Well, I’ve heard about Elon Musk’s theory on terraforming Mars. He wants to attack Mars’ poles with nuclear weapons! How can we be sure we won’t make Mars even colder or that we won’t destroy half the planet if we nuke it? If you ask me, it’s a good thing that we haven’t set foot on Mars. At least we haven’t destroyed it yet, I mean like we have destroyed our home planet Earth”.

Jonas, Mexico

C. “A colony on Mars? Seriously? This sounds dangerous! If it (8) ...................... (be) possible to move to Mars, we (9) ...................... (start) fighting over it by now! Who will the planet belong to? Will it be a colony of the USA or what? Will a private company own the Planet? Will there be any government, laws, money? And what about God? I don’t know, colonizing Mars or any other planet in outer space sounds dangerous to me! Besides, it might not be so ethical, you know.”

Martin, Colorado

D. “If we (10) ...................... already ................ (built) a city on Mars, hundreds of people (11) could go (go) to work there now! In fact, if humans (12) ...................... (settle) down on Mars, there (13) ...................... (be) more companies specializing in space buildings, technological devices and space medicine here on Earth, which (14) ............................... (improve) our economy”.

Steven, Washington

E. “If we (15) ...................... (make) Mars a habitable planet, humans (16) ...................... (live) there now, but (17) ...................... they (18) ...................... (be) in good health? Everyone knows that our human body is designed for life on Earth. If humans (18) ...................... (go) to live on Mars a long time ago, their DNA, their bones, their muscles (19) ............................... (not be) the same as ours anymore! If people (20) lived (live) on Mars today, (21) they (22) ...................... probably (22) ...................... already (22) ...................... (start) seeing weird flashes and they (22) ...................... (have) heart problems like it happened to Apollo astronauts. Anyway, I feel there must be a reason why human life exists on Earth and not on Mars! Let’s hope we’ll be wise and we won’t end up destroying humanity instead of protecting it!”

Jasmine, Atlanta City

35 base form of the verb
F. “As a scientist, I think that if we (23) ......................... (build) a base for humans on Mars, it (24) ......................... (be) easier for scientists to explore and study the planet. We (24) .........................(not need) to rely on pictures and information the rovers send us if we (25) ......................... already ......................... (create) some safe laboratories there. The way I see it, having a base for humans on Mars is absolutely necessary.”

Fernando, Brazil

Activity 3a Look at NASA’s posters36. Imagine we had already colonized Mars and discuss:
a) What kind of people would we need to have on the Red Planet if we had already colonized it?
b) If humans had already settled on Mars, what could they do there?

36 https://mars.nasa.gov/multimedia/resources/mars-posters-explorers-wanted/
Activity 3b Complete the sentences with the correct form of the verb in the brackets. Then match the short texts to the pictures.

A. If we had managed to colonize Mars, we (1) ................................ (be) able to hike the solar system’s large canyon, Valles Marineris on Mars now. We (2) ................................ (catch) the blue sunsets in the twilight and see the two moons of Mars, Phobos and Deimos in the night sky!

B. If we (3) .................. already.................. (colonize) Mars, we would have an office with a view in the night sky. Settlers on Mars (4) .................... (see) Phobos rise and set not once, but twice in one day!

C. We would grow tomatoes, lettuce, and peas just like we would in our summer garden if we (5) .................. already.................. (build) a colony on Mars. If humans (6) .......................... (live) there as we speak, they would probably have already found new ways of growing fresh food to keep brave explorers alive.

D. If we had colonized Mars, our curiosity would lead us to explore new places on the Red Planet and its moons, Phobos and Deimos. If we (7) .................. (set) foot on Mars by now, we would want to discover just what lies beyond the next valley, canyon, crater, or hill.

E. Learning is out of this world! Learning can take us to places we've never dreamed of. If humans lived on Mars now, they (8) .................. already.................. (find) some people to guide and help them, learn, dare to dream and grow.

F. We (9) .......................... (need) people with special talents if we had settled on Mars. We would need people with the skills and desire to dare challenging activities like fixing antennas and other devices in the extreme environment of Mars.

G. If we had settled on Mars, we would need people who could put things together, solving challenges so that we could survive. We would have space-age tools to build spaceships to carry us to Earth and back or to other planets if we had colonized Mars. If we lived on Mars now, we (10) .......................... (create) special habitats to protect us while we’re there.

Activity 4 People on Earth like to talk about colonizing Mars. But what if it had already happened and the first humans had already settled down on the Red Planet? What would life be like on Mars?

Imagine what people’s life would be like if they had already colonized Mars.

• Exchange ideas with your partner.
  Work together to write a short paragraph:
  What if we had already colonized Mars?
• Present your ideas to your classmates.
Appendix VI: Implicit Group-Counterfactual Conditionals

Lessons

Lesson 1: Planet Mars – Part I

Activity 1 Listen to the Planet Mars Songs.
Sing along.

A. Planet Mars

Chorus

Let’s visit the planet of Mars
There’s so much to learn
On the planet of Mars
The red planet in a billion stars
Come and sing along
About the planet of Mars
I’m the fourth planet
From our burning sun
And the second smallest
Planet in our solar system
I have the tallest mountain
Named Olympus Mons
It’s the biggest volcano
In our whole system
Phobos and Deimos
Are my two moons
Phobos is the larger
Of the orbiting two
It circles me 3 times a day
And that’s true
But it takes 30 hours

For
Deimos to
loop

(Chorus)
I’m 142 million miles away
From the sun and its heat
That is why I’m chilly
When you’re on my surface
Then you’ll probably freeze
I am a cold negative 81 degrees
24 hours and 37 minutes long
Is a full day on Mars
So you’ve learned in this song
687 is the number of days
It takes to orbit the sun
For my year to take place

(Chorus X2)

B. The Planet Mars Song

Chorus : Planet Mars, Planet Mars
Fourth planet from the Sun among the stars
I can't think of nothin' for these four bars
So let's keep talking about Planet Mars
Now Planet Mars is 142 million miles from the Sun
Outside of Planet Earth, Planet Mars is the most researched one
If you compare Mars to Earth by diameter, Mars is roughly half its size
It’s called the Red Planet and its color comes from dust that’s made from iron oxide

(Chorus)

Mars has seasons like Earth ‘cause its axis is tilted 25 degrees
If you lived on Mars you’d weigh less than you would on Earth due to gravity
It takes 687 Earth days for Mars to orbit the Sun

It’s got the largest volcano in the Solar System and its name is Olympus Mons

(Chorus)
Now Planet Mars has a couple of moons, and we didn’t want to leave that out Deimos and Phobos - Fear and Panic--now what’s that all about?
Well Mars was named for the god of war in the legends of ancient Rome
Deimos and Phobos were his twin sons so you know they were bad to the bone

(Chorus)

One day on Mars is about as long as one day on Earth, you see
Their’s is 24 hours and 37 minutes with a slower rotational speed
Now we’ve sent missions up to Mars to find out what we can
Like Spirit, Opportunity and Curiosity roamin’ round on Martian land
Planet Mars, Planet Mars
Fourth planet from the Sun among the stars
I can't think of nothin' for these four baaaaaaaaaaaaaaaaaa.....
That's all we have to say about planet Mars.

Songs:  [https://www.youtube.com/watch?v=ZfBpbRULkQA](https://www.youtube.com/watch?v=ZfBpbRULkQA)
[https://www.youtube.com/watch?v=2bWQu9a-f7Q](https://www.youtube.com/watch?v=2bWQu9a-f7Q)

**Activity 2** Read the article[^37] about Mars and read decide whether the statements below are True or False.

1. We **wouldn’t suspect** there is life on Mars if Schiaparelli **hadn’t seen** the lines on Mars.
2. We **wouldn’t have** a map of the planet now if humans **hadn’t set** foot on Mars.
3. Scientists have sent spacecraft on and near Mars to find out more about it.
4. We know a lot of things about Mars because we have many pictures of it.
5. Robotic vehicles have helped us learn a lot about Mars’ surface.
6. Scientists know about the materials Mars is made of.
7. Rovers can send us information about the rocks in different parts of Mars.
8. NASA’s missions **would have failed** if there **weren’t** Rovers on most planets of our solar system.
9. We **might know** nothing about Mars if NASA **hadn’t sent** Rovers.
10. If the conditions on Mars **were** better, scientists **might have** already **found** life on it.

**The Red Planet**

During the 19th century the idea that Mars had life and civilizations was really popular. In 1887, astronomer Giovanni Schiaparelli, the creator of the first map of Mars, looked through a telescope and saw lines on the planet’s surface. He thought that these lines, which he called ‘canalis’, were created by living creatures. Other people called the lines ‘canals’ and that became the source of stories and science fiction ideas about life on Mars. People believed there was life on Mars until new telescopes were developed that were more powerful and let astronomers see that the lines were really just a natural part of the surface.

Humans have not yet been to Mars, but scientists have sent spacecraft there to help them research this fascinating planet. The first spacecraft to land on Mars were the **Viking Landers**, which touched down on the surface in 1976. Since then, we have discovered lots of things about the ‘red planet’! If scientists **hadn’t sent** spacecraft to orbit or even land on Mars, we **wouldn’t have** hundreds of photos of it, so we **might know** even less about it. In addition, if scientists **hadn’t sent** special robotic spacecraft such as rovers, which have wheels and can move around to different spots on the planet, we **wouldn’t know** so much about its surface. Mars is made up of lots of different types of rocks, so if we **didn’t have** rovers that can study the different chemicals in rocks, scientists **wouldn’t have been able** to work out what different parts of the planet are made of. In other words, scientists **wouldn’t have figured out** how the environment changed rock over time if these rovers **weren’t able** to drive around and take measurements.

[^37]: [https://www.youtube.com/watch?v=dOaLc24iQVU](https://www.youtube.com/watch?v=dOaLc24iQVU)
[https://www.youtube.com/watch?v=BEoQzPcleRw](https://www.youtube.com/watch?v=BEoQzPcleRw)
[https://www.youtube.com/watch?v=0qo78R_yYFA](https://www.youtube.com/watch?v=0qo78R_yYFA)
Mars is the only planet in our solar system we have sent rovers to. NASA has successfully sent four Rovers so far, each one to a different area of the planet. *Sojourner* landed on Mars in 1997 and it was the first wheeled robot to rove the Red Planet. In 2004, *Spirit* and *Opportunity* landed on Mars to look for evidence of water on Mars. *Curiosity* landed on Mars to find out if Mars once had what all life needs: lasting water and the right chemical ingredients. The Mars 2020 rover will be heading to the Red Planet sometime in 2020. It specializes in looking for signs of past or present life and seeing if humans could one day explore Mars.

Activity 3a Read the texts about the Mars Rovers and decide whether you agree or disagree with the following statements. Justify your answers.

<table>
<thead>
<tr>
<th></th>
<th>AGREE</th>
<th>DISAGREE</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>If the lander that carried the Sojourner Rover to Mars didn’t have airbags, it <strong>might have landed safely</strong> on Mars.</td>
<td></td>
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<tr>
<td>2</td>
<td>If the lander that carried the Sojourner to Mars weren’t shaped like a pyramid, it <strong>might have flipped over</strong>.</td>
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<tr>
<td>3</td>
<td>If Ares Vallis didn’t look like a place which had flooded in the past, scientists <strong>might not have taken</strong> such an interest in it.</td>
<td></td>
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<tr>
<td>4</td>
<td>Scientists <strong>might not have sent</strong> Sojourner to Ares Vallis if they <strong>didn’t think</strong> that this area had lots of rocks gathered in one place.</td>
<td></td>
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<tr>
<td>5</td>
<td>If Ares Valis <strong>were flat</strong>, scientists <strong>might not have chosen</strong> to send the first rover there.</td>
<td></td>
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<tr>
<td>6</td>
<td>If there weren’t water on Earth, life <strong>would have disappeared</strong>.</td>
<td></td>
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<tr>
<td>7</td>
<td>If scientists <strong>didn’t have</strong> pictures from satellites, they <strong>might not have thought</strong> that rivers flow into Gustav Crater.</td>
<td></td>
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<tr>
<td>8</td>
<td>Scientists <strong>would have sent</strong> Spirit to explore Gusev Crater if they <strong>believed</strong> there was no water.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Scientists <strong>might not be interested</strong> in Meridiani Planum if they <strong>hadn’t seen</strong> some satellite pictures showing a mineral that looked like hematite.</td>
<td></td>
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<tr>
<td>10</td>
<td>If the Curiosity rover <strong>were smaller</strong> and had smaller wheels, it <strong>could have got</strong> stuck in sand.</td>
<td></td>
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Sources: Texts: [https://spaceplace.nasa.gov/mars-rovers/en/](https://spaceplace.nasa.gov/mars-rovers/en/)  
[https://mars.nasa.gov/participate/funzone/](https://mars.nasa.gov/participate/funzone/)  
[https://nineplanets.org/kids/mars/](https://nineplanets.org/kids/mars/)  
[https://www.planetsforkids.org/planet-mars.html](https://www.planetsforkids.org/planet-mars.html)  
Scientists might not have sent Curiosity to Gale crater if it had lots of kinds of minerals.

If Curiosity hadn’t sent scientists lots of data about radiation, they would have difficulty in designing safe human missions to Mars.

If there weren’t dangerous energy waves on Mars, we might have already sent human missions there.

Living things might have survived on Mars if there were more carbon dioxide.

If spacecraft were larger, we might have already managed to carry oxygen in space.

**Spirit and Opportunity**

After the success of the Sojourner rover, NASA wanted to send more rovers to learn about Mars. So, in 2003, they sent two rovers named *Spirit* and *Opportunity*, which were made as twins. They both carried all of the same scientific instruments and they could take photos with their cameras.

On Earth, where there is water, there is life. Spirit and Opportunity were sent to Mars to find more clues about the history of water there, and to see if the Red Planet could ever have supported life. To do this, scientists sent the two rovers to two different landing sites. The rovers landed on opposite sides of the planet.

*Spirit* landed in a region called Gusev Crater. Scientists wanted to explore the crater because they thought it could have held water long ago. From pictures taken by satellites, scientists thought it looked like several large rivers flowed into Gusev Crater.

*Opportunity* landed on the other side of Mars in an area called Meridiani Planum. This region was nice because it was a flat, safe spot for the rover to land. Also, studies with a satellite around Mars showed that it might contain a mineral called grey hematite. On Earth, grey hematite is often found in the presence of water.

On its journey, Spirit took the first color photos taken by a rover on another planet. Spirit also found several signs of past water, and evidence of geothermal, or volcanic activity. It explored sites that may have been hot springs millions of years ago.

Not to be outdone by its twin, *Opportunity* also took many color photos of the Martian landscape. It found evidence of water, too. *Opportunity* studied layers of minerals in the rock near its landing site. The evidence it collected suggested that its landing site was once the shoreline of a salty sea.

The rocks that Spirit and Opportunity studied showed scientists that a long time ago, water on Mars may have looked a lot like water on Earth. Mars once had lakes and rivers on the surface. Like Earth, it also had water below the ground, as well as water vapor in the atmosphere.
Curiosity

On Earth, where there is water, there are living things. We know that Mars had water a long time ago. But did it also have other conditions life needs?

To find out, NASA sent the Curiosity rover to Mars. Curiosity is the largest robot to ever land on another planet. It is about the size of a small SUV.

Because Curiosity is so big, it also has bigger wheels than the previous rovers. This helps it to roll over rocks and sand without getting stuck. However, even on a long driving day, it still only travels about 660 feet.

Curiosity landed in Gale Crater. This crater is special because it has a tall mountain in the middle. The mountain has many layers of rock. Each layer is made of different minerals from different time periods. These minerals could tell scientists about the history of water on Mars.

The rover uses many scientific instruments to study the rocks in Gale Crater. Curiosity used its drill to make a hole in a rock that once was mud at the bottom of a lake. One of its other instruments studied the powder drilled from the rock. This information helped scientists learn that the Gale crater had ingredients that ancient life would have needed to survive.

Scientists sent Curiosity to Mars to measure lots of other things, too—including radiation. Radiation is a type of energy that can come from the sun. It travels in high-energy waves that can be harmful to living things. Curiosity found that Mars has high, dangerous levels of radiation. NASA will use Curiosity’s radiation data to design missions to be safer for human explorers.

Curiosity brought 17 cameras with it to the Red Planet—more than any other rover. It uses some of its cameras to take photos of its journey. Cameras also act as Curiosity’s eyes, helping it to spot and stay away from danger. One of Curiosity’s cameras—at the end of its 7 foot long robotic arm—even acts like a sort of “selfie stick.” It can hold the camera two meters away and take a selfie to send back to Earth!

Mars Rover 2020 (not named yet)

Rovers on Mars have collected evidence of water and some of the chemical building blocks of life. Scientists think it might be possible that life existed on Mars a long time ago. If there were living things, they were probably teeny tiny little organisms—something like bacteria here on Earth. But, did life actually ever get started on Mars?

The Mars 2020 mission hopes to answer that question. The mission will send a rover very similar to Curiosity to explore the rocks, dirt, and air on Mars. Like Curiosity, the Mars 2020 rover is the size of a small SUV. The new rover has a different goal and different instruments. It will look directly for signs of past life on Mars. The new rover will also experiment with a natural resource that would be helpful in planning a human mission to Mars.

The atmosphere of Mars is made mostly of a gas called carbon dioxide. But many living things (including humans) need oxygen to breathe. If a human were to go to Mars, they would have to bring lots of oxygen. However, there isn’t much room on the spacecraft to carry liquid oxygen. The rover will test a method for getting oxygen from the air in the Martian atmosphere. This will help NASA plan for the best designs to send human astronauts to explore Mars one day.

Mars 2020 will land in a region of Mars called Jezero Crater. This crater is interesting to scientists because it is a very old region of Mars, and it may have once been the site of an ancient river delta. The rocks in this region could tell us about the history of the Red Planet and may have preserved signatures of past life on Mars. Stay tuned!
Activity 3b Game-like Activity: Which Rover is it? Write sentences.

a) Choose a rover and find something this rover helped scientists with, and imagine what we wouldn’t know if we hadn’t sent this rover to Mars. Then write a sentence.

Example: If scientists hadn’t sent this rover to Mars, we wouldn’t know what Martian rocks and dirt are made of. Which Rover is it?

and...

c) Spot a characteristic a rover has and imagine what would have happened if the rover didn’t have this characteristic. Write more sentences.

Example: If this rover didn’t have cameras that function as eyes, it might have not have spotted dangers as it drove around Mars, so it might have been destroyed. Which Rover is it?

Act 3c Put all the sentences/questions you have written into the box. Take turns picking out a sentence and reading it out to the other group asking them which group it is you are referring to. When your group answers the question correctly in time, you can keep it; otherwise, you must put it back in the box. The group that manages to answer more questions by the time you run out of questions wins.
Lesson 2: Humans on Mars-Terraforming Mars-Part II

Activity 1 Why do you think we want to go to Mars? Watch a video presenting some reasons why we want to go to Mars. What other reasons are mentioned in the video?

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Activity 2a No human has ever set foot on Mars so far. Why do you think this is so? Read the text to find out.

**There’s still not human on Mars!**

Scientists have dreamt of sending humans to Mars for years! As NASA has successfully sent humans to the Moon, one can’t help wondering why it has taken us almost 30 years – since the Apollo missions in the early 1970s – to set foot on Mars! So far, the Red Planet has only been explored by robotic rovers. There is no footprint on the red dust! Well, sending humans to Mars is not going to be an easy ride and there are lots of challenges to both landing and living on the Martian surface.

A one-way trip to Mars takes between seven and nine months and astronauts need to be kept safe and healthy the entire way. It is important that they are strong upon arrival at Mars. Humans will have to stay in zero gravity for a long time, which can harm their bodies. Over nine months in space, muscle mass and bone density will seriously decreases unless the astronauts exercise every day, so they will also have to carry exercise equipment along. Also, humans will be isolated from other humans for a long time. Scientists do not know how

39 [https://www.youtube.com/watch?v=4T2QLUbPWZ4&feature=emb_logo](https://www.youtube.com/watch?v=4T2QLUbPWZ4&feature=emb_logo)
40 [https://spacecentre.co.uk/blog-post/arent-mars-yet/](https://spacecentre.co.uk/blog-post/arent-mars-yet/)
this will affect their psychology. On top of that, the capsule carrying them won’t be very big, so claustrophobia, the fear of being in a small closed space, is another possible problem. The European Space Agency (ESA) have been working on a very small capsule and the process of putting the astronauts to sleep during the months-long journey to Mars. The idea is to reduce an astronaut’s basic metabolic rate by 75% - similar to what we can see in nature with large hibernating animals like bears. ESA has also been working on protection against radiation, what to do in case of emergencies, how to handle human safety and what effect hibernation would have on the psychology of the team.

Nine months of food and water for all the crew have to be carried which makes a manned mission to Mars not only more difficult to prepare but also more expensive. When the crew arrives at Mars, they’ll need a sustainable food source, and space farming seems to be a nice solution. But Mars has some wild surface temperatures (from 20°C at the equator to -153°C at the poles). To grow crops on Mars, the plants would need to be protected of these extreme temperatures in a greenhouse. A back plan B for food is required, just in case a crop fails.

Although we have the rockets and technology to leave Earth and head for Mars, we currently don’t have rockets large enough to carry the enormous amounts of rocket fuel, supplies, and building materials (not to mention the astronauts!) needed for a long-duration journey to Mars. It’s very expensive to send anything into space, and if we don’t have the ability for everything to go at once, it means that supplies must be sent in multiple shifts. If national economies could afford the cost, we might have already sent such multiple shifts. Since 2014, NASA has been working on the ‘Space Launch System’, an exploration vehicle that would be the biggest rocket made. ‘Space Launch System’ cost about 18 billion dollars to develop and it will cost 1 billion dollars every time NASA sends it to space. As of 2018, there are exciting new plans underway to create heavy launch vehicles by commercial companies such as SpaceX and others, but developing and testing these rockets takes many years.

We haven’t yet sent humans to Mars, but the Red Planet has been explored by spacecraft and rovers over the past few years. This is because we think that a few million years ago Mars was very similar to the Earth. We now know that water flowed on Mars, and we also see evidence of geological activity and volcanism. On Earth, life required all of these things to arise, so it’s possible that once there used to be life on Mars too. The COSPAR policy from the International Astronomical Union protects planets like Mars from possible contamination from us. Sending humans to Mars greatly increases the chance of us contaminating its surface with microbes from Earth. Until we know for sure if life ever existed, or could ever exist, on Mars, it would be a shame for us to risk destroying an alien life-form, however small.

These are just a handful of the difficulties we need to deal with in order to send people to Mars, but we’re talking about going to Mars as never before. Currently, NASA’s Mars 2020 Rover is scheduled to leave planet Earth in July 2020 and land on the red Planet in February 2021. This is a chance to test new technologies for making fuel and oxygen from Martian atmosphere, which will help scientists plan safe future explorations of Mars by humans.

Activity 2b Read the sentences and the two options given. Circle the option that describes the sentence best. Then decide if you agree or disagree with the statements.
<table>
<thead>
<tr>
<th></th>
<th>AGREE</th>
<th>DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sending people to Mars would be less challenging if we had found ways to make landing and living there safer.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>If scientists knew how the trip to Mars would affect astronauts’ psychology, they might have already sent humans there.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>If scientists were certain that hibernation can reduce astronauts metabolic rate, they might have sent humans to Mars.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>We might have sent people to Mars if scientists were sure that the cold would not destroy the crop.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>If we had bigger rockets, we would have sent humans and all the necessary supplies to Mars.</td>
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<tr>
<td>6</td>
<td>If countries had enough money to send supplies to Mars in multiple shifts, we might have already sent building materials Mars</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>If we humans had set foot on mars, they would be sick because of the microbes on Mars surface.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>If we had already figured out how we can make fuel and oxygen from Martian atmosphere, sending astronauts to Mars would be safer.</td>
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</tbody>
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**Activity 3a** Read the text about terraforming Mars.

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[https://www.youtube.com/watch?v=YabQ3cli8to](https://www.youtube.com/watch?v=YabQ3cli8to)
[https://www.youtube.com/watch?v=wkBR-W4XA8](https://www.youtube.com/watch?v=wkBR-W4XA8)
[https://www.youtube.com/watch?v=Z6aeq7-Dw](https://www.youtube.com/watch?v=Z6aeq7-Dw)
[https://blogs.scientificamerican.com/observations/can-mars-be-terraformed/](https://blogs.scientificamerican.com/observations/can-mars-be-terraformed/)
[https://www.youtube.com/watch?v=wkBR-W4XA8](https://www.youtube.com/watch?v=wkBR-W4XA8)
[https://www.youtube.com/watch?v=YabQ3cli8to](https://www.youtube.com/watch?v=YabQ3cli8to)
[https://www.youtube.com/watch?v=t9c7ahe2xIs](https://www.youtube.com/watch?v=t9c7ahe2xIs)
[https://www.youtube.com/watch?v=t9c7ahe2xIs](https://www.youtube.com/watch?v=t9c7ahe2xIs)
Terraforming Mars

Today, scientists might not be considering sending humans to the Red Planet if they hadn’t found out that that Mars used to look a lot like Earth.

The planet used to have a vast sea under oxygen rich skies, and as far as we know, all the right conditions for life. According to Bruce Jakosky, a scientist at the University of Colorado Boulder, we can tell that before most of Mars’ atmosphere escaped to space over the last four billions years, there used to be water, the atmosphere was thicker, and heat from the Sun was trapped making the planet warmer. So some scientists have reasons to believe it might be possible to ‘fix’ or ‘terraform’ Mars. **Terraforming** is a term that was first used in science fiction, but today the idea is discussed by a handful of actual scientists. According to Robert Lillis from the University of California Berkeley, terraforming, put simply, is changing the atmosphere of a planet so that that people can live there without the need for spacesuits.

Well, Mars isn’t exactly like Earth, but it’s by far the most livable other place in our entire solar system. For starters, there is water, mostly frozen, in the polar ice caps and in thin clouds. On Earth, almost everywhere there is water there is life too. Whether the water is boiling hot or frozen, some sort of creature seems to live in it. This means that there might be tiny life forms, like bacteria, even on Mars even now. Also, there is carbon and oxygen in the form of **carbon dioxide**, and nitrogen. In addition, it has an **axial tilt** extremely close to Earth (Earth 23.5°- Mars 25°) so it can have seasons, which are twice as long as Earth’s. Finally, it is the second closest planet to Earth so, although it takes almost nine months, it is easy to get there. The Moon and Venus are even closer to Earth and easier to get to. However, Venus, the hottest planet, is a storm of carbon dioxide and has high wind speeds, while the Moon doesn’t have any carbon, oxygen or nitrogen, so it would be more expensive to terraform.

Although Mars is similar to Earth, it doesn’t seem to be a human-friendly planet and this is why no human has set foot there yet. Well, to survive on Mars we need to be able to do a few simple things: breathe, stay conscious, and not freeze to death. Mars is freezing cold desert world with average temperature -63 Celsius degrees. It has an atmosphere 100 thinner than the atmosphere of Earth so it’s impossible to breathe. Also, it hasn’t got any **magnetosphere** so it’s not protected by solar winds and dangerous radiation. As it is now, Mars is not a place any human could live in. But what if we if we could terraform it? We **might have sent** manned missions to Mars and we **might have even colonized** it if we **knew** how to create conditions like those found on earth.

The first step in terraforming Mars would be to make it warmer so that its average temperature would be close to Earth’s average temperature, which is 15 Celsius degrees. In fact, early Earth atmosphere was rich in carbon dioxide, but it changed into breathable air a long time ago. We can try making this happen on Mars too. Mars has an atmosphere of 95.3% carbon dioxide (CO2). Changing this carbon dioxide could make Mars’ atmosphere thicker and create a **greenhouse effect**. This would make the planet warmer. This warming process would be relatively easy, but it would take around 100 years. Of course, some people, like Elon Musk, think that we should nuke Mars’ polar ice caps to create this greenhouse effect much faster, but what if we destroyed the planet? What if we ended up making it even colder than it is now?
Having higher temperatures is not enough, however. Humans and other earthly creatures need breathable air to survive. This is much more difficult than making the planet warmer and it would take thousands of millennia. Like we said, Mars atmosphere is so thin that humans cannot set foot on it without wearing a mask and carrying oxygen on their back. On Earth we have an atmosphere made of around 21% oxygen, 78% Nitrogen and 1% of everything else. We need a similar amount of oxygen on Mars. There is certainly enough water locked up in ice on Mars to get some oxygen. Unfortunately, there probably isn’t enough nitrogen that we could easily get to, to build an Earth-like, mostly nitrogen atmosphere.

But scientists have not given up! They are working on new ideas and technologies in order to speed up the process. For example, they have invented an oxygen factory that can be used on Mars. It is a machine that works with solar energy. It can make pure oxygen from the carbon dioxide that is found in Mars’ thin atmosphere. We already use something like this to fuel a return flight from Mars by mixing oxygen with rocket fuel. Another way to make the air breathable is to take out some soil on Mars. Plants photosynthesize. This means they can take sunlight and turn it into energy. When they do this they produce oxygen too. This sounds simple, but there is a problem: we would also need to bring bacteria that produce ammonia in the Martial soil in order to take nitrogen from the atmosphere to cover the needs of large plants. This process could take hundreds of years. Also, bringing bacteria or microorganisms to Mars is unethical as we might contaminate any possible life form on the planet.

Terraforming Mars would also involve fixing its magnetosphere. Around Planet Earth, there is an area with a magnetic field. It acts like a shield and protects it from solar winds which send deadly radiation our way. Mars used to have a magnetic field like the Earth’s which protected its atmosphere and made it warm, wet and hospitable, but it disappeared 4.2 billion years ago. NASA has thought of sending a magnetic field to Mars to protect its atmosphere. This would make manned missions easier. Also scientists are trying to make special spacesuits that will protect the human body from radiation and special houses which will be built by robots. These can protect the human body from radiation.

While the idea of making Mars a place where we could breathe, walk around without our blood boiling and our head exploding or even grow crops and enjoy blue sunsets sounds amazing, for the foreseeable future, at least, any humans that do go to Mars will be using spacesuits and enclosed habitats to explore the red planet, much as we did for the human exploration of the moon in the late 1960s and early 1970s.

Activity 3b Use information from the text to complete the following sentences. Come up with as many different endings as you can.

Scientists might have never thought about terraforming Mars if...
If Mars’ atmosphere hadn’t escaped into space,.....
Activity 3c Work in groups. Use information from the text to complete the sentence. Take turns reading out your completed sentences. The group that cannot come up with another complete sentence loses.

We might have already sent people to Mars if.....

Glossary

12. Solar Energy It is light, heat and other forms of energy given off by the Sun. It can be collected to heat buildings and to make electricity.
13. Radiation It is energy that moves from one place to another. Light, sound, heat and X-rays are examples of this. Its different kinds fall into a few general categories, like electromagnetic, mechanical, nuclear, and cosmic rays.
14. Terraforming It means ‘earth-shaping’. It is the process of changing a planet, moon, or other body into an atmosphere, temperature or ecology in which humans can live.
15. Colonize When a group of people leave their country and go and settle in another land. The country these people are from keeps some control over this land.
16. Greenhouse effect It is a warming of Earth’s surface and the air above it. It is caused by gases in the air that trap energy from the Sun. The most common gases are water vapor, carbon dioxide, and methane. Without it, Earth would be too cold for life to exist.
17. Gravity It is a force of attraction that pulls together all matter. The more matter something has, the greater the force is. It is the reason why things fall on the ground. It is the reason why our feet stay on earth and we do not float.
18. Global dust storm It is a cloud of sand and dirt. It happens when a strong wind blows sand and dirt from a dry surface. The wind drops sand and dirt in another place.
19. Carbon dioxide It is a heavy colorless gas that is formed by burning fuels, by the burning of animal or plant matter, and by the act of breathing. It is absorbed from the air by plants in photosynthesis.
20. Axis tilt It happens when a planet rotates around an axis that is tilted. It means that as the planet revolves around the Sun, it is tilted.
21. Nuke It is a nuclear weapon that suddenly releases the energy on the nucleus of certain types of atoms. When triggered, it releases a huge amount of energy in the form of an explosion. This explosion can destroy a city and kill most of its people. They also make people very sick.
22. Magnetosphere It is the area around an astronomical object. It stops most of tiny pieces from the Sun, which are carried in solar wind, from hitting the planet. It also protects a planet from dangerous radiation.
Lesson 3: Colonizing Mars-Part III

Activity 1a Watch a video about spaceships and rockets which are going to travel to Mars. Why do you think it is difficult to keep sending spaceships to Mars and back?

Activity 1b Read the text about colonizing Mars. Discuss.

a) Do you agree with Elon’s plans to colonize Mars? Why? Why not?
b) Do you think that NASA and other private companies like SpaceX will manage to colonize Mars? Why? Why not?
c) If we had already colonized Mars, would you go and live there? Why? Why not?

Colonizing Mars

Ever felt like getting off this planet? Elon Musk, the owner of the Tesla Car Company and founder and lead designer of SpaceX certainly has! Elon doesn’t want to just stop at electric cars. He’s looking up and has his eyes set on the stars. Or, more specifically, on Mars! Under his company SpaceX, Elon shared his plans for colonizing Mars.

According to Elon’s plans, the colonization of Mars should involve one million people, which is about the size of a large city. The first thing he wants to do is to build the Starship, which could take humans there. The Starship is a 35-storey space vehicle that he started building at the beginning of 2018. While we have no word on when exactly it’ll be completed, Elon is planning to launch the first commercial starship in 2023. Elon’s specialty is transportation and technology so he wants to make sure that colonizers could get around with state-of-the-art space vehicles. The Starship will be able to transport about a hundred people. What will be truly remarkable about the starship is that it will be reusable making travel to Mars much more economical. It will be very roomy. There will be 31 engines that will propel the Starship to Mars and they will also give it a controlled landing. It is designed to land anywhere in the solar system.

But why does Elon want to colonize Mars? For starters, Elon thinks that humans can be a multiplanetary species. While he wants to make Mars a new home for humans, he’s truly looking beyond Mars when it comes to the future of mankind’s relationship with space. The fun doesn’t have to stop at Mars. He’s already thinking about how these rockets will help us move around the solar system. Apart from this, Elon is worried about the future of the human race. If history has told us anything, it’s that we’re likely to have another World War sometime in the future. Nuclear weapons and Artificial Intelligence just might be the end of our species. And if that happens, then where can humans run to? For Elon, a safe place is going to be Mars!

42 https://www.youtube.com/watch?v=dOaLc24iQVU
https://www.youtube.com/watch?v=BErnOzPcleRw
https://www.youtube.com/watch?v=Og78R_vYFA
Colonizing Mars sounds a great idea, but Elon needs money to pay for it. Space X seems to have a lot of money, but what they’re doing is really expensive! Getting a trip on the Starship and moving to Mars is going to cost 10 billion dollars per person. In case you’re wondering, Elon knows that a price like that won’t help the survival of mankind. But, if you want to compare this ticket to NASA’s Apollo Moon missions of the past, that program cost about 100 to 200 billion dollars and to only send 12 people to the Moon. Elon wants to make these trips as economical as possible so that it won’t just be the rich people who can afford it. He wants the trips to cost as much as buying a house, which is about 200,000 dollars. We can already see it now. Instead for saving money to buy a house, people will be saving to pay for moving to Mars. It doesn’t sound too crazy when you put it that way now, does it?

Although Elon has talked a lot about the technology, how he will get to Mars safely and how we will pay for it, he hasn’t talked a lot about what will happen when humans get there. How will we even breathe? Last we checked, Mars hasn’t got much oxygen! And how are we going to deal with dangerous radiation and the only 38% of gravity? Will humans be floating all the time? Will they have to live underground? Well, it seems that people will be living under a dome full of oxygen. Elon believes that people will be able to live a life like the one they’re living on Earth. He’s even joked about having ‘bars on Mars’! He also imagines the colony having restaurants, pizza joints and he thinks that Mars inhabitants will have social lives. The biggest thing that people have to keep in mind when they decide to move to Mars is that there is no promise that they will ever be able to come back to Earth. At least, that’s the case for the early stages. As for radiation and gravity, in his public talks about the Mars colonization project, Elon Musk has said that he doesn’t think it’s too big of a deal. Also, he has said that the first colonizers have to be willing to face the end of their life, as they decide to take part in a test project. Well, we can’t wait to hear more from Elon on how exactly people are going to survive out there!

SpaceX has less than a 10% chance of actually pulling this off! Elon risks a lot of money, but he says he likes the challenge! He doesn’t want to waste the investors’ money so he’s working hard to make this happen! Besides, Elon wants to move to Mars too. Well, he claims that there’s a 70% chance that he’ll move there himself. Elon can certainly afford the price ticket for the Starship, but hopefully he’d get there for free as he is the guy in charge. Cargo missions will start as soon as 2020 and missions with actual humans will start in 2024, so it seems like it can all happen in less than a decade away. Still, there’s a lot for Elon to think about beyond completing the Starship. Colonizing Mars might not be as easy as Elon is making it sound!

Activity 2a Read people’s thoughts on colonizing Mars and decide whether they are in favour or against building a colony on Mars.

Activity 2b What is your opinion about colonizing Mars?

A. “Colonizing Mars? Is this even possible? Well, that sounds crazy, but I think that if we had colonized Mars, you know, if we had lived on this remote desert-like place for a while, we would appreciate our home planet Earth more. Actually, we’d better take care of Earth before we start exploring other planets. Building spacecraft to send to Mars involves using
Earth’s natural resources, doesn’t it? Well, is it worth destroying Earth to build cities on a planet like Mars? “
Alicia, New York

B. “Are you kidding me? If we were able to colonize Mars, we would have already sent people out there. Obviously, we haven’t. What I mean is that if we knew what is the best way to terraform it, we might have already done so. Well, I’ve heard about Elon Musk’s theory on terraforming Mars. He wants to attack Mars’ poles with nuclear weapons! How can we be sure we won’t make Mars even colder or that we won’t destroy half the planet if we nuke it? If you ask me, it’s a good thing that we haven’t set foot on Mars. At least we haven’t destroyed it yet, I mean like we have destroyed our home planet Earth”.
Jonas, Mexico

C. “A colony on Mars? Seriously? This sounds dangerous! If it were possible to move to Mars, we would have started fighting over it by now! Who will the planet belong to? Will it be a colony of the USA or what? Will a private company own the Planet? Will there be any government, laws, money? And what about God? I don’t know, colonizing Mars or any other planet in outer space sounds dangerous to me! Besides, it might not be so ethical, you know.”
Martin, Colorado

D. “If we had already built a city on Mars, hundreds of people could go to work there now! Also, if humans had settled down on Mars, there would be more companies specializing in space buildings, technological devices and space medicine here on Earth, which could improve our economy”.
Steven, Washington

E. “If we had made Mars a habitable planet, humans might live there now, but would they be in good health? Everyone knows that our human body is designed for life on Earth. If humans had gone to live on Mars, their DNA, their bones, their muscles might not be the same as ours! If people lived on Mars, they would probably have started seeing weird flashes and they would have had heart problems like it happened to Apollo astronauts. Anyway, I feel there must be a reason why human life exists on Earth and not on Mars! Let’s hope we’ll be wise and we won’t end up destroying humanity instead of protecting it!”
Jasmine, Atlanta City

F. “As a scientist, I think that if we had built a base for humans Mars, it would be easier for scientists to explore and study the planet. We wouldn’t need to rely on pictures and information the rovers send us if we had already created some safe laboratories there. The way I see it, having a base for humans on Mars is absolutely necessary.”
Fernando, Brazil
Activity 3a Look at NASA’s posters. Imagine we had already colonized Mars and discuss:

a) What kind of people would we need to have on the Red Planet if we had already colonized it?

b) If humans had already settled on Mars, what could they do there?

https://mars.nasa.gov/multimedia/resources/mars-posters-explorers-wanted/
Activity 3b Match the short texts to the pictures.

H. If we had managed to colonize Mars, we would be able to hike the solar system’s large canyon, Valles Marineris on Mars; we could catch the blue sunsets in the twilight and see the two moons of Mars, Phobos and Deimos in the night sky!

I. If we had already colonized Mars, we would have an office with a view in the night sky. Settlers on Mars would see Phobos rise and set not once, but twice in one day!

J. We would grow tomatoes, lettuce, and peas just like we would in our summer garden if we had built a colony on Mars. If humans lived there, they would have found new ways of growing fresh food to keep brave explorers alive.

K. If we had colonized Mars, our curiosity would lead us to explore new places on the Red Planet and its moons, Phobos and Deimos. If we had set foot on Mars, we would want to discover just what lies beyond the next valley, canyon, crater, or hill.

L. Learning is out of this world! Learning can take us to places we’ve never dreamed of. If humans lived on Mars now, they would have already found some people to guide and help them, learn, dare to dream and grow.

M. We would need people with special talents if we had settled on Mars. We would need people with the skills and desire to dare challenging activities like fixing antennas and other devices in the extreme environment of Mars.

N. If we had settled on Mars, we would need people who could put things together, solving challenges so that we could survive. We would have space-age tools to build spaceships to carry us to Earth and back or to other planets if we had colonized Mars. If we lived on Mars now, we would have created special habitats to protect us while we’re there.

Activity 4 People on Earth like to talk about colonizing Mars. But what if it had already happened and the first humans had already settled down on the Red Planet? What would life be like on Mars?

Imagine what people’s life would be like if they had already colonized Mars.

• Exchange ideas with your partner. Work together to write a short paragraph:
  What if we had already colonized Mars?
• Present your ideas to your classmates.
Appendix VII: Explicit Group - Modal Perfect – Lesson Plans

**Lesson Plan 1:** Grammar - *Explicit* Focus on Form  
**Subject:** modals in the past (modal perfect)  
*must/can’t/may/might/could/ would/should/shouldn’t have done sth*

**Date:** January 2020  
**Duration:** 90min  
**Level:** A2 Waystage

<table>
<thead>
<tr>
<th>T: Teacher</th>
<th>Ls: Learners</th>
<th>Act: Activity</th>
</tr>
</thead>
</table>

### Aim:
- to teach form explicitly  
- to assist learners in internalizing modal perfect forms  
- enhance learners’ comprehension and accurate production of modal perfect forms

### Objectives:
The learners will:
- develop metalinguistic knowledge of the target forms  
- recognize/identify the target modal perfect forms  
- comprehend the target forms as they appear in written and oral discourse  
- produce modal perfect forms to communicate meaning

<table>
<thead>
<tr>
<th>PROCEDURES</th>
<th>OBJECTIVES</th>
<th>TIME</th>
<th>INTEGRATED SKILLS</th>
<th>INTERACTION</th>
<th>MATERIALS</th>
<th>TEACHING AIDS</th>
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</table>
| **Act 1 Whole Class:** T introduces the topic of the lesson. Discussion based on the questions follows. | - to introduce the topic  
- to activate relevant content schemata | **5min** | Listening  
Speaking | T-Ls | - | - |
| **Act 2a Individually:** T hands out the worksheets. Ls read the summary and complete the missing words. T gives feedback and explains difficult words. **Act 2b Pair Work:** T encourages Ls to use the target language. Ls read a set of sentences, look for evidence in the summary and decide who could have said each one of them. **Whole Class feedback.** Ls share and justify their answers. T rephrases the sentences to help/make sure Ls begin to understand the meaning of modal perfect forms. | - to activate relevant knowledge  
- to create background knowledge  
- to process the text to make inferences  
- to make form-meaning mappings  
- to expose learners to positive evidence | **15 min** | Reading  
some Writing  
Speaking | Ls-Ls  
T-Ls | Worksheets | - |
<table>
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| **Explicit focus on form: rules, metalinguistic explanation** | - to induce the pedagogic grammar rule for forming modal perfect forms  
- to help develop metalinguistic knowledge  
- to engage in error correction  
- to expose learners to negative evidence  
- to use the target language to talk about language | 30 min | Speaking  
Reading  
some Writing | Ls – Ls  
T-Ls | Worksheets |
<p>| <strong>Activity 3a Pair Work:</strong> Encourages Ls to use the target language forms. Ls look at the sentences in Act 2b and try to induce the modal verb+ have+ past participle form. T provides feedback and metalinguistic explanation: modals in the past/imaginary past -perfect infinitive - past participle |  |  |  |  |  |
| <strong>Activity 3b Pair-Work:</strong> Encourage Ls to use the target language. Ls complete the table with the kinds of modal perfect forms observed, matching them to their uses. T gives feedback and provides more examples, explaining what the target modal perfect forms are used for. |  |  |  |  |  |
| <strong>Activity 3c Individually:</strong> Ls rewrite the sentences using modal perfect forms. Whole class feedback. T provides explicit/corrective feedback when Ls produce inaccurate target forms. |  |  |  |  |  |
| <strong>Activity 3d Pair-Work:</strong> First, T explains explicitly that modal perfect is required only when we refer to past situations. T makes the distinction between present and perfect infinitive. Ls read a set of sentences and try to spot and correct the mistakes. |  |  |  |  |  |</p>
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| **Act 4a Whole Class:** The learners watch the video clips and try to spot the mistakes with the help of some key words. They might need to watch each video twice. T and Ls discuss the mistakes they have spotted, *if any*. T does not reveal the mistakes at this stage. They are all explained in the article in Act4. | -to generate interest in the subject  
-to activate content/formal schemata by providing visual stimuli  
-to notice modal perfect forms in oral and written discourse  
-to make form-meaning connections  
-to expose learners to positive evidence | 30min | Listening Speaking some Writing | T-Ls | Worksheets | Projector PC or Tablet |
| **Act 4b Whole Class:** Ls take reading the article out. T shows Ls the videos again and/or a set of pictures depicting the mistakes to make things clearer. **T uses modal perfect to explain the mistakes throughout.** | | | | | | |
| **Activity 4c** Ls complete the tables with the appropriate modal perfect form and look for example sentences in the text. | | | | Ls-Ls | | |
| **Act 5a Whole class:** Ls answer questions, guessing what could have happened at the studio. **Activity 5b Whole class:** Ls pretend to be the filmmakers and explain what they shouldn’t have done and what they could have done differently during filming. **Ls. T resorts to explicit/corrective feedback when Ls use inaccurate forms** | to process the text again and make inferences  
-to produce the appropriate forms to express possibility (may/might/could + past participle) criticism/advice (shouldn’t/could have +pp)  
-to negotiate meaning | 10 min | Speaking some Reading | Ls- T | Worksheets | |
**Lesson Plan 2**: Grammar - *Explicit* Focus on Form

**Subject**: modals in the past (modal perfect)

*must/can’t/may/might/could/ would/should/shouldn’t have done sth*

**Date**: January 2020

**Duration**: 90min

**Level**: A2 Waystage

**T**: Teacher  **Ls**: Learners  **Act**: Activity

<table>
<thead>
<tr>
<th>PROCEDURES</th>
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<th>INTEGRATED SKILLS</th>
<th>INTERACTION</th>
<th>MATERIALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Activity 1 Whole Class**: Discussion. **T** introduces the topic of the lesson. **Ls** answer the questions. | - generate interest in the topic  
- activate background knowledge  
- activate relevant schemata and vocabulary | 5min | Speaking | T-Ls | Worksheets |
| **Activity 2** **T** reminds **Ls** the rules underlying modal perfect formation and usage. **T** gives explicit *metalinguistic explanations*. **Ls** match the sentences to functions/usage. | - revise pedagogical grammar rules regarding modal perfect forms  
- develop/access existing metalinguistic knowledge  
- make form-meaning connections  
- exposure to positive evidence | 15min | Reading | T-Ls | Worksheets |

**Aim**:  
- to teach form explicitly  
- to assist learners in internalizing modal perfect forms  
- enhance learners’ comprehension and accurate production of modal perfect forms

**Objectives**: the learners will:  
- develop metalinguistic knowledge of the target forms  
  - recognize/identify the target modal perfect forms  
  - comprehend the target forms as they appear in written and oral discourse  
  - produce modal perfect forms to communicate meaning
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<th>PROCEDURES</th>
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<th>INTERACTION</th>
<th>MATERIALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Activity 3a** Ls read and label the texts about kinds of movie errors.  
**Activity 3b** Ls complete the sentences with appropriate modal perfect forms and match them to the types of errors in Act3. T provides explicit feedback and overt correction using metalanguage. | - to use modal perfect forms accurately  
- distinguish between modal perfect functions  
- make form meaning connections | 15min | Reading Writing | T-Ls | Worksheets |  |
| **Activity 4a** Ls watch the video and complete the table. Whole-Class Feedback.  
**Activity 4b Pair-Work:** Ls complete the statements using modal perfect forms: should/shouldn’t, must, can’t, may/might/could to express expectations, certainty and possibility. Ls match the statements to experts from the texts. Whole Class feedback. T provides corrective feedback and explicit metalinguistic information. | - generate relevant schemata by providing visual stimuli  
- selective listening: to listen for specific information  
- check global comprehension  
- intentional use of modal perfect forms  
- use the target language to talk about language | 30min | Listening Reading Speaking Some Writing | Ls-Ls T-Ls | Worksheets | Laptop/PC Projector |
| **Activity 5a** Ls read the text on ways to avoid movie mistakes.  
**Activity 5b Pair Work:** explains that Ls have to use the ‘could’ and would have+pp modal perfect form and some of the techniques mentioned in the text. Ls write their suggestions down. Then Ls present their ideas in class and update their lists with their classmates’ ideas. T provides explicit corrective feedback when Ls produce inaccurate modal perfect forms. | - produce the could have+pp and would have+pp modal perfect forms in written discourse  
- make form meaning connections  
- restructuring | 25min | Reading Writing some Speaking | Ls-Ls | Worksheets |  |
Lesson Plan 3: Grammar - *Explicit* Focus on Form

**Subject:** modals in the past (modal perfect)
*must/can’t/may/might/could/ would/should/shouldn’t have done sth*

**Date:** January 2020
**Duration:** 90min
**Level:** A2 Waystage

**T:** Teacher  **Ls:** Learners  **Act:** Activity

<table>
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<tr>
<th>PROCEDURES</th>
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<th>MATERIALS</th>
<th>TEACHING AIDS</th>
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</thead>
<tbody>
<tr>
<td><strong>Act 1 Whole class – Brainstorming/Predictions:</strong> T prompts a discussion about the reasons why movie mistakes occur. T writes Ls’ ideas on the whiteboard.</td>
<td>- to introduce and generate interest in the topic  -to activate background knowledge  -to activate relevant schemata and vocabulary  -to make predictions prior to reading</td>
<td>10min</td>
<td>Speaking</td>
<td>T-Ls</td>
<td>Worksheets</td>
<td>-</td>
</tr>
<tr>
<td><strong>Act2a Whole Class:</strong> Ls read the text and list the reasons mentioned in it. <strong>Pair-Work:</strong> Ls check their answers with their partners. <strong>Whole-Class Feedback.</strong> T and Ls go over their list on the whiteboard and confirm/refute their predictions. <strong>Act2b: Whole Class:</strong> Ls answer questions about the test. T explains unknown words and challenging parts of the text.</td>
<td>-to create background knowledge  -to read for gist</td>
<td>25min</td>
<td>Reading some Speaking some Writing</td>
<td>Ls-Ls T-Ls</td>
<td>Worksheets</td>
<td>-</td>
</tr>
</tbody>
</table>

**Aim:**
- to teach form explicitly  
- to assist learners in internalizing modal perfect forms  
- enhance learners’ comprehension and accurate production of modal perfect forms

**Objectives:** the learners will:
- develop metalinguistic knowledge of the target forms  
- recognize/identify the target modal perfect forms  
- comprehend the target forms as they appear in written and oral discourse

*produce* modal perfect forms to communicate meaning
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</tr>
</thead>
</table>
| **Act 3 Pair-Work** Ls complete the sentences using modal perfect forms and compare their answers. Whole-Class feedback. **T resorts to overt correction and provides explicit metalinguistic explanations.** **T** focuses on the **must/can’t have + past participle** forms for making deductions. **T** gives examples. Ls deduce the reasons which have led to the situations. **Pair-Work:** Ls compare their answers to their partners’ answers. Whole-class feedback.  | -to revise modal perfect forms and use them in written discourse  
-to produce the must/can’t have + past participle modal perfect forms  
-to expose learners to positive evidence  
-to use the target language to talk about language | 25 min | Reading some speaking | Ls-Ls  
T-Ls | Worksheets | - |
| **Act 4a Whole Class:** Ls watch a video about a movie mistake in the Avengers film and read a short text. Ls find and correct the mistakes.  **Act 4b Individual Work:** T gives each L a picture showing a different movie mistake. Ls write a short paragraph using modal perfect forms.  **Act 4c Pair-Work:** Ls swap texts. They add two ideas to their partner’s text and make suggestions for improvement.  **Act 4d** Ls add their partners’ ideas to their text and make any necessary changes or corrections (editing). Ls present their movie mistake in class. **T** uses **recasts** for Ls’ inaccurate modal perfect forms. **T** **rephrases** using modal perfect whenever possible- if/when Ls avoid using the target forms. **T** does not provide any explicit rules or explanations on modal perfect throughout.  | -to expose learners to positive and negative evidence  
-to produce modal perfect forms in oral/written discourse  
-to engage in providing peer-feedback  
-to engage in peer scaffolding  
-to use the target language to talk about language | 30 min | Listening  
Reading some writing | T-Ls  
Writing  
Speaking | Ls-Ls | Worksheets  
Cut-outs: pictures-movie mistakes | Laptop/PC  
Projector |
Appendix VIII: Implicit Group-Modal Perfect-Lessons Plans

**Lesson Plan 1:** Grammar - *Implicit* Focus on Form  
**Subject:** modals in the past (modal perfect)  
*must/can’t/may/might/could/would/should/shouldn’t have done sth*

**Date:** January 2020  
**Duration:** 90min  
**Level:** A2 Waystage

_T:_ Teacher  
*Ls:_ Learners  
**Act:** Activity

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</tr>
</thead>
</table>
| **Act 1** T introduces the topic of the lesson and prompts discussion based on the questions. | -to introduce the topic  
  -to activate relevant content schemata | 5min | Speaking          | T-Ls         | -         | -             |
| **Act 2a** Pair-Work: T hands out the worksheets. Ls read a summary of the film and complete the missing words.  
**Act 2b** Ls read a set of statements, look for evidence in the summary and decide who could have said each one of them. *Whole Class feedback.* Ls read the completed text out loud. Ls share and justify their answers in Act2b. T paraphrases the statements to help/make sure Ls understand the meaning of modal perfect forms. | -to activate relevant knowledge  
  -to create background knowledge  
  -to process a modified for pedagogical purposes short text to make inferences  
  -to make form-meaning mappings  
  -to gently encourage noticing | 15 min | Reading  
  Writing  
  Speaking | Ls-Ls  
  T-Ls | Worksheets | - |

**Aim:**  
- to teach form implicitly  
- to assist learners in internalizing modal perfect forms implicitly  
- to enhance learners’ accurate production and comprehension of modal perfect forms

**Objectives:** the learners will:  
- notice modal perfect forms in written and oral discourse  
- comprehend modal perfect forms as they appear in written and oral discourse  
- use modal perfect forms to communicate meaning
<table>
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</table>
| **Act 3 Whole Class:** The learners watch video clips from the Home Alone movie and try to identify the mistakes with the help of some key words. They might need to watch each video twice. T and Ls discuss the mistakes they have spotted, **if any.** T does not reveal the mistakes at this stage. They are all explained in the article in Act 4. | -to generate interest in the subject  
-to activate content/formal schemata by providing visual stimuli | 15 | Listening  
Speaking | T-Ls | - | Projector  
PC or  
Tablet |
| **Act 4a** Ls read an article about the mistakes in the Home Alone Movie. T shows Ls the videos again, as well as a set of pictures with the mistakes to make things clearer. **T uses modal perfect to explain the mistakes throughout.**  
**Act 4b** Pair-Work: Ls read a set of statements related to the text and decide whether they agree or disagree. **Activity 4c** Ls answer a set of questions in an attempt to guess what may have happened at the studio during shooting. **T resorts to recasts when Ls produce inaccurate modal perfect forms. T also rephrases Ls’ ideas when they avoid using the target form** | -to notice modal perfect forms in oral and written discourse  
-to make form-meaning connections  
-to analyze the modal perfect forms meaning  
-to produce the might have, may have and could have modal perfect forms to express possibility | 30min | Listening  
Speaking | T-Ls  
Ls-Ls | Worksheets | Projector  
PC  
Tablet |
<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Act 5a Group work. Ls pretend to be the film directors who go over their film and notice the mistakes. <strong>First</strong>, Ls work <strong>individually</strong> and take notes of what they shouldn’t have done and what they could have done differently. <strong>Group-Work</strong>: T assigns Ls into groups. Ls exchange ideas with the other film directors and work together to make a list with their ideas. They go through the text once more and try to come up with as many suggestions as possible. The Group that has come up with more suggestions wins. T gives Ls’ reports back. <strong>Whole Class feedback</strong>: T resorts to recasts when Ls produce inaccurate modal perfect forms. Also, T rephrases Ls statements using modal perfect forms when/if necessary.</td>
<td>-to produce the <em>should have</em>, <em>shouldn’t have</em> and <em>could have</em> modal perfect forms to communicate meaning inherent in modal perfect forms, hopefully using the corresponding modals - to give advice and make suggestions - to negotiate meaning - to process the text and make inferences - to engage in a game-like activity</td>
<td>20 min</td>
<td>Speaking</td>
<td>Ls-Ls</td>
<td>Worksheets</td>
<td></td>
</tr>
</tbody>
</table>
Lesson Plan 2: Grammar - Implicit Focus on Form  
Subject: modals in the past (modal perfect)  
*must/can’t/may/might/could/would/should/shouldn’t have done sth*  

Date: January 2020  
Duration: 90min  
Level: A2 Waystage  

T: Teacher  
Ls: Learners  
Act: Activity

**Aim:**  
- to teach form implicitly  
- to assist learners in internalizing modal perfect forms implicitly  
- enhance learners’ accurate production and comprehension of modal perfect forms  

**Objectives:** the learners will:  
- notice modal perfect forms in oral and written discourse  
- comprehend modal perfect forms as they appear in written and oral discourse  
- use modal perfect forms to communicate meaning

<table>
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</tr>
</thead>
</table>
| Act1 Whole class: T prompts a discussion about the kinds of movie mistakes and what can be done to avoid them.  
- to introduce and generate interest to the topic  
- to activate background knowledge  
- activate relevant schemata and vocabulary | 5min | Speaking | T-Ls | Worksheets | - |
| Act2a Ls Whole Class: read and label the texts about the kinds of movie mistakes.  
- to create background knowledge  
- to activate relevant content schemata  
- to set a purpose for listening/watching the video in Act3a | 10min | Reading some Speaking | T-Ls | Worksheets | - |
| Act2b: Whole Class: Ls read the statements and identify the kind of mistake the speaker refers to. Ls justify their reasons.  
T uses modal perfect forms throughout. | | | | | |
### PROCEDURES

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>Ls watch a 10-minute video showing movie mistakes and complete the table. Before watching.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act 3b Individually:</td>
<td>Ls complete the table with the name of a film. <strong>Group Work:</strong> T cuts and gives each a part of the transcript of the video. Ls exchange information compare their answers. <strong>Between groups:</strong> Next, the 2 groups exchange ideas. T reads the remaining parts if there are any. Alternatively, s/he assigns some groups an extra extract. Whole class-feedback follows.</td>
</tr>
<tr>
<td>Act 4 Individual Work:</td>
<td>Ls read and complete an open-cloze text on how movie mistakes can be avoided. Whole-class feedback.</td>
</tr>
<tr>
<td>Activity 5 Pair-Work:</td>
<td>Ls prepare and write their suggestions and excuses down. Then, Ls work in pairs and act out short dialogues based on their notes. Ls can update their lists with their classmates’ ideas. **T recasts when learners produce incorrect modal perfect forms. T summarizes Ls’ ideas using modal perfect forms at the end of their conversation. T does not provide any explicit information or explicit corrective feedback neither do they use metalanguage.</td>
</tr>
</tbody>
</table>

### OBJECTIVES

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>- to generate relevant schemata by providing visual stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- to engage in selective listening: to listen for specific information</td>
</tr>
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<td></td>
<td>- to check global comprehension</td>
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<tr>
<td></td>
<td>- to engage in jigsaw reading</td>
</tr>
<tr>
<td></td>
<td>- to help learners notice modal perfect forms</td>
</tr>
<tr>
<td>Act 3b Individually:</td>
<td>- to activate content schemata</td>
</tr>
<tr>
<td></td>
<td>- to create and/or activate background knowledge</td>
</tr>
<tr>
<td>Act 4 Individual Work:</td>
<td>- produce and comprehend the could have+pp and would have+ pp modal perfect forms in oral discourse</td>
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<td></td>
<td>- to make form meaning connections</td>
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</tbody>
</table>

### TIME

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act 3b Individually:</td>
<td>Speaking</td>
</tr>
<tr>
<td>Act 4 Individual Work:</td>
<td>Reading</td>
</tr>
<tr>
<td>Activity 5 Pair-Work:</td>
<td>some writing</td>
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### INTEGRATED SKILLS

<table>
<thead>
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<th>Act 3a Individual Work</th>
<th>45 min</th>
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<tbody>
<tr>
<td>Act 3b Individually:</td>
<td></td>
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<tr>
<td>Act 4 Individual Work:</td>
<td>10 min</td>
</tr>
<tr>
<td>Activity 5 Pair-Work:</td>
<td>25 min</td>
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### INTERACTION

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>Ls-Ls</th>
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<tbody>
<tr>
<td>Act 3b Individually:</td>
<td>T-Ls</td>
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<tr>
<td>Act 4 Individual Work:</td>
<td></td>
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<tr>
<td>Activity 5 Pair-Work:</td>
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### MATERIALS

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>Worksheets</th>
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<tbody>
<tr>
<td>Act 3b Individually:</td>
<td>Cut-outs: parts of the video transcript</td>
</tr>
<tr>
<td>Act 4 Individual Work:</td>
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<tr>
<td>Activity 5 Pair-Work:</td>
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### TEACHING AIDS

<table>
<thead>
<tr>
<th>Act 3a Individual Work</th>
<th>Laptop/PC</th>
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<tbody>
<tr>
<td>Act 3b Individually:</td>
<td></td>
</tr>
<tr>
<td>Act 4 Individual Work:</td>
<td></td>
</tr>
<tr>
<td>Activity 5 Pair-Work:</td>
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</table>
**Lesson Plan 3: Grammar - Implicit Focus on Form**  
**Subject:** modals in the past (modal perfect)  
*must/can’t/may/might/could/ would/should/shouldn’t have done sth*

**Date:** January 2020  
**Duration:** 90min  
**Level:** A2 Waystage  

**T:** Teacher  
**Ls:** Learners  
**Act:** Activity

**Aim:**  
- to teach form implicitly  
- to assist learners in internalizing modal perfect forms implicitly  
- to enhance learners’ accurate production and comprehension of modal perfect forms

**Objectives:** the learners will:  
- notice modal perfect forms in oral and written discourse  
- comprehend modal perfect forms as they appear in written and oral discourse  
- use modal perfect forms to communicate meaning

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<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| Act 1 Whole class – Brainstorming/Predictions: T prompts a discussion about the reasons why movie mistakes occur. T writes their ideas on the whiteboard. | - to introduce and generate interest in the topic  
- to activate background knowledge  
- to activate relevant schemata and vocabulary  
- to make predictions prior to reading | 10min | Speaking | T-Ls | Worksheets | - |
| Act 2a Whole Class: Ls read the text and list the reasons mentioned in it.  
Pair-Work: Ls check their answers with their partners. Whole-Class Feedback. T and Ls go over their list on the whiteboard and confirm/refute their predictions. Act 2b: Whole Class: Ls answer questions about the text. T explains unknown words and challenging parts of the text. | - to create background knowledge  
- to engage in text analysis - comprehension  
- to read for gist | 25min | Reading some Speaking some Writing | Ls-Ls T-Ls | Worksheets | - |
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<tbody>
<tr>
<td><strong>Act 3 Individual Work</strong></td>
<td>Ls match the problematic situations with the reasons/assumptions. Ls check their answers with their partners. Whole-Class feedback.</td>
<td>-to check global comprehension -to help learners notice modal perfect forms -to expose learners to positive evidence</td>
<td>15 min</td>
<td>Reading some speaking</td>
<td>Ls-Ls T-Ls</td>
<td>Worksheets</td>
</tr>
<tr>
<td><strong>Act 4a Whole Class:</strong></td>
<td>Ls watch a video about a movie mistake in the Avengers film and read a short text. They share ideas on what else might have happened during shooting. <strong>Act 4b Individual Work:</strong> T gives each L a picture showing a different movie mistake. Ls write a short paragraph. <strong>Act 4c Pair-Work:</strong> Ls swap texts. They add two ideas to their partner’s text and make suggestions for improvement. <strong>Act 4d</strong></td>
<td>-to help learners notice modal perfect forms in oral/written discourse -to produce modal perfect forms in oral/written discourse -to engage is providing peer feedback -to engage in peer scaffolding</td>
<td>40 min</td>
<td>Listening Reading Writing Speaking</td>
<td>T-Ls Ls-Ls</td>
<td>Worksheets Cut-outs: pictures-movie mistakes</td>
</tr>
</tbody>
</table>

*T uses recasts for Ls’ inaccurate modal perfect forms. T rephrases using modal perfect whenever possible- if/when Ls avoid using target form. T does not provide any explicit rules or explanations on modal perfect throughout.*
Appendix IX: Explicit Group-Counterfactual Conditionals-Lesson Plans

**Lesson Plan 1:** Grammar - Explicit Focus on Form  
**Subject:** counterfactual conditionals  
3rd/2nd unreal past-unreal present perspective  
if + past perfect simple --- > would/could/might + infinitive  
3rd/2nd unreal past-unreal present perspective  
if + past simple --- > would/could/might + have + past participle

**Aim:**  
- to teach form explicitly  
- to assist learners in internalizing counterfactual conditional forms explicitly  
- to enhance learners’ accurate production and comprehension of counterfactual conditional forms

**Objectives:** the learners will:  
- develop metalinguistic knowledge of the target forms  
- notice the target forms in written discourse  
- comprehend counterfactual conditionals as they appear in written and oral discourse  
- use counterfactual conditional forms to communicate meaning

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**Date:** February 2020  
**Duration:** 90min  
**Level:** A2 Waystage

**T:** Teacher  
**Ls:** Learners  
**Act:** Activity

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<th>MATERIA LS</th>
<th>TEACHING AIDS</th>
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</thead>
</table>
| **Act 1** T introduces the topic of the lesson. Ls share what they know about Mars. Ls listen to two songs conveying information/facts about Mars and sing along.  
- to introduce and generate interest in the topic  
- to activate relevant content schemata | - 10min | Listening some Speaking | T-Ls | Worksheets | Projector PC/Laptop |
| **Act 2 Whole Class:** Ls read an article about Mars and decide if the statements are true or false. Ls justify their answers relying on information found in the article.  
- to notice the target form in written discourse  
- to expose Ls to positive evidence  
- to process the target form for meaning  
- to make form-meaning mappings | - 15 min | Reading | T-Ls | - | - |
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<th>INTERACTION</th>
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<th>TEACHING AIDS</th>
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</thead>
<tbody>
<tr>
<td>Act 3a T reminds Ls the 3 <em>if</em>-conditional sentences (1st, 2nd, and 3rd) typology and examples.</td>
<td>to activate background knowledge - expose Ls to positive evidence - to raise learners’ consciousness of the target forms and their underlying rules --to induce the pedagogic grammar rule for forming counterfactual conditional forms - to induce the rules regarding the use of the target forms - to help develop metalinguistic knowledge - to use the target language to talk about language</td>
<td>25min</td>
<td>Speaking Reading Writing</td>
<td>T-Ls</td>
<td>T-Ls</td>
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<tr>
<td>Act 3b Pair-Work: Ls go back to activities 2a and 2b and find and underline all <em>if</em>-conditional sentences. T explains that they are a mix of past and present results. Ls work in pairs to figure out the rule for forming the two types of counterfactual/mixed conditional sentences. Ls complete a table with the rules. Whole-class feedback. T explains counterfactual conditionals presenting Ls with examples.</td>
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<td>Act 3c Pair-work: Ls complete the table with example sentences from Act 2a and 2b. Whole-class feedback.</td>
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<tr>
<td>PROCEDURES</td>
<td>OBJECTIVES</td>
<td>TIME</td>
<td>INTEGRATED SKILLS</td>
<td>INTERACTION</td>
<td>MATERIALS</td>
<td>TEACHING AIDS</td>
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</table>
| **Activity 4a Whole class:** Ls read an article about the four Mars Rovers. **Pair-Work** Ls choose a Rover and after spotting information about something this Rover helped scientist with, they write down sentences (in the form of a quiz) using the target forms. Ls imagine a different situation i.e., what it is we would not know, if we hadn’t sent this Rover to Mars. Also, Ls spot a characteristic a Rover has and imagine what would have happened if the Rover didn’t have this characteristic.  
**T goes around class and listens to learners, supervising and intervening as necessary, and providing explicit corrective feedback when Ls produce inaccurate forms.**  
**Act 4b** Ls do a game-like activity. They put their sentences in a box. They take turns and pick out a sentence and read it out to the other pair. Each pair keeps the question they answer in time (use a hourglass); otherwise, they put it back in the box. The pair that answers more questions wins.  
**T resorts to overt corrective feedback whenever Ls produce inaccurate forms. T provides metalinguistic explanations about forming counterfactual conditionals explicitly.** | -to scan the text for specific information  
- to make form-meaning connections  
- to produce the target form accurately to communicate meaning  
- to engage in negotiation of meaning  
- to engage in peer scaffolding | 20min | Reading Writing | T-Ls | Worksheets | - |
| | -to produce the target form to communicate meaning inherent in the counterfactual conditional forms  
- notice the counterfactual conditional form in oral and written discourse  
- to engage in a game-like activity | 20min | Speaking Listening some Reading | Ls-Ls | Worksheet  
- a small box  
- a timer or hourglass | - |
**Lesson Plan 2: Grammar - Explicit Focus on Form**

**Subject:** counterfactual conditionals

3\(^{rd}\)/2\(^{nd}\) unreal past-unreal present perspective

- *if* + *past perfect simple* --- *would/could/might* + *infinitive*
- *if* + *past simple* --- *would/could/might* + *have* + *past participle*

**Aim:**
- to teach form explicitly
- to assist learners in internalizing counterfactual conditional forms explicitly
- to enhance learners’ accurate production and comprehension of counterfactual conditional forms

**Objectives:** the learners will:
- develop metalinguistic knowledge of the target form
- notice the counterfactual conditional form in written and discourse while professing texts for meaning (form-meaning mappings)
- comprehend counterfactual conditionals as they appear in written and oral discourse
- use counterfactual conditional forms to communicate meaning

---

**PROCEDEURES** | **OBJECTIVES** | **TIME** | **INTEGRATED SKILLS** | **INTERACTION** | **MATERIALS** | **TEACHING AIDS**
--- | --- | --- | --- | --- | --- | ---

**Act 1a Pair-Work** Ls read a set of sentences describing imaginary situations. They identify the situations and write them down. Ls watch a video presenting the counterfactual conditionals forms and check their answers. Whole class feedback follows.

- to develop metalinguistic knowledge of the target forms
- to make form-meaning mappings
- to notice the target form in the input
- to process the target forms for meaning
- to produce the target forms

30 | Listening | Reading
some speaking
some writing | Ls-Ls | Worksheets | Projector/PC or Laptop

**1b Individually** Ls read sentences including the target form and decide on their meaning (which of two options describes the meaning of the *if*-conditional sentence) Whole class feedback follows.

**Act 1c Whole-class** Ls read sets of true present conditions with true past results, they imagine things were different and they write counterfactual conditional sentences.

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<tr>
<th>PROCEDURES</th>
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<th>INTERACTION</th>
<th>MATERIA LS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Act 2a** T prompts Ls to discuss why humans have not set foot on Mars yet. Ls read a text which presents the reasons why we have not set foot on Mars yet. | -to activate relevant knowledge  
-tomakeconfirm/refutepredictions  
-to help Ls notice the counterfactual  
conditional form in written discourse  
-to scan the text for specific information  
-to cause Ls to process the target form for meaning  
-to possibly induce the rule for counterfactual conditionals | 20 min | some Speaking Reading | T-Ls          | Worksheets | -             |
| **Act 2b Individually** Ls go back to **Act 1c**. They read their sentences which relate to the information in the article and decide whether they agree or disagree. T asks Ls to underline the parts of the text which they believe to justify their answers. | | | | | | |
| **Activity 3a** Before reading, T refers Ls to the glossary at the end of the lesson. Ls read the descriptions/definitions. T explains the concepts and makes sure Ls get a clear understanding of them. Ls read the article; Ls are presented with the rules underlying the target forms. **Pair Work** Ls use information from the text to complete two sentences coming up with as many different endings as they can. **Whole class feedback follows.** | -to activate background schemata  
-to pre-teach some difficult lexical items  
-to process the target forms for meaning  
--to skim the text to find relevant information  
- to use the information to produce short written sentences which require them to use the target form  
-to facilitate Ls’ making form-meaning mappings | 20min | some Speaking Reading | T-Ls          | Worksheets | -             |

T resorts to overt corrective feedback whenever Ls produce inaccurate forms. T provides metalinguistic explanations about forming counterfactual conditionals the target form.
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</tr>
</thead>
</table>
| Act 3c Pair-Work: T present Ls with the incomplete sentence: ‘**We might have already sent people to Mars if ....**’ Ls work in pairs and come up with and write down as many endings as possible in 10 minutes. Then, the pairs take turns and read out their complete sentences. The pair that cannot come up with a new complete sentence loses. **T goes around class and listens to Ls sentences. T supervises and intervenes as necessary. T resorts to overt corrective feedback whenever Ls produce inaccurate forms. T provides metalinguistic explanations about forming counterfactual conditionals the target form.** | -to produce the target form to communicate meaning inherent in the counterfactual conditional form  
-to help learners notice the counterfactual conditional form in their oral and written discourse  
-to engage in a game-like activity  
-to engage in negotiation of meaning  
-to make form-meaning connections  
-to engage in peer scaffolding | 20min | some Writing  
some Reading  
Speaking  
Listening | Ls-Ls | Worksheet | - |
### Lesson Plan 3: Grammar - *Explicit* Focus on Form

**Subject:** counterfactual conditionals

3rd/2nd unreal past-unreal present perspective

if + past perfect simple --- > would/could/might + infinitive

3rd/2nd unreal past-unreal present perspective

if + past simple --- > would/could/might + have + past participle

---

**Date:** February 2020  
**Duration:** 90min  
**Level:** A2 Waystage

**Aim:**
- to teach form explicitly
- to assist learners in internalizing counterfactual conditional forms explicitly
- to enhance learners’ accurate production and comprehension of counterfactual conditional forms

**Objectives:** the learners will:
- develop metalinguistic knowledge of the target forms
- notice the counterfactual conditional forms in written discourse
- comprehend counterfactual conditionals as they appear in written and oral discourse
- use counterfactual conditional forms to communicate meaning

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**PROCEDURES**

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<th>PROCEDURES</th>
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<th>INTEGRATED SKILLS</th>
<th>INTERACTION</th>
<th>MATERIALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Act 1a** | T introduces the topic of the lesson. Ls share what they know about missions to Mars. Ls watch part of a video (state-of-the-art rockets launched to Mars etc) | -to introduce and generate interest in the topic  
-tot activate relevant content schemata | 10min | Listening  
Speaking | T-Ls | Worksheets | Projector  
PC/Laptop |
| **Act 1b** | Ls read an article about colonizing Mars and answer a set of questions. | -to make form-meaning mappings  
-tot produce the target  
-tot make form-meaning mappings  
-tot develop metalinguistic knowledge of the target forms | 20min | Reading  
some Writing | T-Ls | - | - |
| **Act 2** | Ls read some people’s thoughts on colonizing Mars. T reminds Ls of the typology of the target forms. Ls fill in the blanks using the target forms. Ls decide whether they are in favour or against colonization. | -to make form-meaning mappings  
-tot produce the target  
-tot make form-meaning mappings  
-tot develop metalinguistic knowledge of the target forms | - | - | T-Ls | - | - |
<table>
<thead>
<tr>
<th>PROCEDURES</th>
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<th>INTERACTION</th>
<th>MATERIA LS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act 3a</td>
<td>Ls look at NASA’s posters and imagine we had already colonized Mars. Ls answer the questions and discussion follows. T writes down Ls thoughts on the whiteboard. T explains that Ls need to use the target forms.</td>
<td>30min</td>
<td>Speaking Reading some Writing</td>
<td>T-Ls</td>
<td>Worksheets</td>
<td>-</td>
</tr>
<tr>
<td>Act 3b</td>
<td>Ls read seven short texts and fill in the blanks using the target forms. Ls match the short texts to the pictures. <strong>Whole class feedback.</strong> T resorts to overt corrective feedback whenever Ls produce inaccurate forms. T provides metalinguistic explanations about forming counterfactual conditionals explicitly.</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Act 4</td>
<td>Ls imagine what life would be like on Mars if people had already colonized it. T explains they must use the target forms. Ls exchange ideas with their partner and work together to write a short paragraph: ‘What if we had colonized Mars?’. Then, Ls present their ideas to their classmates. <strong>T moves around the classroom and listens to Ls’ exchanges. T supervises and intervenes as necessary. T resorts to overt corrective feedback when Ls produce inaccurate counterfactual conditional forms. T gives explicit explanations about forming counterfactual conditionals.</strong></td>
<td>30</td>
<td>Speaking Writing</td>
<td>Ls-Ls</td>
<td>Worksheets</td>
<td>-</td>
</tr>
</tbody>
</table>
Appendix X: Implicit Group – Counterfactual Conditionals – Lessons Plans

**Lesson Plan 1**: Grammar - *Implicit* Focus on Form  
**Subject**: counterfactual conditionals  
3rd/2nd unreal past-unreal present perspective  
*if + past perfect simple --- > would/could/might + infinitive*  
3rd/2nd unreal past-unreal present perspective  
*if + past simple --- > would/could/might + have + past participle*

**Date**: February 2020  
**Duration**: 90min  
**Level**: A2 Waystage  

**T**: Teacher  
**Ls**: Learners  
**Act**: Activity

<table>
<thead>
<tr>
<th>PROCEDURES</th>
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<th>INTERACTION</th>
<th>MATERI ALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Act 1**  | T introduces the topic of the lesson. Ls share what they know about Mars. Ls listen to two songs conveying information/facts about Mars and sing along.  
-t to introduce and generate interest in the topic  
-t to activate relevant content schemata | 10min | Listening some Speaking | T-Ls | Worksheets | Projector PC/Laptop |
| **Act 2**  | Ls read an article about Mars and decide if the statements are true or false. Ls justify their answers relying on information found in the article.  
-t to notice the target form in written discourse  
-t to process the target form for meaning  
-t to make form-meaning mappings  
-t to possibly induce the rule for counterfactual conditionals | 20 min | Reading | T-Ls | - | - |

**Aim**:  
- to teach form implicitly  
- to assist learners in internalizing counterfactual conditional forms implicitly  
- to enhance learners’ accurate production and comprehension of counterfactual conditional forms

**Objectives**: the learners will:  
- notice the mixed conditional forms in written discourse  
- comprehend mixed conditionals as they appear in written and oral discourse  
- use mixed conditional forms to communicate meaning
<table>
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<tr>
<th>PROCEDURES</th>
<th>OBJECTIVES</th>
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<th>INTERACTION</th>
<th>MATERIA LS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| **Activity 3a Whole class:** Ls read an article about the four Mars Rovers. They read the statements and decide whether they agree or disagree. Ls justify their answers relying on information found in the text. | -to scan the text for specific information  
- to make form-meaning connections  
- to help learners notice the target form in (their own)written and oral discourse and notice the gap between their form and teacher’s recasts  
- to produce the target form in short sentences  
- to engage in negotiation of meaning  
- to engage in peer scaffolding | 40min | Reading some Writing | T-Ls | Worksheets | - |
| **Act 3b Pair-Work:** Ls choose a Rover and after spotting information about something this Rover helped scientist with, they write down sentences (in the form of a quiz) using the target forms. Ls imagine a different situation i.e., what it is we would not know, if we hadn’t sent this Rover to Mars. **Example:** *If scientists hadn’t sent this rover to Mars, we wouldn’t know what Martian rocks and dirt are made of. Which Rover is it?*  
Also, Ls spot a characteristic a Rover has and imagine what would have happened if the Rover didn’t have this characteristic: **Example:** *If this rover didn’t have cameras that function as eyes, it might have not have spotted dangers as it drove around Mars, so it might have been destroyed. Which Rover is it?* |  |  |  |  |  |  |
<p>| T models thinking aloud and writes the examples on the whiteboard. Ls work in pairs and prepare more sentences. <strong>T goes around class and listens to learners, supervising and intervening as necessary and providing recasts if they produce inaccurate forms.</strong> |  |  |  |  |  |  |</p>
<table>
<thead>
<tr>
<th>PROCEDURES</th>
<th>OBJECTIVES</th>
<th>TIME</th>
<th>INTEGRATED SKILLS</th>
<th>INTERACTION</th>
<th>MATERIALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
</table>
| Act 3 Ls do a game-like activity. They put their sentences in a box. They take turns and pick out a sentence and read it out to the other pair. Each pair keeps the question they answer in time (use a hourglass); otherwise, they put it back in the box. The pair that answers more questions wins. | -to produce the target form to communicate meaning inherent in the counterfactual conditional forms  
-notice the counterfactual conditional form in oral and written discourse  
-to engage in a game-like activity | 20 | Speaking  
Listening  
some Reading | Ls-Ls | Worksheet  
a small box  
a timer or hourglass | - |

T resorts to recasts when Ls produce inaccurate counterfactual conditional forms. T does not give any explicit explanations about forming mixed conditionals.
Lesson Plan 2: Grammar - *Implicit* Focus on Form  
**Subject:** counterfactual conditionals – 2nd/3rd unreal present-unreal past perspective  
*if + past simple --- > would/could/might + have + past participle*  
*if + past perfect simple --- > would/could/might + infinitive*  

**Date:** February 2020  
**Duration:** 90min  
**Level:** A2 Waystage  

<table>
<thead>
<tr>
<th><strong>PROCEDURES</strong></th>
<th><strong>OBJECTIVES</strong></th>
<th><strong>TIME</strong></th>
<th><strong>INTEGRATED SKILLS</strong></th>
<th><strong>INTERACTION</strong></th>
<th><strong>MATERIALS</strong></th>
<th><strong>TEACHING AIDS</strong></th>
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</thead>
</table>
| **Act 1** T introduces the topic of the lesson (humans on Mars/terraforming) and prompts discussion on the reasons why humans want to go to Mars. T writes Ls’ ideas on the whiteboard. Ls watch a video presenting some reasons to confirm/refute and update their list of reasons. | - introduce and generate interest in the topic  
- activate relevant content schemata | 15min | Speaking  
Listening  
some Writing | T-Ls | Worksheets | Projector/PC or Laptop |
| **Act 2a** T prompts Ls to discuss why humans have *not* set foot on Mars yet. Ls read a text which presents the reasons why we have not set foot on Mars yet.  
**Act 2b** Ls read some statements which relate to the information in the article and decide whether they agree or disagree. T asks Ls to underline the parts of the text which they believe to justify their answers. | - activate relevant knowledge  
- make confirm/refute predictions  
- help Ls notice the counterfactual conditional forms  
- expose Ls to positive evidence  
- scan the text for specific information  
- cause Ls to process the target form for meaning  
- possibly induce the rule for counterfactual conditionals | 20min | some Speaking  
Reading | T-Ls | Worksheets | - |
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</table>
| **Activity 3a** T prompts *discussion* on the topic of terraforming Mars. Ls share their opinions with the class (whether it is possible and how it could be done). T writes notes on the whiteboard. Before reading, T refers Ls to the *glossary* at the end of the lesson. Ls read the descriptions/definitions. T explains the concepts and makes sure Ls get a clear understanding of them. Ls might come up with more ideas on terraforming Mars. T updates their list. Then, Ls *read* the article on terraforming Mars and check if their ideas are mentioned in the text. | - activate background knowledge/schemata  
- create some background knowledge to facilitate reading comprehension  
- to pre-teach some difficult lexical items | 25min  | some Speaking Reading     | T-Ls        | Worksheets  | -             |
| **Act 3b** T writes the unfinished sentences on the whiteboard. T resorts to modeling: s/he *thinks-aloud* as s/he scans the text, spots some relevant information, modifies it and completes the sentences. Example: *Scientists might have never thought about terraforming Mars if they didn't know there used to be water on Mars. If Mars's atmosphere hadn't escaped into space, it would still have water.*  
**Individual Work** – Ls use information from the article to complete the two sentences. Ls take some notes as they try to come up with as many different endings as they can.  
**Whole class feedback follows.**  
**T resorts to recasts when Ls produce inaccurate mixed conditional forms. T also rephrases Ls’ ideas when they avoid using the target form.** | - skim the text to find relevant information  
- use the information to produce short written sentences which require them to use the target form  
- facilitate Ls’ making form-meaning mappings | 15min  | Reading some writing      | T-Ls        | Worksheets  | -             |
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<tbody>
<tr>
<td><strong>Act 3c Pair-Work:</strong> T present Ls with the incomplete sentence: ‘We might have already sent people to Mars if ....’ Ls work in pairs and come up with and write down as many endings as possible. Then, the pairs take turns and read out their complete sentences. The pair that cannot come up with a new complete sentence loses. <strong>T goes around class and listens to Ls sentences. T supervises and intervenes as necessary. T resorts to recasts when Ls produce inaccurate counterfactual conditional forms. T also rephrases Ls’ ideas when they avoid using the target form. T does not give any explicit explanations about forming mixed conditionals.</strong></td>
<td>- produce the target form to communicate meaning inherent in the counterfactual conditional form - help learners notice the mixed conditional form in their oral and written discourse - engage in a game-like activity - engage in negotiation of meaning - make form-meaning connections - engage in peer scaffolding</td>
<td>15</td>
<td>some Writing some Reading Speaking Listening</td>
<td>Ls-Ls</td>
<td>Worksheet</td>
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**Lesson Plan 3: Grammar - Implicit Focus on Form**

**Subject:** mixed conditionals
3rd/2nd unreal past-unreal present perspective
if + past perfect simple --- > would/could/might + infinitive
3rd/2nd unreal past-unreal present perspective
if + past simple --- > would/could/might + have + past participle

**Date:** February 2020
**Duration:** 90min
**Level:** A2 Waystage

**T:** Teacher  **Ls:** Learners  **Act:** Activity

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<th>MATERI ALS</th>
<th>TEACHING AIDS</th>
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</thead>
<tbody>
<tr>
<td><strong>Act 1a</strong></td>
<td>T introduces the topic of the lesson. Ls share what they know about missions to Mars. Ls watch part of a video (state-of-the-art rockets launched to Mars etc)</td>
<td>10min</td>
<td>Listening, Speaking</td>
<td>T-Ls</td>
<td>Worksheets</td>
<td>Projector PC/Laptop</td>
</tr>
<tr>
<td><strong>Act 1b</strong></td>
<td>Ls read an article about colonizing Mars and answer a set of questions.</td>
<td>10min</td>
<td>Reading</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Act 2a</strong></td>
<td>Ls read some people’s thoughts on colonizing Mars and decide whether they are in favour or against colonization.</td>
<td>20min</td>
<td>Reading, Speaking</td>
<td>T-Ls</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Act 2b</strong></td>
<td>Ls share with class their own opinions.</td>
<td>20min</td>
<td>-</td>
<td>-</td>
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</table>

**Aim:**
- to teach form implicitly
- to assist learners in internalizing counterfactual conditional forms implicitly
- to enhance learners’ accurate production and comprehension of counterfactual conditional forms

**Objectives:** the learners will:
- notice the counterfactual conditional forms in written discourse
- comprehend counterfactual conditionals as they appear in written and oral discourse
- use counterfactual conditional forms to communicate meaning
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<th>INTERACTION MATERIALS</th>
<th>TEACHING AIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Act 3a</td>
<td>Ls look at NASA’s posters and imagine we had already colonized Mars. Ls answer the questions and discussion follows. T writes down Ls thoughts on the whiteboard. T rephrases Ls utterances whenever they avoid using the target form. Act 3b Ls seven short texts and match them to the pictures. Ls compare the ideas in the texts with their own thoughts/ideas (discussion Act 1a) T resorts to recasts when Ls produce inaccurate counterfactual conditional forms and rephrases when they avoid using the target forms. T does not give any explicit explanations about forming counterfactual conditionals.</td>
<td>30min</td>
<td>Speaking Reading</td>
<td>T-Ls</td>
<td>Worksheets</td>
</tr>
<tr>
<td></td>
<td>-to help learners notice the target form in written and oral discourse and - to make form-meaning connections -to use the target form to communicate meaning -to notice the gap between their output and the input</td>
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<tr>
<td>Act 4</td>
<td>Ls imagine what life would be like on Mars if people had already colonized it. Ls exchange ideas with their partner and work together to write a short paragraph: ‘What if we had colonized Mars?’ Then, Ls present their ideas to their classmates. T moves around the classroom and listens to Ls’ exchanges. T supervises and intervenes as necessary. T resorts to recasts when Ls produce inaccurate counterfactual conditional forms. T does not give any explicit explanations about forming mixed conditionals.</td>
<td>30</td>
<td>Speaking Writing</td>
<td>Ls-Ls</td>
<td>Worksheets</td>
</tr>
<tr>
<td></td>
<td>-to produce the target form to communicate meaning inherent in the counterfactual conditional forms -notice the counterfactual conditional form in oral and written discourse -to engage in negotiation of meaning - to engage in peer scaffolding</td>
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Appendix XI: Oral Production Test: Modal Perfect

**Instructions:** Look at the pictures and the statement above and suggest what may/might/should/could/must/ have happened.

**Example**

She didn’t buy her grandma a birthday present because she didn’t have any money.
Was there a possible solution to her problem?

Possible answers: She could have picked up some flowers for her.
She could have offered her some flowers.
Question 1

This woman has been late for work. Can you explain why?

She may have got up late.
She might have missed the bus.

Question 2

The driver had a car accident. What was his mistake?

He should have stopped at the red light.
He shouldn’t have passed the red light.
He could have stopped at the red right.
Question 3
What is happening?

They are working on a project

Question 4
What do you think almost certainly happened?

He must have left his umbrella at home/the office.
He must have got soaking wet.
Question 5

Her car broke down. She didn’t go to work. Was there a possible solution to her problem?

She could have taken the bus to work.

Question 6

The cyclist is wearing a hood. What do you think almost certainly he didn’t do before crossing the street?

He can’t have seen the car coming.
He can’t have checked before crossing the street.
The car driver can’t have managed to stop the car.
Question 7

She wanted to help with the chores. What was her mistake?

She shouldn’t have broken the dish.
She shouldn’t have washed the dishes by herself.

Question 8

What is happening?

They are buying souvenirs.
They are shopping.
Question 9
There was a cat around. What do you think almost certainly happened?

The cat must have eaten the fish.
The cat must have been hungry.

Question 10
She didn’t buy any clothes. Can you explain why?

The clothes might have been too expensive.
She might not have liked anything.
She might have not had enough money.
Question 11
She failed the test. What do you think almost certainly didn’t happen the previous day?

She can’t have studied hard for the test.
She can’t have been well-prepared

Question 12
What is happening?

Children are taking part in a carnival parade.
Question 13

The fridge was empty, so they didn’t have dinner. Was there a possible solution to their problem?

They could have eaten out in a restaurant.  
They could have pizza delivered to their house.  
They could have made a small omelet.

Question 14

The football match is over.  
What do you think almost certainly didn’t happen?

Their favourite team can’t have lost the match.  
they can’t have felt disappointed.
Question 15
She burnt the food. What was her mistake?

She shouldn’t have answered the phone.

Question 16
What is happening?

A man is working in a factory.
He is making chocolate cakes.
Question 17
She has just had a job interview. What do you think almost certainly happened?

She must have got the job.
They must have hired her.

Question 18
What is happening?

A man and a boy are planting a tree.
Question 19
A neighbour lost his cat. What was a possible solution to his problem?

He could have closed the window.
He could have watched the cat.

Question 20
He is scared. Can you explain why?

He might have seen a ghost.
He may have seen a snake.
He could have forgotten about an important meeting.
Appendix XII: Oral Production Test - Counterfactual Conditionals

Instructions: Look at the sentences and the statement above. Imagine a different situation. Use an if-conditional sentence and suggest how things could be or could have been different.

Example

She loves fruit. She bought lots of it.

Possible answers: She wouldn’t have bought so much fruit if she didn’t love it.
She wouldn’t have bought so much fruit if she disliked it.
If she didn’t like fruit, she wouldn’t have bought so much.
Question 1
The woman went skiing last weekend. She feels sick now.

If she hadn't gone skiing last weekend, she wouldn't feel sick now.

Question 2
The man was late for work. His boss is angry with him now.

If he hadn't been late for work, his boss wouldn't be angry.
Question 3
They like pizza. They ordered lots of pizzas.

If they didn’t like pizza, they wouldn’t have ordered so many pizzas.

Question 4
Let’s now do some picture description. What can you see here?

They are fixing/repairing cars.
Question 5
They are at a swimming centre. What are they doing?

They are playing polo.

Question 6
He studied really hard when he was young. He is a scientist now.

Answer: If he hadn’t studied hard when he was younger, he wouldn’t be a scientist now.
Question 7
She is afraid of spiders. She didn’t sleep last night.

If she weren’t afraid of spiders, she would have slept last night.

Question 8
She doesn’t have a swimsuit. She didn’t dive into the pool.

If she had a swimsuit, she would/might/ could have dived into the pool too.
Question 9

Ok, now let’s have some more description. What can you see here?

They are celebrating someone’s birthday.
They are having fun at a birthday party.

Question 10

What can you see here?

They are feeding the animals.
Question 11
He has a broken leg. He didn’t play in yesterday’s match.

If he didn’t have a broken leg, he would have played in yesterday’s match.

Question 12
She left a key under the doormat. There is a burglar in her house now.

If she hadn’t left a key under the door mat, there might not/ wouldn’t be any burglar in her house now.
Question 13
She doesn’t know how to bake croissants. She burned them.

If she knew how to bake croissants, she wouldn’t have burnt them.

Question 14
He didn’t sleep well last night. He feels tired today.

If he had slept better/well last night, he wouldn’t feel tired today.
Question 15

He is fast runner. He won a gold medal.

If he weren’t a fast runner, he wouldn’t have got a gold medal.

Question 16

Here some more description. What can you see?

They are riding camels.
They are going to/visiting the pyramids.
Question 17

She fed the baby. The baby is happy.

If she hadn’t fed the baby, he/she wouldn’t be happy.

Question 18

They are at a supermarket. What are they doing?

They are shopping.
They are buying tomatoes.
Question 19
She takes good care of her garden every day. The flowers have grown very tall.

If she didn’t take good care of her garden every day, the flowers would/might not have grown so tall.

Question 20
He stole some money. He is in prison now.

If he hadn’t stolen the money, he wouldn’t be in prison now.
Appendix XIII: Written Production Test– Modal Perfect

**Instructions:** Complete the sentences using an appropriate modal verb (must/can’t/ should/ might/may/ could/would) and the correct form of the verb in the brackets.

Example: I can’t find the theatre tickets. I think I ......................... (leave) them at home.

I can’t find the theatre tickets. I think I **might have left** (leave) them at home.

1. You shouldn’t have talked (talk) to him like that! You’ve hurt his feelings.
2. He isn’t sure if he will be home for dinner. He may/might/could be (be) home late tonight.
3. They **may/could/might have got** (get) in through the back door but I’m not sure.
4. Harry didn’t enter the competition. He may/could/might not have known (not know) about it.
5. I may/might/could take up (take up) karate, but I’m not sure yet.
6. The door was closed. The dog can’t have run (run away).
7. Some people think she may/might/could have left (leave) the country but no one really knows where she is.
8. She got an A in the test. She must feel (feel) very excited today.
9. He isn’t well. He shouldn’t/may/might not (not play) basketball tomorrow.
10. He was cold during the night. He should (or could) have made (make) a fire to get warm.
11. She smiled so she must have thought (think) my joke was funny.
12. Why don’t you ask my brother? He may/might/would help (help) you. He’s good at maths!
13. He had lots of free time. He could have trained (train) harder for the race, but he didn’t.
14. This man can’t be (be) a police officer. Look! He doesn’t wear a uniform.
15. He can’t have prepared (prepare) this delicious meal. He doesn’t know how to cook.
16. She could/would have become (become) a great singer but she decided to study Maths instead.
17. You must/should stop (stop) eating fast food. It’s not good for you.
18. I saw her driving in town yesterday. She must have passed (pass) her driving test.
19. People mustn’t use (not use) their mobile phones while driving. It’s not allowed by law.
20. I might/could/may have forgotten (forget) to turn off the lights. I’m not sure. Can you check?
Appendix XIV: Written Production Test – Counterfactual Conditionals

1. My neighbours don’t speak to me anymore. I’m sure they would speak (speak) to me if I hadn’t called (not call) the police when they had their party last month.

2. If he had studied (study) in university back then, I guess he would have (have) a better-paid job now.

3. He has been at the police station all night. If he hadn’t driven (not drive) so dangerously, he wouldn’t be (not be) in trouble with the police now.

4. If I had (have) wings, I would/could fly (fly).

5. Taking an aspirin sometimes helps! If she had taken (take) one when she came home, as I told her, I bet she wouldn’t have (not have) this terrible headache now.

6. If I won (win) the lottery today, I would/could help (help) I homeless people.

7. He wouldn’t have (not have) a broken leg now if he hadn’t climbed (not climb) that tall tree at the park yesterday. He will have to stay in bed for almost a month.

8. I live in Los Angeles, but if I lived (live) in New York, I would visit (visit) Central Park every day.

9. I am sorry for what I did. I really want to apologise to her. I would try (try) calling her today if she hadn’t told (not tell) me she didn’t want to hear from me again.

10. Most certainly, we would need (need) to drive all the way back to town now if you hadn’t brought (not bring) a first-aid kit. We’ve got everything we need thanks to you!

11. I’ve always been good at sports, especially basketball. I’m sure that if I were/was (be) taller, I would/could have become (become) a basketball player. Well, I am a PE teacher instead, but I’ve never given up playing.

12. These plants look terrible. If we don’t water (not water) them today, they will die (die). I’ll go get some water at once.

13. I will/can/should/mat/might go (go) to the supermarket tomorrow if I finish (finish) work early.

14. Don’t worry about our son! He’s fine! If he needed (need) us now that he lives alone, he would have asked (ask) us to help him, but he hasn’t.

15. I think the coach thinks you’re a good player! If he didn’t believe (not believe) you play well, he wouldn’t have asked (not ask) you to play in the finals last month.

16. I’m not so sure but I think they might have allowed (allow) us to rent the flat in the city centre if we didn’t own (not own) a dog. Perhaps the neighbours don’t want pet dogs in the building.
17. I can tell she loves cooking! She wouldn’t have spent (not spend) the whole day preparing this huge meal if she didn’t like (not like) cooking. She has even baked biscuits, a cake and an apple pie!

18. Sadly, they only have evening classes! If they offered (offer) morning classes as well, I would have started (start) Spanish lessons at this school last September. Everyone says it’s the best school in town.

19. He has always dreamt about living in a huge house. It’s certain that he would have already bought (buy) a larger one if he earned (earn) more money, but he only makes 700 euros a month.

20. If it rains (rain) tonight, we won’t go (not go) out. You can come over to my house! We could watch a movie.
Appendix XV: Timed Grammaticality Judgement Test – Modal Auxiliary Verbs

1. He looks sad. He must have heard the bad news.
2. He could have won a medal but he had an accident.
3. I’m not sure why she’s late. She must miss her flight.
4. You should have told the teacher you hadn’t completed your project.
5. He might have known the answer but he didn’t say anything.
6. I’m not sure why he hasn’t shown up yet. He could have got lost.
7. They can’t have failed. They have been studying hard for weeks.
8. She may already seen your email. Who knows?
9. She hasn’t called me yet. She could have forgotten about our meeting.
10. She hasn’t come to school for a week. She must have been ill.
11. She could have passed the exam but she was really tired.
12. They should have called the police when they saw the burglar.
13. She is getting married. She can have felt really happy.
14. They must have sent us an email, but they didn’t.
15. He could have arrived in Athens yesterday but I’m not sure.
16. You shouldn’t have seen her ten minutes ago. She is in Paris.
17. She’s two hours late. She could have told us she would be late.
18. They look sad. They can’t have won the football match.
19. She may have come to see you but she didn’t know you were in hospital.
20. She shouldn’t have walked into the mountain cave by herself.
21. She is not in her office. She may not get to work yet.
22. He is very kind. He can’t have talked to his teacher so rudely.
23. They must have done well in the test. They look so happy!
24. I feel sick. I mustn’t have eaten so much chocolate cake last night.
Appendix XVI: Timed Grammaticality Judgement Test – Counterfactual Conditionals

1. If she had taken mum’s jacket without asking, she would be in trouble now.
2. If they bought that cottage back in 2000, they would live in the forest now.
3. If you weren’t so rude with people, I would have invited you to yesterday’s party.
4. If you are more patient, you wouldn’t have left without me.
5. If they had left home earlier this morning, they would have been in London now.
6. My stomach would still hurt if I hadn’t taken my pills.
7. If he owned a boat, he would take us on a boat ride yesterday.
8. I would have told you where to find him if I knew where he is hiding.
9. If they saved some money last year, they would be able buy a car this year.
10. You wouldn’t have felt sick now if you had gone to bed earlier last night.
11. If we have money, we would have moved to bigger house years ago.
12. If I had more free time, I could have already taken up karate.
13. If he drove more carefully, I would get into his car last night.
14. If I didn’t love you, I wouldn’t have asked you to marry me last year.
15. If he hadn’t met his wife two years ago, he wouldn’t have lived in France now.
16. I might have given you some advice yesterday if I knew what is best for you, but I don’t.
17. She might have joined us at the pizzeria last night if she had eaten pizza, but she hates it.
18. He would take part in the game last night if he knew how it is played.
19. We wouldn’t be lost if you had taken a map as I told you.
20. If we hadn’t met at that party, we wouldn’t be friends now.
21. If he hadn’t danced at the party last night, his legs wouldn’t have hurt now.
22. He would have helped you if he were a true friend.
23. If he had accepted that job when he was younger, he could be rich now.
24. He wouldn’t have this dog now if I hadn’t given him one of the puppies.
Appendix XVII: Untimed Grammaticality Judgement Test – Counterfactual Conditionals

Instructions: Read the sentences carefully.

a) Decide if they are grammatical or ungrammatical and put a tick in the appropriate box.
Grammatical: Γραμματικά Σωστές  Ungrammatical: Γραμματικά Λάθος

b) Decide if your answer is based on guess, intuition, memory, or rule and circle the appropriate option. Circle ‘I don’t know’ if you are not sure.

Guess: Μαντεψιά  όταν αποφασίζω εντελώς στην τύχη, όπως όταν ρίχνω ένα κέρμα κορόνα ή γράμματα
Intuition: Διαίσθηση  όταν κάτι μέσα μου ‘μου λέει’ ότι αυτό είναι σωστό ή λάθος, αλλά δεν μπορώ να εξηγήσω για ποιον λόγο
Memory: Μνήμη  όταν η πρόταση κάτι μου θυμίζει, όταν θυμάμαι ότι το έχω δει κάποιος κανόνας που ξέρω
Rule: Κανόνας  όταν ξέρω ότι είναι σωστό ή λάθος επειδή έτσι λέει κάποιος κανόνας που ξέρω

Very confident: Πολύ Σίγουρος
Confident: Σίγουρος
Somewhat confident: Κάπως σίγουρος
Not confident at all: Καθόλου Σίγουρος
I don’t know: Δεν ξέρω
| 0 | Practice Example:  
He don’t like dancing at parties.  
Correct Answer: He doesn’t like dancing at parties. | Πρόταση | Grammatical Σωστό | Ungrammatical Λάθος | Source Attribution Λόγος | Confidence Σιγουριά |
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<td>καθόλου σίγουρος</td>
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<td>6</td>
<td>I would still be in pain if I hadn’t taken my medicine.</td>
<td>μαντεψιά</td>
<td>guess</td>
<td>πολύ σίγουρος/η</td>
<td>very confident</td>
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<td>7</td>
<td>If he owned a boat, he would take us on a boat ride yesterday.</td>
<td>μαντεψιά</td>
<td>guess</td>
<td>πολύ σίγουρος/η</td>
<td>very confident</td>
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<td>I don’t know</td>
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<td>I don’t know</td>
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<td>8</td>
<td>I would have told you where to find him if I knew where he is hiding.</td>
<td>μαντεψιά</td>
<td>guess</td>
<td>πολύ σίγουρος/η</td>
<td>very confident</td>
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<td>not confident at all</td>
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<td></td>
<td></td>
<td>δεν ξέρω</td>
<td>I don’t know</td>
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<td>I don’t know</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>If they saved some money last year, they would be able buy a car this year.</td>
<td>μαντεψιά</td>
<td>guess</td>
<td>πολύ σίγουρος/η</td>
<td>very confident</td>
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<td></td>
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<td>διαίσθηση</td>
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<td>δεν ξέρω</td>
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<td>Sentence Πρόταση</td>
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<td>Confidence Σιγουριά</td>
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<tr>
<td>10 You wouldn’t have felt sick now if you had gone to bed earlier last night.</td>
<td>μαντεψιά διαίσθηση</td>
<td>guess intuition memory rule I don’t know</td>
<td>πολύ σίγουρος/η σίγουρος/η κάπως σίγουρος/η καθόλου σίγουρος δεν ξέρω</td>
<td>very confident confident somewhat confident not confident at all I don’t know</td>
<td></td>
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</tr>
<tr>
<td>11 If we have money, we would have moved to bigger house years ago.</td>
<td>μαντεψιά διαίσθηση</td>
<td>guess intuition memory rule I don’t know</td>
<td>πολύ σίγουρος/η σίγουρος/η κάπως σίγουρος/η καθόλου σίγουρος δεν ξέρω</td>
<td>very confident confident somewhat confident not confident at all I don’t know</td>
<td></td>
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<tr>
<td>12 If I had more free time, I could have already taken up robotics.</td>
<td>μαντεψιά διαίσθηση</td>
<td>guess intuition memory rule I don’t know</td>
<td>πολύ σίγουρος/η σίγουρος/η κάπως σίγουρος/η καθόλου σίγουρος δεν ξέρω</td>
<td>very confident confident somewhat confident not confident at all I don’t know</td>
<td></td>
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</tr>
<tr>
<td>13 If he drove more carefully, I would get into his car last night.</td>
<td>μαντεψιά διαίσθηση</td>
<td>guess intuition memory rule I don’t know</td>
<td>πολύ σίγουρος/η σίγουρος/η κάπως σίγουρος/η καθόλου σίγουρος δεν ξέρω</td>
<td>very confident confident somewhat confident not confident at all I don’t know</td>
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<tr>
<td>14 If I didn’t love you, I wouldn’t have asked you to marry me last year.</td>
<td>μαντεψιά διαίσθηση</td>
<td>guess intuition memory rule I don’t know</td>
<td>πολύ σίγουρος/η σίγουρος/η κάπως σίγουρος/η καθόλου σίγουρος δεν ξέρω</td>
<td>very confident confident somewhat confident not confident at all I don’t know</td>
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<td>15   If he hadn’t met his wife two years ago, he wouldn’t have lived in France now.</td>
<td>μαντεψιά</td>
<td>guess</td>
<td>intuition</td>
<td>ισχυρό/η</td>
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<td>16   She might have helped you if she spoke Spanish.</td>
<td>διαίσθηση</td>
<td>guess</td>
<td>intuition</td>
<td>ισχυρό/η</td>
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<td>17   She might have joined us at the restaurant yesterday if she had eaten Chinese food, but she hates it.</td>
<td>μνήμη</td>
<td>guess</td>
<td>memory</td>
<td>ισχυρό/η</td>
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<td>18   She would play chess yesterday if she knew how it is played.</td>
<td>κανόνας</td>
<td>guess</td>
<td>rule</td>
<td>ισχυρό/η</td>
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<td>19   We wouldn’t be lost if you had taken a map as I told you.</td>
<td>δεν ξέρω</td>
<td>I don’t know</td>
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<tr>
<td>20 If we hadn’t met at that party, we wouldn’t be friends now.</td>
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<td>πολύ σίγουρος/η</td>
<td>very confident</td>
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<td>καθόλου σίγουρος</td>
<td>not confident at all</td>
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<td>δεν ξέρω</td>
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<td>21 If he hadn’t danced at the party last night, his legs wouldn’t have hurt now.</td>
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<td>22 He would have helped you if he were a true friend.</td>
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<td>23 If he had accepted that job when he was younger, he could be rich now.</td>
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<td>πολύ σίγουρος/η</td>
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<td>δεν ξέρω</td>
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<td>24 He wouldn’t have this job now if I hadn’t prepared him for that interview.</td>
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<td>πολύ σίγουρος/η</td>
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<td>δεν ξέρω</td>
<td>I don’t know</td>
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</table>
Appendix XVIII: Untimed Grammaticality Judgement Test – Modal Perfect

Instructions: Read the sentences carefully.

a) Decide if they are grammatical or ungrammatical and put a tick in the appropriate box.

**Grammatical**: Γραμματικά Σωστές  **Ungrammatical**: Γραμματικά Λάθος

b) Decide if your answer is based on guess, intuition, memory, or rule and circle the appropriate option. Circle ‘I don’t know’ if you are not sure.

**Guess**: Μαντεψιά  όταν αποφασίζω εντελώς στην τύχη, όπως όταν ρίχνω ένα κέρμα κορώνα ή γράμματα

**Intuition**: Διαίσθηση  όταν κάτι μέσα μου ‘μου λέει’ ότι αυτό είναι σωστό ή λάθος, αλλά δεν μπορώ να εξηγήσω για ποιον λόγο

**Memory**: Μνήμη  όταν η πρόταση κάτι μου θυμάμαι, όταν θυμάμαι ότι το έχω δει κάπου

**Rule**: Κανόνας  όταν ξέρω ότι είναι σωστό ή λάθος επειδή έτσι λέει κάποιος κανόνας που ξέρω

c) Decide how confident you are about your answer: very confident, confident, somewhat confident, not confident at all and circle the appropriate option. Circle ‘I don’t know’ if you are not sure.

**Very confident**: Πολύ Σίγουρος

**Confident**: Σίγουρος

**Somewhat confident**: Κάπως σίγουρος

**Not confident at all**: Καθόλου Σίγουρος

**I don’t know**: Δεν ξέρω
<table>
<thead>
<tr>
<th>Sentence Πρόταση</th>
<th>Grammatical Σωστό</th>
<th>Ungrammatical Λάθος</th>
<th>Source Attribution Λόγος</th>
<th>Confidence Σιγουριά</th>
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</thead>
<tbody>
<tr>
<td>Practice Example: I am go to the park every weekend.</td>
<td>μαντεψιά guess</td>
<td>διαίσθηση intuition</td>
<td>μνήμη memory</td>
<td>κανόνας rule</td>
</tr>
<tr>
<td>He looks tired. He must have go to bed late last night.</td>
<td>μαντεψιά guess</td>
<td>διαίσθηση intuition</td>
<td>μνήμη memory</td>
<td>κανόνας rule</td>
</tr>
<tr>
<td>He could have come first in the race but he had an accident.</td>
<td>μαντεψιά guess</td>
<td>διαίσθηση intuition</td>
<td>μνήμη memory</td>
<td>κανόνας rule</td>
</tr>
<tr>
<td>I’m not sure why she’s late. She must miss the bus.</td>
<td>μαντεψιά guess</td>
<td>διαίσθηση intuition</td>
<td>μνήμη memory</td>
<td>κανόνας rule</td>
</tr>
<tr>
<td>You should have told the teacher you hadn’t done your homework.</td>
<td>μαντεψιά guess</td>
<td>διαίσθηση intuition</td>
<td>μνήμη memory</td>
<td>κανόνας rule</td>
</tr>
<tr>
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<tr>
<td>5 He might have known the answer but he didn’t say anything.</td>
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<td>very confident confident somewhat confident not confident at all</td>
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<tr>
<td>6 I’m not sure why he hasn’t shown up yet. He could have got lost.</td>
<td></td>
<td></td>
<td></td>
<td>very confident confident somewhat confident not confident at all</td>
</tr>
<tr>
<td>7 They can’t have fail. They have been studying hard for weeks.</td>
<td></td>
<td></td>
<td></td>
<td>very confident confident somewhat confident not confident at all</td>
</tr>
<tr>
<td>8 She may already seen your email. Who knows?</td>
<td></td>
<td></td>
<td></td>
<td>very confident confident somewhat confident not confident at all</td>
</tr>
<tr>
<td>9 She hasn’t called me yet. She could have forgotten about our meeting.</td>
<td></td>
<td></td>
<td></td>
<td>very confident confident somewhat confident not confident at all</td>
</tr>
<tr>
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<tr>
<td>10 She hasn’t come to school for a week. She must have been ill.</td>
<td>μαντεψια</td>
<td>διαίσθηση</td>
<td>μνήμη</td>
<td>κανόνας</td>
</tr>
<tr>
<td>11 She could have done better in the exam but she was really tired.</td>
<td>μαντεψια</td>
<td>διαίσθηση</td>
<td>μνήμη</td>
<td>κανόνας</td>
</tr>
<tr>
<td>12 They should have call the police when they saw the burglar.</td>
<td>μαντεψια</td>
<td>διαίσθηση</td>
<td>μνήμη</td>
<td>κανόνας</td>
</tr>
<tr>
<td>13 She is getting married. She can have felt really happy.</td>
<td>μαντεψια</td>
<td>διαίσθηση</td>
<td>μνήμη</td>
<td>κανόνας</td>
</tr>
<tr>
<td>14 They must have sent us an email, but they didn’t.</td>
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<td>διαίσθηση</td>
<td>μνήμη</td>
<td>κανόνας</td>
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Appendix XIX: SPSS Results – Written Production Test

T-Test

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b. t cannot be computed because the standard deviations of both groups are 0.
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Paired Samples Test

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Paired Samples Test

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T-Test

Group 1 = Implicit

Paired Samples Statistics

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## Appendix XX: SPSS Results – Oral Production Test

### T-Test

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**Independent Samples Test**

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### Independent Samples Test

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T-TEST PAIRS=IMPmean DMPmean WITH DMPmean DMCmean (PAIRED)
### Paired Samples Test

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**Paired Samples Test**

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**COMPUTE filter_$/=$ (group = 1).**

**T-Test**

288
### Paired Samples Statistics

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### Paired Samples Test

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### Paired Samples Statistics

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Appendix XXI: SPSS Results – Timed Grammaticality Judgement Test

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**Independent Samples Test**

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T-TEST PAIRS=IMP_mean DMP_mean IMC_mean WITH DMP_mean IMC_mean DMC_mean (PAIRED)
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**T-Test**

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**Paired Samples Test**

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### Paired Samples Test

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**COMPUTE filter_$=(group = 2).**

### T-Test

### Paired Samples Statistics

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### Paired Samples Test

<p>|              | Paired Differences |            |            |            |            |            |
|--------------|--------------------|------------|------------|------------|------------|
|              |                    | Std. Mean  | Std. Error | Mean       | Lower      |
| IMP_mean -   | 0.2125             | 0.4250     | 0.2125     | -0.4638    |
| DMP_mean     | 0.0500             | 0.0913     | 0.0456     | -0.0953    |
| IMC_mean -   | 0.0500             | 0.1000     | 0.0500     | -0.1091    |</p>
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### Appendix XXII: SPSS results – Untimed Grammaticality Judgement Test

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### T-Test

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DMPdnotknow Equal variances assumed  | 1.000 | 0.356 | 0.655 | 0.537  | 0.2500 | 0.3819 | -0.6844  | 1.1844

Equal variances not assumed  | 0.655 | 5.880 | 0.537  | 0.2500 | 0.3819 | -0.6891 | 1.1891

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| IMCQ1 8 | Equal variances not assumed | 0.000 | 4.000 | 0 | 1.000 | 0.0000 | 0.4714 | -1.3088 |
| IMCQ2 1 | Equal variances not assumed | 0.000 | 4.000 | 0 | 1.000 | 0.0000 | 0.4714 | -1.3088 |
| IMCQ2 2 | Equal variances not assumed | 0.000 | 4.000 | 0 | 1.000 | 0.0000 | 0.4714 | -1.3088 |

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T-TEST PAIRS=

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IMCmean WITH DMPmean

IMCmean DMCmean (PAIRED)
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<th>Paired Differences</th>
<th>95% Confidence</th>
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(group = 2).

Paired Samples Statistics

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**Paired Samples Test**

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**Paired Samples Test**

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Paired Samples Statistics

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COMPUTE filter_$=(group = 1).

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### Paired Samples Correlations

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<tr>
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<td>5</td>
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### Paired Samples Test

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<th>Std. Error Mean</th>
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## Paired Samples Test

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### Paired Samples Test

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USE ALL.

COMPUTE filter_$=(group = 2).

VARIABLE LABELS filter_$ 'group = 2 (FILTER').

FORMATS filter_$(f1.0).
## Paired Samples Statistics

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</table>
a. The correlation and t cannot be computed because the standard error of the difference is 0.

### Paired Samples Correlations

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<th>N</th>
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<th>Sig.</th>
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<td>.026</td>
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<tr>
<td>Pair 3 IMPTmemory &amp; DMPTmemory</td>
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<td>.937</td>
<td>.063</td>
</tr>
<tr>
<td>Pair 4 IMPrule &amp; DMPrule</td>
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<td>.020</td>
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<td>Pair 5 IMPdon't know &amp; DMPdon't know</td>
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</tr>
<tr>
<td>Pair 6 IMP_confident &amp; DMPconfident</td>
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### Paired Samples Test

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<th>Std. Deviation</th>
<th>Std. Error Mean</th>
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**Paired Samples Test**

**Paired Differences**

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**Paired Samples Test**

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Sig. (2-tailed)