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TFM
Pros and Cons of Deductive and Inductive Grammar Teaching in Adults

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Abstract

Teaching grammar plays an essential role in the English as a Foreign Language context. Previous research contrasting deductive and inductive instruction has found that teacher-centred rule provision was more beneficial in a number of cases. However, the task-based approach (TBA) is acknowledged as more naturalistic and motivating in Second Language Acquisition. The main purpose of this study was to investigate what method of teaching grammar is more effective at B1 level of proficiency, arguing that explicit-deductive design of instruction could have an advantage in adult learners. Another purpose was to explore the differences between the two instructional treatments with respect to implicit and explicit knowledge of learners as well as the interface between the types of knowledge. The results indicate that a significant difference exists between deductive and inductive groups in two types of grammar rules. The research has found that the deductive group outperformed the participants with the inductive instructional method, strengthening the idea that the teacher-centred teaching approach could be an appealing alternative to TBA, and both instructional methods should be incorporated in educational contexts. The findings of the current study could have a number of practical implications for instructional decision making.

Key words: Second Language Acquisition, deductive and inductive instruction, instructional decision making, level of proficiency, adult learners

1 Introduction

Second Language Acquisition (SLA) is an increasingly important area in applied linguistics. In particular, explicit and implicit knowledge, the relationship between them as well as the impact of both concepts on language teaching have received considerable attention from scholars in recent decades. Previous research in this field (Krashen, 1982; DeKeyzer, 2003; Ellis, 2005a; Revesz, 2007) established that knowledge could be acquired from communicative contexts, by means of social scaffolding or with the help of explicit instruction. Previous research has addressed general approaches to L2 teaching and defined them as "the notional-functional approach, the oral-situational approach and the task-based approach."(Ellis, 2005b:3). As far as the notional-functional approach is concerned, it is based on a communicative-competence theory that advocates pragmatic teaching of the language (e.g. formulaic chunks) and no rule learning underpins it (Richards and Rogers, 1986 cited in Ellis, 2005b:5). Skill-building theory, which is based on obtaining explicit knowledge that later becomes implicit through practice (DeKeyser, 1998 cited in Ellis, 2005b:4), underlies the oral-situational approach. Unlike the two preceding approaches, where the accuracy prevails fluency, the task-based approach claims that meaning is prioritized over language forms. Despite the fact that modern L2 course books incorporate the main principles of the three approaches, the methodology that is employed by the oral-situational approach, namely Present-Practise-Produce (PPP), and the teaching technique of the Task-based Approach (TBA), which is based on task completion and task outcome, are considered to be the mainstream (Ellis, 2005b). While the former suggests direct grammar instructions, controlled production by means of exercises and complete automatisation like real-life performance, the latter, instead of stipulating language form

instructions, includes a number of tasks which could lead to improvement of performance by focusing on meaning. In a nutshell, the difference between the two traditional approaches could be attributed to an instructor's attempt to teach language forms deductively, before communication, or inductively, through communication (Norris & Ortega, 2000; Hulstijn, 2005; Ellis, 2005b).

The debate about instructional methods in SLA has gained fresh prominence with many arguing that "implicit and explicit learning may explain differences in the performance of L2 learners" (Hulstijn, 2005:130). Thereby, a considerable amount of literature has been published on the L2 learning and how it could be facilitated by methods of instruction (VanPatten and Oikkenon, 1996; Hulstijn, 2005; Revesz, 2007; Haight et al, 2007). Hulstijn (2005) categorised explicit learning as a conscious processing of input when learners are aimed at finding regularities and formulating rules. In contrast, implicit learning was defined by the researcher as an unintentional input processing without conscious capture of rules. He assumed that the efficacy of both models of learning is determined by the complexity of forms, frequency and salience of the rule as well as the individual differences of learners. However, the task-based (bottom-up, analytic) teaching approach stimulates meaningful communication of learners, decreases Teacher Talking Time and activates pattern-cognition and problem-solving abilities, whereas PPP (top-down, synthetic) approach promotes teacher-centred language instruction depriving learners of rule discovery (Revesz, 2007; Freeman, 2009). Therefore, explicit-deductive and explicit-inductive dimensions should be used in relation to SLA (Glaser, 2013). This may be exemplified in the work undertaken by Han (2004 cited in Revesz, 2007:25) where he posited that "synthetic approaches, while certainly capable of triggering explicit

learning, are less likely to promote implicit acquisitional processes", whereas "analytic approaches (…) have the capacity to facilitate both explicit and implicit learning processes." In light of this, Ellis (2008) formulated a number of SLA principles to guide teachers who work in various educational settings. He argued that predominant focus on meaning (TBA) provides a natural way of learning where teachers and students work collaboratively. However, learners need to attend to form regardless of the fact that there is no clear-cut answer how intensive the focus of form should be. Ellis also pointed out that "instruction needs to focus on developing implicit knowledge of the second language while not neglecting explicit knowledge" (Ellis, 2008:2). Conversely, Pudelek (2016) assumed that L2 learners could benefit both from explicit and implicit learning models, that is to say teachers should guide learners to discover the rules by themselves whenever possible.

Debate continues about the best strategies for teaching grammar. Notwithstanding the fact that DeKeyser attempted to investigate the relationship between "deductive with explicit and inductive with explicit" (2003:153) designs, highlighting the importance of proceeding from teacher-centred designs with explicit rule provision to an active language discovery syllabus, there have been a number of empirical investigations (Norris & Ortega, 2000; Berges-Puyo, 2007) that revealed the efficacy of explicit instruction for SLA.

Therefore, the present study seeks to examine the effect of explicit-deductive (PPP) and the effect of explicit-inductive (TBA) teaching approaches with the purpose to engage in the methodological controversy as well as to examine the extent to which these factors could facilitate L2 learning and lead to a better performance. Although some previous empirical studies were carried out at schools or in groups of adults with different levels of competence, there has been no detailed investigation into the impact of "top-down

theoretical and bottom-up empirical" teaching designs (Hulstijn, 2005:137) on adults with English as L2 with pre-intermediate level of proficiency.

Thus, this work will generate fresh insight into deductive and inductive methods of grammar provision for English learners with B1 level. Moreover, the present investigation explores the differences between two instructional treatments with respect to implicit and explicit knowledge of participants as well as to the interface between the two types of knowledge (Krashen, 1982; Schmidt, 1994; Ellis, 2006), aiming at contributing to the growing area of SLA research. It is hoped that this research will reveal significant statistical differences in grammaticality performance, commonly referred to as obtained knowledge that is measured between two points in time (Berges-Puyo, 2017), at B1 level in adult learners after exposure to deductive and inductive rule provision. The experimental work presented here may also provide some evidence that explicit and implicit knowledge depend on the type of instruction.

The present thesis is composed of five sections. Section 2 will identify the notions of implicit and explicit knowledge and their mutual interface, types of learning and instruction with different degrees of explicitness. Section 3 is concerned with the detailed description of methodology that was used for this study. Section 4 presents the findings of the research, focusing on the analysis of the experimental results. Section 5 gives a brief overview of the recent study and discusses the obtained results. Section 6 provides the final conclusions, focusing on limitations and implications of the present study.

2. Literature review

Different theories that exist in the literature regarding the relationship between the type of instruction, the type of knowledge and the type of input processing are observed in the first subsection of the present study. The second subsection focuses precisely on the published studies which describe the role of direct and indirect input in educational contexts. The third subsection summarises how implicit and explicit knowledge relate to language teaching and whether explicit knowledge should be taught inductively or deductively.

2.1 Implicit and explicit L2 knowledge

Over the past fifty years, there has been an increasing interest in mechanisms for SLA. Some early studies assumed that implicit learning, namely acquisition, was determined by a number of critical features such as the absence of consciousness or "reflective strategies to learn". (Reber, 1967 cited in Reber, 1989:219). Some decades later, it was posited that implicit learning, which required neither attention nor awareness, could lead to implicit (tacit) knowledge which is "occasionally acquired, implicitly stored, automatically used" and may not be verbalized (Ju, 2006 cited in Fengjuan, 2015; Ellis, 2017). Conversely, Schmidt (2001 cited in Esteki, 2014:1522) argued that "people learn about the things they attend to and do not learn much about things they do not attend to." A large number of scholars (Krashen, 1982; Ellis, 2006; Schmidt, 2010) have contributed largely to the distinction between language acquisition and language learning, and their findings have explicated that the L1 knowledge is acquired implicitly. However, there is a difference between L1 and L2 acquisition, which refers both to implicit and explicit learning and

explicit and implicit knowledge (Hulstijn, 2005; Esteki, 2014). A series of suppositions has been proposed with regard to the interface between acquired and learned knowledge, known in literature as strong, weak and non-interface positions (Krashen, 1982; Ellis, 1993; DeKeyser, 2003; Schmidt, 2010, Ellis, 2017). Thus, the three positions support different approaches to teaching grammar.

The non-interface position, proposed by Krashen (1982), argued that explicit knowledge could not be converted into acquired knowledge as they were stored separately in the brain. He reasoned that subconscious acquisition dominated in second language performance, and consciousness could be used to monitor the output. In 1982, Krashen published a paper in which he explained that "if (…) acquisition is central and learning more peripheral, then the goal of our pedagogy should be to encourage acquisition" (1982, cited in Valle-Gaster, 2006:19). The non-interface position, which included an empirical and analytical approach toward teaching a foreign language, led to using a lot of L2 input, such as immersion or task-based teaching, without deductive ways of teaching grammar (Ellis, 2006). This approach was applied by the Canadian immersion studies, but Krashen's hypotheses were categorically falsified by the data received after a 12-year experiment and proved that comprehensible input was not enough for SLA (Walter, 2015).

To date, several studies have investigated the second, weak interface position (Ellis, 1993), according to which explicit knowledge could facilitate SLA and develop into implicit knowledge directly (when learners are prepared to acquire the rule), indirectly (when declarative knowledge assists the acquisition of implicit knowledge) or "when learners use their explicit knowledge to produce output that then serves as auto-input to their implicit learning mechanisms" (Ellis et al, 2009 cited in Esteki, 2014:1522). In 2005,

Ellis made an attempt to measure and define explicit and implicit knowledge with the aim of further explicit and implicit learning research. A battery of tests comprised Timed (TGJT) and Untimed Grammaticality Judgment Tests (UGJT), oral tests as well as metalinguistic grammar tests. 17 English grammatical structures were administered to groups of Native Speakers of English (NSs) and English learners (L2 learners). Factor analysis that was implemented to interpret the results indicated that tests were found to be reliable. Both NSs and L2 learners performed significantly better in grammatical sentences in the TGJT than in ungrammatical ones. NSs scored more in all tests in comparison to the L2 learners except in metalinguistic knowledge tests. However, the English learners' scores were high in UGJTs. The results pointed to the need to use TGJT to measure implicit knowledge and UGJT to measure explicit knowledge and to distinguish grammatical and ungrammatical sentences, which tap into implicit and explicit knowledge accordingly. The main limitation, however, was inhomogeneity of the L2 group as the participants showed mixed language proficiency and the learners with lower levels "lacked confidence in their implicit knowledge of some grammatical structures (…) known to be late acquired" (Ellis, 2005:168).

DeKeyser (2003) in his strong interface position argued that distinguishing implicit learning (unconsciously) and inductive learning (going from examples to generalisation) was of great importance. Apart from that, he claimed that grammar rule provision could be either deductive and explicit or inductive and explicit, although the combination of deductive and implicit learning seemed doubtful. DeKeyser pointed out that implicit knowledge could not entirely depend on implicit learning because explicit knowledge could also convert into implicit by means of practising declarative linguistic rules which were

provided explicitly. In a computerized experiment conducted by DeKeyser (1995), implicit and explicit treatments of learners of an artificial language were compared. The production was limited to 30 seconds. The way the explicit-deductive group performed in the experiment, significantly outscoring the implicit one, helped DeKeyser to conclude that explicit learning was advantageous in comparison to random choices made by implicit learners, at least in adult groups. However, these findings were found to be inconsistent by Krashen (1999) because DeKeyser was "dealing with learning, not acquisition, that is, explicit, not implicit, learning" (Krashen 1999, cited in DeKeyser 2007:11). On top of that, the participants could not practice the forms - consequently, there was no clear-cut answer to what extent output could indicate explicit knowledge.

2.2 Implicit and explicit learning

Much of the SLA research has focused on the relationship between implicit/explicit knowledge and implicit/explicit learning as well as how both types of learning could be facilitated by instruction (DeKeyser, 2003; Hulstijn, 2005; Ellis, 2006). According to Hulstijn (2005), input processing that required conscientiousness in order to derive regularities was defined as *explicit learning*, whereas input processing without conscious attention to form got a definition of *implicit learning*. Consequently, explicit and implicit learning refer to learning explicit and implicit knowledge respectively. Hulstijn pointed out that it was pivotal to distinguish between inductive learning, when examples precede the rule provision, and deductive learning, when rule provision precedes examples, as a part of explicit instruction "because the correct rule is always given at some point." (Hulstijn, 2005:132). Also, he labeled the process when participants were forewarned of taking a test

after the learning process as intentional learning. The process of picking up information unintentionally, without being informed about experimental conditions, was defined as incidental learning. However, the researcher was concerned about the empirical side of the proposed notions. While Ellis (2005) proposed the measurement of explicit and implicit knowledge by means of TGJTs and UGJTs, Hulstijn doubted the testability of learning and knowledge.

The research into types of learning was complemented by Glaser (2013) who revealed how explicit-implicit distinction might be related to the inductive-deductive dichotomy. Subsequently, she came to a conclusion that only explicit-inductive and explicit-deductive designs could be applied with regard to methods of instruction in L2 learners, arguing that pedagogical reality existed "within *explicit* paradigm." (Glaser, 2013:155). However, the researcher made no attempt to suggest what procedures were more preferable in the classroom context, stating that implementation of both inductive and deductive units could be put into practice in parallel.

On a par with explicit and implicit learning, there are two other notions, practically indistinguishable from them. Incidental and intentional learning are mainly used in the SLA literature to deal with empirical studies of vocabulary and hardly ever refer to the grammar area (Hulstijn, 2007). This scholar proposed that grammar learning sessions "with or without (...) pre-warning" could be referred to as intentional and incidental respectively (Hulstijn, 2007:16). He assumed that incidental acquisition of grammar could be performed when learners inferred grammar rules by means of learning the connections between units through a focus on meaning or without "rule-oriented instruction." (Hulstijn, 2007:24). However, he posited that implicit learning is a wider term than incidental learning, because

implicitness entails more (i.e. incidental acquisition, implicit storage and automatic use). Likewise, Hulstijn proposed to distinguish intentional and explicit learning, where the former was attributed to a deliberate attempt to remember new information, whereas the latter was defined as the learner's awareness of what is studied. Hulstijn subjected the reviewed studies to considerable criticism due to the fact that there was no experimental evidence on intentional learning and few investigations on incidental learning.

2.3 Deductive and inductive instruction for teaching grammar

There is an array of published studies describing the role of teaching grammar to language learners as feasible and desirable (Swan, 2002; Richards, 2002; Purpura, 2004; Ellis, 2006). In addition, more recent attention has focused on the provision of instructional techniques (Norris & Ortega, 2000; Hulstijn, 2005; Walter, 2015), comparing and contrasting inductive (bottom-up, rule-discovery) and deductive (top-down, rule-driven) methods, which can be applied in the classroom environment. In this sense, the deductive approach implies metapragmatic rule provision and practicing these rules (Decoo, 1996), whereas the inductive method implicates deriving general rules from given examples and, thus, resembles "real language use" (Decoo 1996, cited in Glacer 2013:152). Regardless of the fact that previous research findings revealed the effectiveness of both designs (Haight, Heron & Cole, 2007; Kaur et al, 2016; Mahjoob, 2015), the generalisability of much published research on this issue is problematic.

In this vein, the induction-deduction opposition was analysed in a methodological review of Decoo (1996) and a terminology identification was proposed. To discern the traditional dichotomy, this researcher refined the two categories, proposing subcategories or

modalities: "Actual deduction" when grammar patterns are presented explicitly (modality A), "Conscious induction as guided discovery" when learners, guided by the teacher, acquire and formulate rules through examples and teacher's questions (Modality B), "Induction leading to an explicit summary of behavior" when learners infer grammar rules implicitly by means of practice and then these rules are presented explicitly (Modality C), "Subconscious induction on structured material" when grammar material is structured and repeated systematically so as to facilitate learners' induction and to avoid conscious analysis (Modality D) and "Subconscious induction on unstructured material" when language input is not manipulated like in natural acquisition (Modality E)" (Decoo, 1996:96). A fine distinction was drawn to clarify the terms and avoid confusion in traditional educational contexts for adult learners. While the deductive approach was identified as a process that went from general to specific, induction was introduced as a process which led from specific patterns to generalizations and comprised guidelines of teachers, grammar summaries, structured and unstructured grammar material. One question that needs to be asked, however, is to what extent inductive-deductive approaches are affected by individual differences of learners for the reason that an array of personal variables (e.g. information-processing variables of the learner, attitudinal variables of the learner, didactic variables of the teacher) comes into play in didactic classroom settings, impacting the performance of L2 learners .

To determine the effectiveness of implicit and explicit treatments, VanPatten and Oikkenon (1996) inspected 3 groups of Spanish learners as L2 (Explicit, Structured Input and Explicit Information groups). By analysing the gain of pre- and post-tests, explicit treatment as well as the structured input were found to be the most successful, whereas

Explicit Information group, which was not provided with any practice, was far behind. VanPatten and Oikkenon demonstrated that even though the learners who were treated implicitly were not exposed to rule explanation, they were engaged in explicit learning, getting clearly structured input and regular explicit feedback.

Many recent studies (e.g. Alzu'bi, 2014; Kaur and Niwas, 2016; Pudelek, 2016; Berges-Puyo, 2017) have shown that both inductive and deductive techniques encourage learners, affecting positively their academic performance. However, the comparative effectiveness of the two methods varies. Alzu'bi (2014) studied the effect of an inductive method on grammar achievement compared with a deductive method in groups of university students and elementary school students in Jordan. Pre and post-tests were administered to measure the scores before and after instructional programs based on inductive and deductive syllabi. The data collected from 182 learners, who were exposed to experimental teaching treatment for 1 month, revealed a significant statistical effect of inductive lesson design in both educational contexts. The result was attributed to the tendency of L2 learners to communicate rather than learn grammar rules explicitly. However, the study did not take into account the level of language competence in university groups. Even though an inductive approach played a positive role, the researcher made no attempt to differentiate between levels of proficiency.

Kaur and Niwas (2016) complemented Alzu'bi's study (2014) by establishing the effectiveness of inductive and deductive methods in teaching English as a Foreign Language (EFL), having carried out an experiment in a group of 35 adolescents with Elementary level of English. The subjects were exposed to 15-day experimental teaching treatments and the gain between pre- and post-treatment test scores was analysed with

t-tests. The findings revealed that the mean score in the inductive experimental group was 22.75, whereas the mean score in the deductive group was 20.08. The calculated t-value which came out to be 2.67 (significant at 0.01 Level) indicated that there was a significant difference between inductive and deductive treatment. The researchers advocated the effectiveness of inductive methods of teaching grammar, however, the paper would appear to be over-ambitious in its claims as the study addressed only to teaching adolescents.

Thereby, to better understand the mechanisms of teaching English grammar inductively and study its effects, Pudlek (2016) conducted a study of one B1 level adult learner, exposing him to the inductive teaching methods across 4 one-hour sessions. A guided inductive approach was implemented with the purpose of finding evidence that grammar rule discovery could lead to clear understanding of grammar rules and improve adult learner's conversational skills. This scholar claimed that conscious induction as a guided discovery showed a significant effect on grammar performance with 20% improvement in two experimental treatments (First and Second Conditionals). Also a post-test questionnaire illustrated that the rule discovery process was found to be enjoyable for the learner and created a low-pressure learning setting. One criticism of that study on inductive approach is that there was only one participant. Also, the study would have been more interesting if it had included the results on deductive instructional techniques as well.

In 2017, Berges-Puyo investigated the effects of rule provision instruction and unintentional instruction on L2 learners with A1 and B1+ proficiency levels. The targeted four groups, which were treated either inductively or deductively, comprised adolescents with Spanish as L2. The targeted grammar rule was Spanish determiners. Both TGJTs and UGJTs were administered before and immediately after the implicit and explicit

instruction. The results of the research, conducted by Berges-Puyo (2017), showed that the learners with lower and higher levels of proficiency scored differently in their implicit and explicit knowledge depending on the type of instruction. Explicit B1+ group outperformed Explicit A1 group while there was no significant difference between the scores in the implicit group with both higher and lower levels of performance. It could be assumed that learners with a higher level of proficiency would acquire L2 explicit knowledge better than the ones with lower levels. However, the level of proficiency was not found to be significant for the students' implicit knowledge. The study demonstrated that explicit instruction was more effective than incidental instruction and the effectiveness of the former was greater in groups with higher proficiency levels, which could be explained by a greater metalinguistic awareness of B1+ learners.

2.4 Evaluation of approaches to teaching grammar

It goes without saying that Instructed SLA requires different methods of rule provision, and consideration of three interface positions mentioned above may be trialed for SL teaching. The non-interface position (Krashen, 1982), based on the hypothesis of comprehensible L2 input, supposes an empirical and analytical approach toward grammar teaching but rejects transforming explicit knowledge into implicit since they require "different acquisitional mechanisms" (Ellis, 2005a:144). The strong interface position (DeKeyser, 2003) sees explicit teaching, which involves direct explanations of grammar structures with subsequent practical exercises and production activities until grammar rules are fully proceduralized (i.e. PPP methodology), as a beneficial approach, assuming that L2 learners receive declarative knowledge of grammar rules and later practice them until explicit

representation converts into implicit so that it could be applied for communication (Esteki, 2014). Conversely, the weak interface position focuses more on implicit instruction, which "goes from examples to generalisations" (Hammerly, 1982 cited in Decoo, 1996:6), and suggests moderate use of explicit teaching approach because learners are able to derive rules themselves using the input. These techniques create the basement for consciousness-raising tasks, making the input more noticeable and salient.

With respect to the approaches used in SLA, there is one question that still remains controversial whether explicit knowledge should be taught inductively or deductively. The theory and research have addressed these two approaches many times, revealing advantages and disadvantages of both methods. Regardless of that fact, in a number of studies reviewed here (Alzu'bi, 2014; Kaur and Niwas, 2016; Pudelek, 2016 and Berges-Puyo, 2017), the researchers emphasized the overwhelming importance of the inductive way of teaching. It is often acknowledged as preferable because conscious or guided instruction leads to attention to form and theoretical formulation may be misunderstood by learners. Overall, there seems to be some evidence to indicate that explicit-inductive designs are more beneficial than explicit-deductive methods in SLA, but such studies seem to remain narrow in focus as they dealt with either adolescent participants (despite the fact that adults require explicit explanation to facilitate acquisition (Ellis, 2006), or without taking into account L2 proficiency level. In some studies, the number of participants was not enough to indicate clearly that there was a greater effect of the inductive approach over the deductive one.

Hence, the present study contributes to bridging the gap in the current literature about the effectiveness of deductive and inductive methods of teaching grammar in adults with a particular level of proficiency (B1). One way to tackle the problem is to include 2

independent variables: the group with three levels of treatment (inductive, deductive and a group with no treatment) and the task which includes two levels (Modal Verbs and Passive Voice). This approach may help collect sufficient statistical data, trialing various linguistic material presented by means of actual deduction (modality A) and subconscious induction (modality D). This choice of modalities might encourage the participants either to understand the rules and then practice them or "to use induction subconsciously, without stating the rule explicitly" (Decoo, 1996:13). In addition, no research has been found that implemented Decoo's inductive modalities in the design of learning settings.

Quantitative research designs which included timed and untimed GJTs were adopted to find reliable evidence of explicit and implicit knowledge. The results of the current study should make a contribution to the field of SLA, revealing from which approach L2 adult learners with B1 level of language proficiency benefit most. Future research should study the controversial topic of explicit-deductive and explicit-inductive instructional designs in relation to implicit and explicit knowledge, which might attract theorists and practitioners, providing them with new pieces of research evidence.

2.5 Research questions

Following the issues observed in the previous subsections, the first research question of the present study may be formulated as follows:

RQ1. What method is more effective in teaching grammar rules at B1 level in adults?

The review of the available empirical evidence allows to formulate the Non-directional Hypothesis: there will be a difference in the outcome between inductive and deductive

teaching in adult learners. While it is true that inductive instruction is often seen as advantageous as it allows the learner to make connections using critical thinking and brings about grammatical competence, a deductive approach to teaching grammar could be more efficient in adult learners.

The literature suggests that both explicit and implicit knowledge are pivotal for L2 performance. On the other hand, there is no clear-cut answer to how explicit-deductive and explicit-inductive rule provision impacts the type of knowledge due to a number of interface positions. Therefore, the current study seeks to answer the following research question:

RQ2. Are there any differences between two experimental treatments with respect to implicit and explicit knowledge of participants?

It seems plausible to formulate Directional Hypothesis that predicts that the learners with the deductive treatment could have a greater ability to acquire explicit knowledge than the learners with the inductive instruction, whereas the participants with the inductive rule provision could outperform the deductive group in terms of their implicit knowledge.

In order to look into the RQs, the data will be collected empirically. A more detailed account of the methodology that has been used for this purpose is given in the following section.

3 Methodology

There are 2 independent variables (IV) in this experiment. The first IV is the group with 3 levels of treatment: deductive, inductive and no treatment. The instruction treatment criterion is used because it is acknowledged to be a means of validating teaching methods. The second IV is the grammar task with 2 levels: Modal Verbs (Modals) and Passive Voice (PassiveV). This grammar content is used because it is identical to the grammar content of coursebooks at B1 level of proficiency.[1] The dependent variable is the output (gain)[2] after deductive and inductive teaching treatments with 2 grammar tasks, where the mean gain is counted because it indicates the efficacy of teaching instruction. The control variable is the data received from a control group that was not exposed to any instruction treatment and could be compared to the two experimental groups. A between-group design is used in the study.

3.1 Participants

The present study comprised 27 volunteers (N=27), 9 males and 18 females, enrolled in the Department of Political Science at the UAB and at Cambridge English School (Sant Celoni, Barcelona). All the volunteers provided personal information about their language background and took an English proficiency placement test "Placement Test Package" taken from the National Geographic Learning website.[3] The test consisted of 50

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[1] Course book Life, level B1 by National Geographic Learning, 2012.
[2] Difference in scores of pre- and post- TGJTs and UGJTs.
[3] https://www.ngllife.com/test-centre/multi-choice-placement-tests-life. Accessed in April, 2020.

multiple-choice items testing grammar and vocabulary presented and practised over a six-level general English course for adults. The participants were given 30 minutes to complete the written task of the Placement Test.[4] The participants in the deductive, inductive and control groups demonstrated mean accuracy of 20.11, 20.88 and 20.22 points respectively. In general, the level of language competence[5] of participants was defined as pre-intermediate (maximum score in the three groups was 23). Table 1 and Figure 1 show the distribution of scores in the three groups. Four individuals were excluded from the study on the basis of high scores in the placement test, which exceeded 25 points.

Table 1 Descriptive statistics of language competence by group

Source	Mean	SD	Minimum	Maximum
Deductive	20.11	1.36	18.00	22.00
Inductive	20.88	1.36	19.00	23.00
Control	20.22	1.71	18.00	23.00

Figure 1 Box plot of differences in language competence across the three groups

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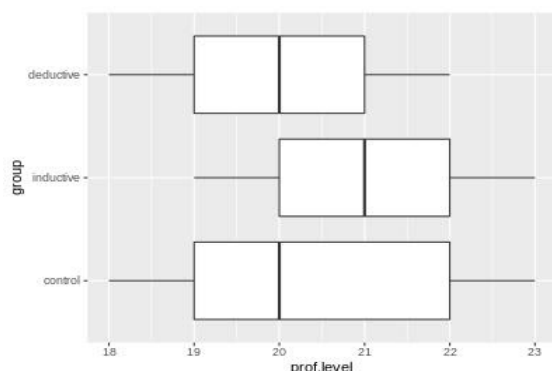
[4] 19-25 points correspond to Pre-Intermediate level (B1).
[5] According to the Common European Framework of Reference for Languages, also referred to as CEFR or CEFRL.

The first experimental group with the deductive treatment consisted of L2 learners of English with Spanish and Catalan as L1. The group comprised 9 adult participants, aged 18-42 (mean age 34). The second experimental group with the inductive treatment consisted of L2 learners of English with Spanish and Catalan as L1. The group comprised 9 adult participants, aged 29-72 (mean age 47.22). The Control group with no treatment conditions consisted of L2 learners of English with Spanish and Catalan as L1. The group comprised 9 adult participants, aged 18-48 (mean age 28.8).

3.2 Instruments

There are a number of instruments available for measuring the efficiency of explicit-deductive and explicit-inductive instructional designs. Actual deduction (modality A) and subconscious induction on structured material (modality D) were considered to be practical for investigating the research question, as explicitation is enclosed in modality A and implicit acquisition is presented in modality D (Decoo, 1996. Therefore, the deductive program of teaching included explicit presentation of grammar rules with consecutive movement to examples and application (i.e. general rule - examples - practice). The inductive program was aimed at subconscious induction of the language material, presented by means of examples, subsequently repeating examples and "final mastery of the rule, without conscious analysis" (Decoo, 1996:3). Thus, the inductive approach included the following instructional design: examples - practice - unconscious mastery of general rule.

Two grammar rules, namely Modals and PassiveV, were used as teaching materials in the group with the deductive experimental treatment (Deductive) as well as in the group

with the inductive experimental treatment (Inductive). The Control group was not exposed to any kind of treatment. The choice of grammatical content was determined by a number of reasons. Firstly, there was an attempt to select grammar rules that the participants had not been familiarised with. Secondly, modal verbs were chosen as an early acquired grammatical feature (Pienemann, 1989 cited in Ellis, 2005:154) and passive voice was used as a late acquired grammatical pattern. On top of that, the two grammar rules were chosen from the range of grammar topics presented in General English coursebooks at B1 level of proficiency. The order of teaching grammar structures in each experimental group (1. Modals 2. PassiveV) was chosen deliberately so that it would not disrupt the natural order of learning grammar topics at B1 level.

As a measurement for a selected-response task, which is based on presenting a form and selecting the response, a GJT was applied (Purpura, 2004). The advantages of GJTs are that they are simple to run and "present the learner with sentences that are (...) well or ill formed (Purpura, 2004:132). TGJTs were designed to test implicit knowledge of the participants (because time pressure can be treated as an impediment to declarative knowledge access), whereas UGJTs were designed to measure explicit knowledge (Ellis, 2005). The benefit of this approach was that it could indicate how the type of knowledge was affected by administration of deductive and inductive experimental treatment (Berges-Puyo, 2017).

The GJTs comprised 30 English sentences (adapted from Ellis, 2005; Gutierrez, 2012, Ellis et al, 2015) with 20 target grammar sentences (modal verbs and passive voice) and 10 fillers which included grammar patterns studied at B1 level of proficiency (quantifiers, comparative forms of adjectives, regular Past Simple verbs, Past Continuous,

gerunds/infinitives). They were designed in order to measure general and target grammaticality of the subjects. In order to counterbalance the task, each grammar rule had an ungrammatical pattern specific for B1 level of competence:

Present Simple Passive:

(1) <u>He is invited</u> to the conferences every year.

(2) *<u>Kangaroos keep</u> in zooparks.[6]

Past Continuous:

(3) <u>I was talking</u> on the phone when the connection broke down.

(4) *<u>I was cutting</u> my finger when I was cooking.[7]

One advantage of using a general grammaticality parameter is that the sentences used as fillers required the participants to focus on doing grammar patterns which are specific for B1 level and, consequently, allowed to examine overall L2 achievement. Another advantage of measuring general grammaticality is that it helped to assess the performance of participants on grammar features that were not presented under the experimental conditions and, therefore, to see if incidental learning could come into play (Hulstijn, 2007).

A major problem with the testing method was the time which the students could spend on doing both TGJTs and UGJTs. Test administration was limited by a 45 minute session, so each of our tests included 30 sentences. The TGJTs were presented with the help of PowerPoint timed slide show, where each slide contained 5-12-word sentences and had a time limit of 8 seconds. This choice could be explained by the time limits calculated

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[6] See Appendix F for a list of target sentences in each GJT.
[7] See Appendix F for a list of filler sentences in each GJT.

in previous studies (Ellis, 2005; Ellis et al, 2015; Berges-Puyo, 2017), where the length of sentences ranged between 5-12 words and the time limits varied between 3-6 seconds. For the present study, 6 seconds were provided to process the sentence and 2 extra seconds were added for filling in the answer sheets. A 15-second break was given after every 10 sentences in order to avoid the effect of cognitive fatigue (Gutierrez, 2012). Each subject could do the same version of GJTs under timed and untimed conditions with a 10-minute break (Ellis et al, 2015).

Pre-tests, both TGJTs and UGJTs, were designed to control pre-knowledge of target grammar. As the participants demonstrated pre-intermediate level of language proficiency, pre-tests incorporated two target grammar rules (modal verbs and passive voice) that had never been encountered by the learners in their educational contexts before (Hulstijn, 2007). Post-tests, both TGJTs and UGJTs, were administered with a 2-5 day delay (the subjects were treated as equally as the situation with the lockdown had permitted) because immediate post-tests may reveal how effective "cognitive processes during the learning session" were and delayed tests may measure "retention of factual knowledge." (Hulstijn, 2007:16). The total duration of each pre or post-testing session, which included timed and untimed GJT, ranged between 30-45 minutes because of giving instructions, computer setup and some disruptions.

3.3 Procedure

Taking into consideration the rationale mentioned above, a series of tests and treatments was performed. Prior to administration of experimental conditions and collecting data, the

participants were asked to complete an English proficiency placement test[8] so as to identify the L2 level of competence and check the homogeneity of 2 experimental and 1 control groups. The subjects were divided into 2 experimental groups with different teaching treatments (deductive or inductive) and 1 control group. For the purpose of facilitating test and treatment provision to groups, the subjects from the Department of Political Science at the UAB were assigned to the deductive group. The learners from Cambridge English School were assigned to the inductive group. The volunteers who were recruited on-line by means of an UAB application were assigned to a control group that was tested online as the subjects were not to be exposed to any treatment.

To determine pre-knowledge on target grammar, pre timed and untimed GJTs were administered to the experimental and control groups. The subjects from the experimental groups underwent the tests in the classroom context, whereas the subjects of the control group did the pre-tests individually on-line during 45-minute sessions. To enable the subjects to see the computer screen clearly, a projector was used and the PowerPoint font was made large. Soon after the pre-tests (on the same day with a 15-minute interval), the first explicit-deductive and explicit-inductive treatments were administered. One instructor presented the same grammar rule (Modals) in each group with the help of either explicit presentation or by means of examples. The methodology of the deductive instruction was based on the procedures proposed by Widodo (2006) and comprised 5 steps.[9] 1. Activating students' schemata 2. Grammar presentation and eliciting functions of the rule 3. Practice through exercises 4. Checking students' comprehension 5. Rule application (production).

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[8] See Appendix G for a list of the placement test tasks.
[9] See Appendix B for Deductive Treatment 1 and 2, Appendix C for lesson plans 1 and 4, Appendix D for supplementary exercises and Appendix H for didactic materials.

The methodology of the inductive instruction was based on Task-Based Learning (TBL) design, proposed by Ellis (2006b) and Thornbury (2007). In order to trial the inductive rule provision avoiding prior focus on language and to prioritise communication, the explicit-inductive instruction that included 5 steps was administered to L2 learners.[10] 1. Activating students' schemata 2. Communication stage with grammar examples 3. Language focus stage to facilitate conscious induction 4. Practice 5. Communication for unconscious mastery of general rule. Depending on the method of teaching, the corrective feedback was either explicit, based on clear comments of committed errors, or implicit, based on covert indicators, namely recasts or reformulations of incorrect utterances (Ellis et al, 2006). Post- timed and untimed GJTs were administered to participants of both experimental groups in the classroom environment with a time interval of 3-4 days.

However, on running pre- timed and untimed versions of GJTs and the first inductive and deductive grammar treatment (Modals), the following treatment of the three groups (including deductive and inductive teaching instructions on the Passive voice task and post-TGJTs and UGJTs) was carried out on-line with the help of Skype sessions due to an unprecedented lockdown in the community. The cohorts of subjects from each experimental group were divided into pairs or trios so that they could interact similarly to the classroom environment interaction when receiving deductive and inductive experimental treatment (PassiveV). In case of trios, the treatment time in the deductive and inductive groups exceeded 45-minute sessions and was extended to 60-70 minutes per trio.

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[10] See Appendix B for Inductive Treatment 1 and 2, Appendix C for lesson plans 2, 3 and Appendix H for didactic materials.

3.4 Scoring procedures

In order to measure the grammatical ability as well as the progress of the participants, pre- and post- TGJTs and UGJTs were administered to the participants of 2 experimental and 1 control group. The scoring dichotomous method (Purpura, 2004), which was used to assess pre- and post-tests in the three groups, included a single criterion for correctness, that is to say a correct answer counted as a point, whereas an incorrect one gave no points. According to Purpura, the right/wrong scoring method is "clear and objective." (Purpura, 2004:128). The maximum number of correct answers (score) was 30 for general grammaticality and 20 for target grammaticality. The output (gain) was counted by subtracting the scores received by each participant in pre-tests (TGJTs and UGJTs in separation) from the scores received in post-tests (TGJTs and UGJTs in separation) so that the gain in TGJTs could measure implicit knowledge of participants and the gain in UGTTs could indicate their explicit knowledge (Ellis, 2005).

3.5 Data analysis

Data were collected using answer sheets filled in with the yes/no responses.[11] The effects of 2 IV (groups with three levels of treatment and tasks with two levels of grammar rules) as well as their interaction effects were analysed using two-way ANOVA tests for TGJTs and UGJTs as a measurement of general and target grammaticality. One-way ANOVA tests were carried out so as to examine the effect of group on task whether there was a significant interaction of group and task effect in two-way ANOVAs. Descriptive

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[11] See Appendix E for the answer sheets.

statistics (means, medians, SD) made it possible to identify what instructional treatment was more effective in teaching grammar rules at B1 level in adults and to determine if there were any differences between two experimental treatments with respect to implicit and explicit knowledge of participants.

4 Results

Data were collected from 27 participants (9 in the deductive group, 9 in the inductive group and 9 in the control group), describing the performance before and after experimental conditions as well as with no treatment. The term outcome (gain) was used to interpret the participants' performance. The results of general grammaticality and target grammaticality tests were subdivided into timed and untimed sections because TGJT and UGJT could be a measure of implicit or explicit knowledge accordingly (Ellis, 2005). The results of general grammaticality performance measured by TGJT (implicit knowledge) are presented first, followed by the results of general grammaticality measured by UGJT (explicit knowledge). The results of target grammaticality performance measured by TGJT and UGJT follow next. Descriptive data, including the means, medians and SD, follow two-way and one-way ANOVA tests.

4.1 General grammaticality. Implicit knowledge

In order to examine whether any significant differences existed across groups in two types of grammar tasks, a two-way ANOVA test (group treatment x task) was used. As can be seen in Table 2, the ANOVA test showed a very significant effect of group ($F(2,48)=11.96$,

p<0.05 (6.061e-05), deductive, M=4.05; inductive, M=3.50; control, M=1.11) and a significant effect of task (F(1.48)=5.15, p<0.05 (0.027747), Modals, M=3.48; PassiveV, M=2.29). Interaction effects between group and task were found to be significant F(2,48)=5.65, p<0.05 (0.006257). Sums of squares, degrees of freedom, factor value and p-value are presented in Table 2.[12]

Table 2 Results of the two-way ANOVA test for general grammaticality measured by TGJT

Source	Sum Sq	Df	F value	Pr(>F)
Group	88.111	2	11.968	6.061e-05 ***
Task	18.963	1	5.1522	0.027747 *
Group:Task	41.593	2	5.6503	0.006257 **
Residuals	176.667	48		

A closer look at the factor of the group treatment and the type of task can be helpful to understand the interaction effect between them (Figure 2). As can be seen in the plot, the output depended on the treatment the subjects were exposed to PassiveV and Modals tasks proved to be equally complicated for the control and the inductive groups but the task Modals turned out to be the easiest in the group with the deductive treatment. However, PassiveV task in the deductive group seemed to cause more difficulties with performance than the same task in the inductive group.

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[12] See Appendix A for the means for the group effect, task effect and interaction of group and task effect.

Figure 2 Two-way ANOVA interaction plot between the group and the task
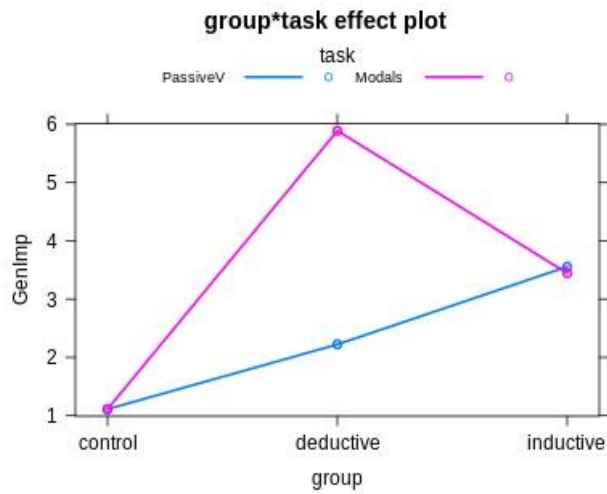
A follow-up one-way ANOVA test examining the effect of group on PassiveV and Modals tasks separately showed a very significant effect of deductive group for task $(F(1,16)=16.56, p<0.05 \ (0{,}0008914))$; no significant effect of inductive group for task $(F(1,16)=0.02, p>0.01 \ (0{,}8893))$ and no significant effect of control group for task $(F(1,16)=0, p>0.01 \ (1))$. Plots with the effect of group are presented separately in Figure 3. Sums of squares, degrees of freedom, factor value and p-value are shown in Tables 3, 4, 5.

Figure 3 One-way ANOVA plots of the group effect on the task

Table 3 Results of the one-way ANOVA test for the deductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	60.500	1	16.563	0,0008914 ***
Residuals	58.444	16		

Table 4 Results of the one-way ANOVA test for the inductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	0.056	1	0.02	0,8893
Residuals	44.444	16		

Table 5 Results of the one-way ANOVA test for the control group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	0.000	1	0	1
Residuals	73.778	16		

4.2 General grammaticality. Explicit knowledge.

In order to examine whether any significant differences existed across groups in two types of grammar tasks, a two-way ANOVA test (group treatment x task) was used. It showed a significant effect of group ($F_{(2,48)}=6.03$, $p<0.05$ (0.004575), deductive, M=4.16; inductive, M=2.72; control, M=1.61) and no significant effect of task ($F_{(1.48)}=3.63$, $p>0.05$ (0.062513), Modals, M=3.40; PassiveV, M=2.25). Interaction effects between group and task were found to be significant $F_{(2,48)}=6.10$, $p<0.05$ (0.004359). Sums of squares, degrees of freedom, factor value and p-value are presented in Table 6.[12]

Table 6 Results of the two-way ANOVA test for general grammaticality measured by UGJT

Source	Sum Sq	Df	F value	Pr(>F)
Group	59.111	2	6.0397	0.004575 **
Task	17.796	1	3.6367	0.062513 .
Group:Task	59.704	2	6.1003	0.004359 **
Residuals	234.889	48		

Further factor analysis can demonstrate what is happening in terms of performance in the three groups. Looking at the interaction effect of group treatment and task type (Figure 3), it is clear that the output depended on the treatment the subjects were exposed to. PassiveV and Modals tasks proved to be equally complicated for the control group and almost equally complicated for the subjects of the inductive group. However, Modals turned out to be the easiest task for the group with the deductive treatment. PassiveV caused more difficulties in the deductive group than in the inductive group.

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[12] See Appendix A for the means for the group effect, task effect and interaction of group and task effect.

Figure 4 Two-way ANOVA interaction plot between the group and the task
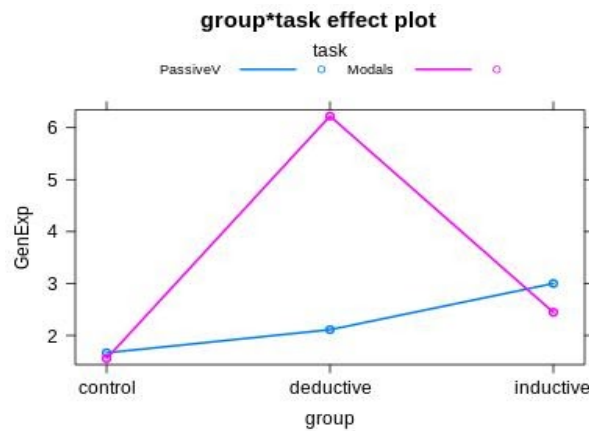
A follow-up one-way ANOVA test examining the effect of group on PassiveV and Modals tasks separately showed a very significant effect of deductive group for task ($F_{(1,16)}=16.56$, $p<0.05$ (0,0008914); no significant effect of inductive group for task ($F_{(1,16)}=0.02$, $p>0.01$ (0,8893) and no significant effect of control group for task ($F_{(1,16)}=0$, $p>0.01$ (1). Plots with the effect of group are presented separately in Figure 5. Sums of squares, degrees of freedom, factor value and p-value are shown in Tables 7, 8 and 9.

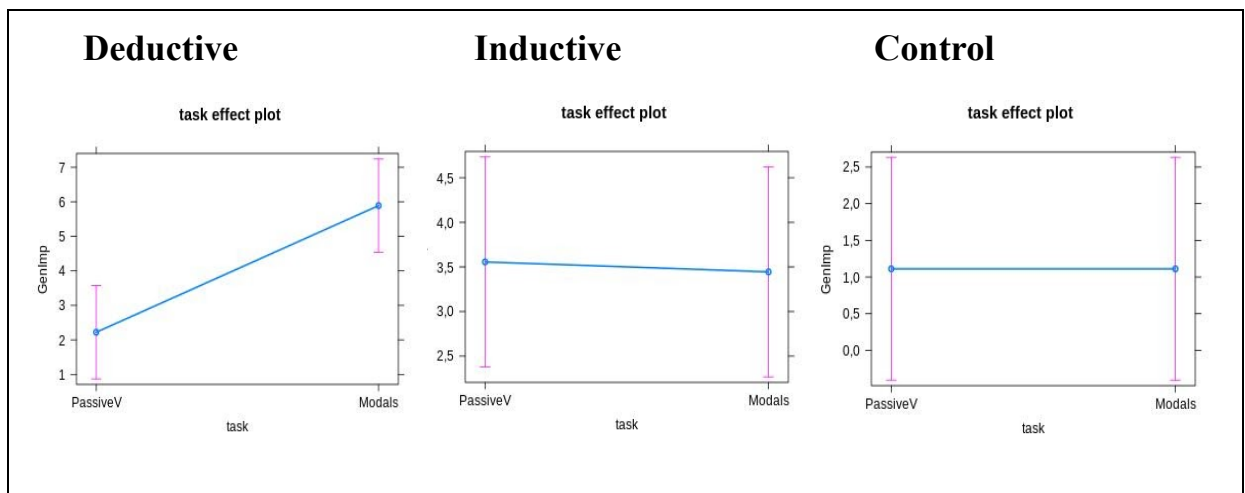**Figure 5** One-way ANOVA plots of the group effect on the task
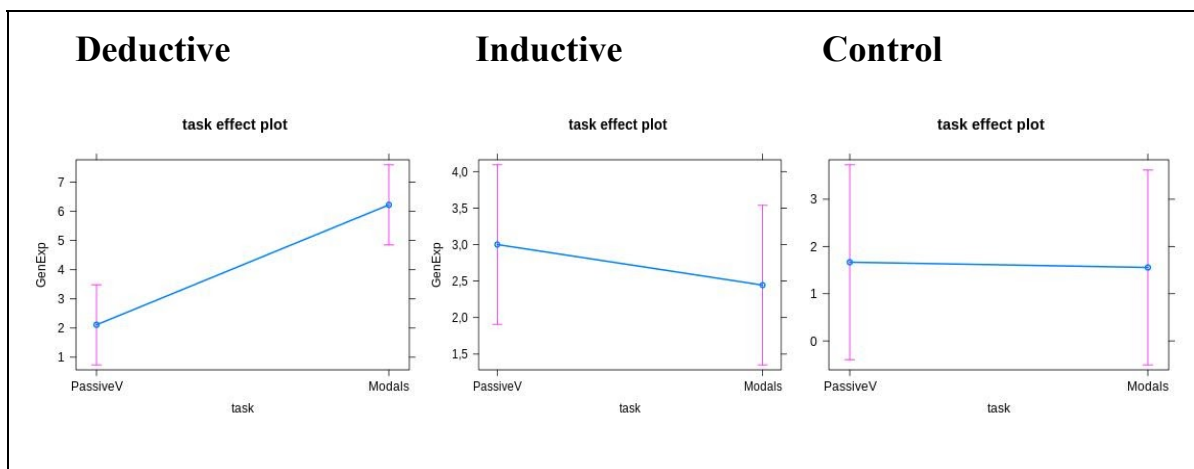
Table 7 Results of the one-way ANOVA test for the deductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	76.056	1	20.132	0,0003735 ***
Residuals	60.444	16		

Table 8 Results of the one-way ANOVA test for the inductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	1.389	1	0,5814	0,4569
Residuals	38.222	16		

Table 9 Results of the one-way ANOVA test for the control group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	0.056	1	0,0065	0,9366
Residuals	136.222	16		

4.3 Target grammaticality. Implicit knowledge

In order to examine whether any significant differences existed across groups in two types of grammar tasks, a two-way ANOVA test (group treatment x task) was used. It showed a significant effect of group ($F_{(2,48)}=13.59$, $p<0.05$ (2.101e-05), deductive, M=3.72; inductive, M=3.33; control, M=1.00) and a significant effect of task ($F_{(1.48)}=6.20$, $p<0.05$ (0.01629), Modals, M=3.25; PassiveV, M=2.11). Interaction effects between group and task

were not found to be significant F(2,48)=3.14, p>0.05 (0.05220). Sums of squares, degrees of freedom, factor value and p-value are presented in Table 10.[13]

Table 10 Results of the two-way ANOVA test for target grammaticality measured by TGJT

Source	Sum Sq	Df	F value	Pr(>F)
Group	78.037	2	13.5935	2.101e-05 ***
Task	17.796	1	6.2000	0.01629 *
Group:Task	18.037	2	3.1419	0.05220 .
Residuals	137.778	48		

The results, as shown in group effect plot (Figure 6), indicate the interaction effect of group treatment and task type. It can be seen from the data that the output did not significantly depend on the treatment. PassiveV and Modals tasks proved to be equally complicated for the control group and almost equally complicated for the subjects in the inductive and the deductive group. However, Modals task turned out to be the easiest for the group with the deductive treatment. PassiveV in the deductive group caused as many difficulties with the output in the deductive group as in the inductive one.

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[13] See Appendix A for the means for the group effect, task effect and interaction of group and task effect.

Figure 6 Two-way ANOVA interaction plot between the group and the task
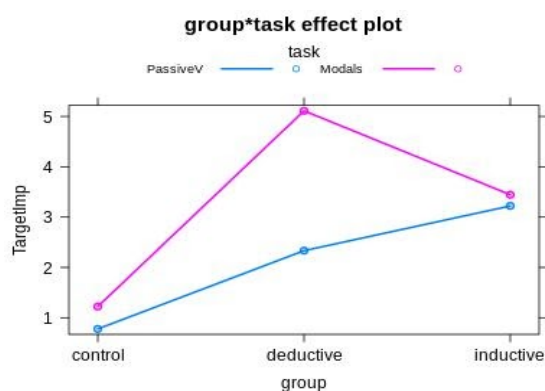
4.4. Target grammaticality. Explicit knowledge

In order to examine whether any significant differences existed across groups in two types of grammar tasks, a two-way ANOVA test (group treatment x task) was used. It showed a significant effect of group $(F(2,48)=21.38$, $p<0.05$ (2,287e-07), deductive, M=4.33; inductive, M=3.66; control, M=1.44) and a significant effect of task $(F(1.48)=7.53$, $p<0.05$ (0,008475), Modals, M=3.66; PassiveV, M=2.62). Interaction effects between group and task were found to be significant $F(2,48)=7.65$, $p>0.05$ (0,001303). Sums of squares, degrees of freedom, factor value and p-value are presented in Table 11.[14]

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[14] See Appendix A for the means for the group effect, task effect and interaction of group and task effect.

Table 11 Results of the two-way ANOVA test for target grammaticality measured by UGJT

Source	Sum Sq	Df	F value	Pr(>F)
Group	83.370	2	21,3846	2,287e-07 ***
Task	14.519	1	7,5385	0,008475 **
Group:Task	29.481	2	7,6538	0,001303 **
Residuals	92.444	48		

The plot below illustrates the interaction effect of group treatment and task type (Figure 7). A two-way ANOVA revealed that the performance depended on the treatment. PassiveV and Modals tasks resulted in equal performance both in the control and the inductive group. However, the performance on Modals turned out to be higher in the group with the deductive treatment. PassiveV caused more difficulties with the output in the group with the deductive treatment than the same task in the inductive group.

Figure 7 Two-way ANOVA interaction plot between the group and the task
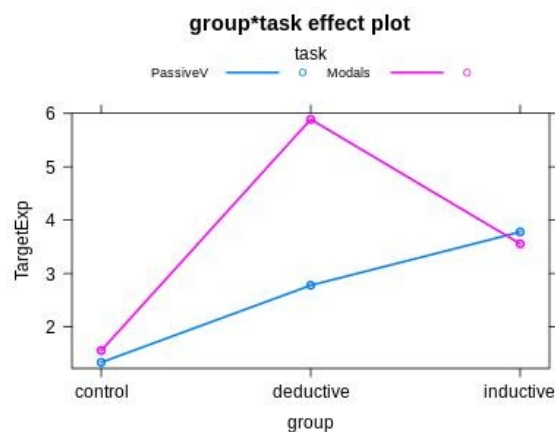
A follow-up one-way ANOVA test examining the effect of group on PassiveV and Modals tasks separately showed a very significant effect of deductive group for task ($F_{(1,16)}=34.08$, $p<0.05$ (2,518e-05); no significant effect of inductive group for task ($F_{(1,16)}=0.11$, $p>0.01$ (0,7423) and no significant effect of control group for task ($F_{(1,16)}=0.08$, $p>0.01$ (0.77). Plots with the effect of group are presented separately in Figure 8. Sums of squares, degrees of freedom, factor value and p-value are shown in Tables 12, 13, 14.

Figure 8 One-way ANOVA plots of the group effect on the task
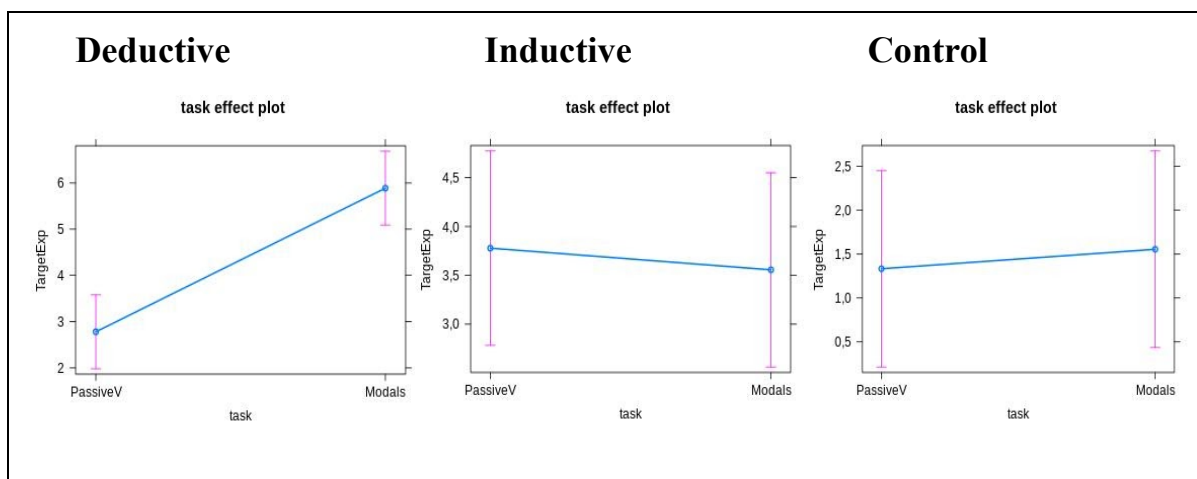
Table 12 Results of the one-way ANOVA test for the deductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	43.556	1	34.087	2,518e-05 ***
Residuals	20.444	16		

Table 13 Results of the one-way ANOVA test for the inductive group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	0.222	1	0,1119	0,7423
Residuals	31.778	16		

Table 14 Results of the one-way ANOVA test for the control group effect

Source	Sum Sq	Df	F value	Pr(>F)
Task	0.222	1	0,0884	0,77
Residuals	40.222	16		

4.5 Descriptive data

To address the research questions (what method is more effective in teaching grammar rules at B1 level in adults and whether there are any differences between two experimental treatments with regard to implicit and explicit knowledge), descriptive data, including means, medians and SD of participants' outcome (gains), were divided into summary statistics tables by group and type of grammaticality as well as by task and type of grammaticality (Table 15, 16, 17 and 18). As shown in Table 15, the group which was treated deductively outperformed both the inductive and the control groups, having obtained higher means in timed GJTs in terms of general and target grammaticality (4.05/3.72 for the deductive group vs. 3.50/3.33 for the inductive group and 1.11/1.00 for the control group).

Table 15 Descriptive statistics of TGJT by group and type of grammaticality (General and Target)

Group	Grammaticality type	Mean	Median	SD
Deductive	General	4.05	4.00	2.64
	Target	3.72	4.00	1.96
Inductive	General	3.50	3.00	1.61
	Target	3.33	3.50	1.74
Control	General	1.11	1.00	2.08
	Target	1.00	1.00	1.81

Likewise, as Table 16 shows, the deductive group outperformed the two other groups with inductive and no treatment conditions and obtained higher means in untimed GJTs in terms of general and target grammaticality (4.16/4.33 for the deductive group vs. 2.72/3.66 for the inductive group and 1.61/1.64 for the control group). Tables 15 and 16 illustrate that the deductive experimental group developed more explicit knowledge than implicit knowledge both in general and target grammaticality (4.16/4.33 vs 4.05/3.27), measured by TGJTs and UGJTs. In contrast, the inductive group obtained more implicit than explicit knowledge in general and target grammaticality (3.50/3.30 vs 2.72/3.66), measured by TGJTs and UGJTs. As can be seen from Tables 15 and 16, the control group demonstrated a slightly better performance in GJTs when the time was not applied (1.61/1.44 vs 1.11/1.00). Closer inspection of the tables shows that the gains in general and target grammaticality are comparable, indicating that incidental L2 learning of grammar

features that were not presented under the experimental conditions (grammar rules studied

at B1 level) took place in the three groups.

Table 16 Descriptive statistics of UGJT by group and type of grammaticality (General and Target)

Group	Grammaticality type	Mean	Median	SD
Deductive	General	4.16	4.50	2.83
	Target	4.33	5.00	1.94
Inductive	General	2.72	2.50	1.52
	Target	3.66	3.50	1.37
Control	General	1.61	1.50	2.83
	Target	1.44	1.00	1.54

With respect to the type of task, Table 17 shows that the participants' output on

Modal verbs was higher than on Passive voice in a TGJ test in relation to general and target

grammaticality (3.48/3.25 and 2.29/2.11 respectively).

Table 17 Descriptive statistics of TGJT by task and type of grammaticality (General and Target)

Group	Grammaticality type	Mean	Median	SD
Modals	General	3.48	3.00	2.97
	Target	3.25	4.00	2.56
Passive Voice	General	2.29	2.00	1.70
	Target	2.11	2.00	1.55

Conversely, Table 18 shows that the participants' output on Modal verbs was also higher than on Passive voice in a UGJ test in relation to general and target grammaticality (3.48/3.25 and 2.29/2.11 respectively).

Table 18 Descriptive statistics of UGJT by task and type of grammaticality (General and Target)

Group	Grammaticality type	Mean	Median	SD
Modals	General	3.40	3.00	2.97
	Target	3.66	4.00	2.25
Passive Voice	General	2.25	2.00	2.17
	Target	2.62	3.00	1.66

5 Discussion

This section discusses the results of the present research and addresses the data that were obtained empirically. These findings relate to the two research questions and hypotheses mentioned in section 2. Some unexpected outcomes that refer to experimental grammar tasks and general hypotheses that might explain the results are also included in this chapter.

5.1 What method is more effective in teaching grammar rules in adults

An initial objective of the project was to identify whether there is a difference between inductive and deductive teaching methods in adult learners of English as L2 with B1 level of competence. Given the fact that the scholars emphasized the overwhelming importance of the explicit-inductive way of teaching (Alzu'bi, 2014; Kaur and Niwas, 2016; Pudelek, 2016 and Berges-Puyo, 2017), it was hypothesised that adult participants would demonstrate a difference in the outcome after being exposed to explicit-inductive and explicit-deductive treatments. The present study found that the group which was treated deductively (PPP approach) outperformed the participants with the inductive treatment (TB approach) as well as the control group, having received higher means in both TGJTs and UGJTs in terms of general and target grammaticality (see Tables 15 and 16). These results are in accord with the previous studies (Norris & Ortega, 2000; Berges-Puyo, 2017) indicating that explicit methods of instruction lead to a better performance than implicit teaching techniques. It is encouraging to compare the evidence of the top-down method efficacy with the five-step procedure proposed by Widodo (2006), who found an array of advantages to using explicit rule presentation. Among other positive aspects, he referred to

the acknowledgement of cognitive processes and maturity in adult learners, avoiding wrong conclusions about the rule and familiarising learners with target grammar patterns through exercises).

However, the ANOVA showed that actual deduction (modality A) had a very significant effect on PassiveV and Modals tasks in separation (both in general TGJTs and UGJTs and in target UGJTs), when the task Modals was found to be the easiest task for the deductive group but PassiveV caused more difficulties with the output in the deductive group than in the group with subconscious induction on structured material (modality D). Therefore, the results of effectiveness of both methods of instruction should be interpreted with caution in order not to overstate the advantage of the top-down over the bottom-up approach.[15]

What is surprising is that the participants in the control group demonstrated gains, albeit not statistically significant, both in general and target grammaticality tests, with a slightly better performance in UGJTs (see Tables 15 and 16). This finding broadly supports the work of Redington and Chater (1996 cited in DeKeyser, 2003:11) who assumed that the performance of the control subjects could be explained by "learning at test, and not necessarily due to anything learned during training." The same notion could be attributed to general and target grammaticality outcomes in the three groups, which are comparable (4.16/4.33 for the deductive group vs. 2.72/3.66 for the inductive group and 1.61/1.64 for

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[15] See subsection 5.3 Grammatical difficulty.

the control group). A possible explanation for this uniformity in each group might be that incidental (empirical) acquisition of grammar patterns could be found both under control and experimental conditions.

5.2. Deductive and inductive treatments with respect to implicit and explicit knowledge

The second question in this research was whether there are any differences between two experimental treatments with respect to implicit and explicit knowledge representations of participants. Prior studies have attempted to measure the effect of implicit and explicit instructional methods on two types of knowledge (DeKeyser, 2003; Berges-Puyo, 2017). However, Berges-Puyo did not observe any statistically significant effect of explicit and implicit teaching treatments over L2 knowledge representations in her study. This study hypothesised that the deductively treated learners could acquire more explicit knowledge than the learners with the inductive instruction while the inductively treated subjects could outperform the deductive group in terms of their implicit knowledge. Contrary to previous research, this experiment revealed some evidence that the explicit-deductive method of teaching grammar developed more explicit knowledge than implicit knowledge both in general and target grammaticality, measured by TGJTs and UGJTs, whereas the explicit-inductive treatment resulted in more implicit than explicit knowledge in general and target grammaticality, measured by TGJTs and UGJTs (see Tables 15 and 16). A possible explanation for these findings might be the fact that our research comprised adult learners with the mean age 34 in the deductive group and 47.22 in the inductive

experimental group while in Berges-Puyo's study the two experimental groups included adolescent participants. Given the fact that TGJTs and UGJTs tap into implicit and explicit knowledge respectively, we could assume that adult learners acquire implicit knowledge as a result of exposure to explicit-inductive instruction and obtain explicit knowledge when they are exposed to explicit-deductive treatment. Consequently, we should support both DeKeyser's strong interface position, claiming that the deductive learning of participants who were exposed to explicit-deductive treatment (Modality A) could lead to a difference in performance (obtained knowledge) through PPP approach, and the weak interface position of Ellis, claiming that the L2 learners who were exposed to explicit-inductive treatment (Modality D) could develop tacit (implicit) knowledge by deriving their own explicit grammar rules through practice.

5.3 Grammatical difficulty

It is somewhat surprising that the output on modal verbs was higher than on passive voice both in TGJTs and UGJTs in relation to general and target grammaticality (see Tables 17 and 18). Follow-up one-way ANOVAs showed a very significant effect of the deductive treatment and no significant effect of the inductive treatment for the task type (see Figures 3, 5, 8). These findings were unexpected and suggest that there might be *difficult* and *easy* constructions in SLA, corroborating the findings in previous studies (DeKeyser, 2005; Collins et al, 2009). Collins et al assumed that some grammar rules are more difficult to master than others due to the difference in the time of acquisition (early acquired vs late acquired), markedness of forms (more or less common/ more or less natural), "the number of transformations required to arrive at the target form" (Hulstijn and Graaff, 1994 cited in

Collins, 2009:339). DeKeyser (2005) named *complexity of form, complexity of meaning and complexity of form-meaning mapping* as well as the *transparency of form-meaning relationships* as the main factors for determining grammatical difficulty of structures in L2.

If we now turn to the present study, the results provide further support for the hypothesis that the degree of complexity could depend on a range of linguistic factors mentioned above. Ostensibly, modal verbs, administered to the two experimental groups, could be found as a less difficult grammar rule due to the form saliency, i.e "frequency and availability in the input", while passive voice structures could be rendered as less salient (Collins, 2009:341). Further studies that take these variables into account will need to be undertaken.

However, we should not only focus on the linguistic complexity per se but rather attribute it to instructional methods which are applied in educational settings. As this work contributes to existing knowledge (Krashen, 1982; DeKeyser, 2005; Baten, 2016) that degrees of grammar complexity may impact instructional decisions, these findings provide a number of insights for future research on whether explicit-inductive and explicit-deductive rule provision methods are beneficial for teaching individual structures.

6 Conclusion

The present study was designed to determine the effect of deductive and inductive methods of grammar provision for English learners with B1 level with respect to their implicit and explicit knowledge as well as to the interface between them. Although a number of scholars (Krashen, 1982; Ellis, 1993; DeKeyser, 2003; Schmidt, 2010) focused on the three interface positions, the non-interface position with the "zero grammar" approach was not concerned in the study. The strong interface position that supports PPP teaching approach was examined in comparison to the weak interface position that provides a basis for TB teaching techniques. Overall, this study strengthens the idea that an oral-situational approach, namely PPP, which comprises three main stages of the learning process (explicit rule provision, practicing through controlled production and automatising the rule by means of real-life production tasks), could be an appealing altrenative to TBA, which is based on task completion and task outcome, in educational settings for adult learners. In general, the findings suggest a role for the explicit-deductive (PPP, top-down, teacher-centred) approach for L2 learners with a low level of language competence on grounds that the learners with the teacher-centred instructions in general outperformed the participants with the inductive instructional method, regardless of the fact that the performance of the deductive group on the Modals task was higher than on the PassiveV task both in TGJTs and UGJTs. In addition, no significant difference was found with regard to the inductive treatment for the task type (Modals vs PassiveV).

The principal theoretical implication of this study is that some grammar forms should be worked out deductively whereas other grammar structures need the learner's

induction. Also, the insights gained from this study may be of assistance to language teachers who are reluctant to incorporate PPP and TB approaches in educational contexts due to time-consuming lesson planning and preparation, unclear time-management and individual variables of the learner and the teacher (Thornbury, 1999; Glaser, 2013). However, greater efforts are needed to measure the level of rule complexity, appropriateness of tasks/exercise difficulty and the lesson design in order to create beneficial opportunities for SLA.

Despite the substantial positive effect of the deductive rule provision method on grammaticality performance in adult learners, there are a number of disadvantages and limitations. As was mentioned in the previous section, the explicit-deductive (PPP) approach to teaching grammar could be effectively applied in adult learners to increase their comprehension of particular grammar rules, e.g. modal verbs. However, the task PassiveV resulted in lower performance in the deductive group than in the inductive one. Consequently, the generalisability of these results is subject to certain limitations because linguistic complexity of the form was not included in the study and further work needs to be done to estimate grammar difficulty.

As far as the explicit and implicit knowledge are concerned, the previous section has shown that the top-down approach could develop explicit knowledge while the bottom-up teaching method leads to developing implicit knowledge. The most important limitation lies in the fact that implicit knowledge could not be entirely related to implicit learning because of the assumption that explicit knowledge could convert into implicit by continuously practising declarative linguistic rules (DeKeyser, 2003). Therefore, more

studies need to be carried out in order to determine to what extent different types of instruction correlate with the measures of explicit and implicit knowledge representations.

Turning now to the post-tests, both TGJTs and UGJTs, which were administered with a 2-5-day delay depending on the conditions the lockdown permitted, it is important to point out that we may not be sure that the rules were factually retained as a result of experimental treatment but not as a result of a test preparation in case of 5-day breaks. On top of that, implicit knowledge may be elicited as a result of losing explicit knowledge in the meantime (Reed and Johnson, 1998 cited in DeKeyser, 2003:5). Hence, considerably more work should be done to determine appropriate time for post-tests.

In spite of the limitations and many questions which require further investigation, the study certainly adds to our understanding of the best strategies for teaching grammar. This information could be found beneficial to SLA researchers and teachers who give lessons to L2 English learners.

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Appendix A

General grammaticality. Implicit knowledge.

Table 1 Two-way ANOVA results for the group effect (means)

Deductive	Inductive	Control
4.05	3.50	1.11

Table 2 Two-way ANOVA results for the task effect (means)

Modals	Passive Voice
3.48	2.29

Table 3 Two-way ANOVA results for the interaction effect of the group and task type (means)

Source	Modals	Passive Voice
Deductive	5.88	2.22
Inductive	3.44	3.55
Control	1.11	1.11

General grammaticality. Explicit knowledge.

Table 4 Two-way ANOVA results for the group effect (means)

Deductive	Inductive	Control
4.16	2.72	1.61

Table 5 Two-way ANOVA results for the task effect (means)

Modals	Passive Voice
3.40	2.25

Table 6 Two-way ANOVA results for the interaction effect of the group and task type (means)

Source	Modals	Passive Voice
Deductive	6.22	2.11
Inductive	2.44	3.00
Control	1.55	1.66

Target grammaticality. Implicit knowledge.

Table 7 Two-way ANOVA results for the group effect (means)

Deductive	Inductive	Control
3.72	3.33	1.00

Table 8 Two-way ANOVA results for the task effect (means)

Modals	Passive Voice
3.25	2.11

Table 9 Two-way ANOVA results for the interaction effect of the group and task type (means)

Source	Modals	Passive Voice
Deductive	5.11	2.33
Inductive	3.44	3.22
Control	1.22	0.77

Target grammaticality. Explicit knowledge.

Table 10 Two-way ANOVA results for the group effect (means)

Deductive	Inductive	Control
4.33	3.66	1.44

Table 11 Two-way ANOVA results for the task effect (means)

Modals	Passive Voice
3.66	2.62

Table 12 Two-way ANOVA results for the interaction effect of the group and task type (means)

Source	Modals	Passive Voice
Deductive	5.88	2.77
Inductive	3.55	3.77
Control	1.55	1.33

Appendix B

Deductive treatment 1

Task 1: Activating learners' schemata by means of asking questions.

Task 2: Explicit presentation of affirmative forms of modal verbs.

Task 3: Practice by means of doing grammar exercise 1 and the explicit instructor's feedback.

Task 4: Explicit presentation of negative and question forms of modal verbs.

Task 5: Practice by means of doing grammar exercise 2 and the explicit instructor's feedback.

Task 6: Explicit presentation of *to have to* pattern.

Task 7: Practice was by means of doing grammar exercise 3 and the explicit feedback provision.

Task 8: Production by means of a role-play activity.

Deductive treatment 2

Task 1: Activating learners' schemata by means of asking questions.

Task 2: Explicit presentation of passive voice forms (Present Simple aspect).

Task 3: Practice by means of doing grammar exercise 4 and the instructor's explicit feedback.

Task 4: Explicit presentation of passive voice forms (Present Simple aspect).

Task 5: Practice by means of doing grammar exercise 5 and the explicit feedback provision.

Task 6: Explicit presentation of passive voice forms (Future Simple aspect, modal verbs *must/ should*).

Task 7: Practice by means of doing grammar exercise 6 and the instructor's explicit feedback.

Task 8: Production by means of a role-play activity.

Inductive treatment 1

Task 1: Activating learners' schemata by means of asking questions.

Task 2: Implicit presentation of affirmative forms of modal verbs by means of providing examples and putting them on the board to facilitate conscious induction.

Task 3: Practice by means of making similar examples and the instructor's implicit corrective feedback.

Task 4: Implicit presentation of negative and question forms of modal verbs by means of examples and encouraging conscious induction with the help of putting models on the board.

Task 5: Practice by means of making similar models and the instructor's implicit error correction.

Task 6: Implicit presentation of *to have to* pattern.

Task 7: Practice by means of doing identical models and the instructor's implicit feedback.

Task 8: Communication by means of doing a project activity and unconscious mastery of the grammar rule.

Inductive treatment 2

Task 1: Activating learners' schemata by means of asking questions.

Task 2: Implicit presentation of passive voice forms (Present Simple aspect) by means of providing examples and putting them on the board to facilitate conscious induction.

Task 3: Practice by means of making identical patterns and the instructor's implicit error correction.

Task 4: Implicit presentation of passive voice forms (Present Simple aspect) by means of examples and facilitating conscious induction by putting models on the board.

Task 5: Practice by means of making similar examples and the instructor's implicit error correction.

Task 6: Implicit presentation of passive voice forms (Future Simple aspect, modal verbs *must/ should*).

Task 7: Practice by means of producing similar sentences and the instructor's implicit error correction.

Task 8: Communication by means of doing a project activity and unconscious mastery of the grammar rule.

Appendix C

Deductive rule provision: Lesson plan 1 (Modal verbs)

Name: Aleksandra Belousova
Lesson № 1 Deductive (45 min)
Topic/theme: Modal verbs (Must, Have to, Should)
Aims: Grammar presentation, practice and production.
Materials: Oxford English Grammar Basic (M. Swan, C. Walter), pictures, flashcards, board pens

LESSON PROCEDURE FORM

Stage	Procedure	Rationale	Time	Interaction
Lead-in	I will show pictures of road rules. I will ask the students to discuss in pairs: - What the signs mean. - What people can or can't do	To activate the schemata of students	3 min	Work in pairs
Feedback	I will elicit opinions and answers from the students	To check the answers for the lead-in	2 min	Open class
Grammar presentation: Modal verbs (affirmative forms)	I will tell the students that they are going to learn how to speak about rules using different modal verbs. I will make some models using the road signs: *We must stop at red traffic lights. We have to wait. We should be careful.* I will explain the students the difference in meaning using Concept Check Questions (CCQ) and mimics/gestures. Also, I will use the translation into Spanish if necessary.	To establish the context and state the objective of the class. To teach Modal verbs deductively.	4 min	Open class

Stage	Procedure	Rationale	Time	Interaction
Grammar practice	I'll ask the students to do grammar exercises (Ex.1) Students check the answers in pairs. Feedback. I will put the answers on the board.	To get students to practice new grammar rules. To get students to practise speaking when they compare the answers To ensure students got the right answers	4 min 3 min 1 min	Individually Pair work Open class
Grammar presentation: Modal verbs (negative and question forms)	I will make some models using the pictures with museum signs: *We mustn't take photos. We shouldn't speak loudly. We don't have to buy the tickets.* I will explain the students the difference in meaning using Concept Check Questions (CCQ) and mimics/gestures. Also, I will use the translation into Spanish if necessary. I will use the cards with modal verbs to show how the verbs move in question forms.	To teach Modal verbs deductively	4 min 2 min	Open class Open class
Grammar practice	I'll ask the students to do grammar exercises (Ex.2) Students check the answers in pairs. Feedback. I put down the answers on the board.	To get students to practice new grammar rules. To get students to practise speaking when they compare their answers. To ensure students got the right answers	4 min 3 min 1 min	Individually Pair work Open class

Grammar presentation: Modal verbs (forms of Have to)	I will explain the students how to use Have to in present, past and future simple. I will use the whiteboard and coloured board pens to focus on forms.	To teach forms of Have to deductively.	3 min	Open class
Grammar practice	I will ask the students to work in pairs and fill in the gaps in sentences. (Ex.3)

Feedback. I put down the answers on the board. | To get students to practise speaking when they compare the answers

To ensure students got the right answers. | 4 min

1 min | Pair work

Open class |
| Production. Role-play | I will ask the students to work in pairs. One student is an employer, the second student is a person who is looking for a job. They will role play a job interview. | To get students to have a freer speaking activity. | 6 min | Pair work |
| | | | | |

Inductive rule provision: Lesson plan 2 (Modal verbs)

Name: Aleksandra Belousova
Lesson № 2 Inductive (45 min)
Topic/ theme: Modal verbs (must, have to, should)
Aims: communication, language focus, practice
Materials: pictures, flashcards, board pens
LESSON PROCEDURE FORM

Stage	Procedure	Rationale	Time	Interaction
Lead-in	I will show pictures with traffic signs. I will ask the students to discuss questions in pairs and report back on what they have discussed: - What do the signs mean? - What can/can't people do?	To activate the schemata of students and let them communicate.	3 min	Pair work
Feedback	I will elicit opinions and answers from the students	To check the answers for the lead-in	1 min	Open class
Language focus: Modal verbs (affirmative forms)	I will tell the students what I know about road rules, using the pictures with traffic signs. I'll write my model sentences on the board: We must stop at red traffic lights. We have to wait. We should be careful.	To focus on target grammar (must, have to, should) and to teach Modal verbs inductively.	4 min	Open class

Grammar practice	I'll ask the students to make similar sentences about other pictures with traffic rules: We *must slow down at yellow traffic lights. We have to respect other drivers. We should drive at 30 kmph.* Students work in pairs. Feedback. I will elicit some answers.	To get students to practise new grammar rules.	1 min	Open class
		To get students to practise target grammar when speaking.	5 min	Pair work
		To ensure students understood the rules.	2 min	Open class
Language focus: Modal verbs (negative and interrogative forms)	I will write some models using the pictures withmuseum signs): *We mustn't take photos. We shouldn't speak loudly. We don't have to buy the tickets.* I will ask 2-3 students to hold the pictures. I'll ask them some questions and I'll put the questions down: *What should we do in a cloak room?*	To focus on target grammar (form and meaning) and teach modal verbs inductively.	4 min	Open class
			2 min	Open class
Grammar practice	I'll ask the students to make similar dialogues about other pictures with public places (theatre, school, plane, etc.). Students work in pairs Feedback. I elicit some answers.	To get students to practise new grammar rules.	1 min	Open class
		To get students to practise target grammar when speaking.	5 min	Pair work
		To ensure students understood the rules	2 min	Open class

Language focus: Modal verbs (Have to in Present, Past and Future Simple)	I will make some model sentences with *have to* in Present, Past and Future Simple for describing jobs: *Do doctors have to work 8 hours a day now? Yes, they have to work a lot. Did doctors have to work 12 hours a day 100 years ago? No, doctors didn't have to work so much. Will doctors have to speak only one language in future? Doctors will have to speak 5 languages in future.*	To focus on target grammar (form and meaning) and teach Modal verbs inductively.	4 min	Open class
Grammar practice	I will ask the students to work in pairs and make similar dialogues about other jobs (teacher, builder, shop assistant, etc.). Students work in pairs. Feedback. I'll elicit some answers.	To get students to practise target grammar.	1 min	Open class
		To get students to practise target grammar when speaking.	5 min	Pair work
		To ensure students understood the rules.	2 min	Open class
Communication	I will ask the students to work in two groups. Each group makes a poster with a list of rules for a good teacher. I'll put their posters on the wall.	To get students to have a freer speaking activity and communicate using target grammar.	4 min	Group work

Inductive rule provision: Lesson plan 3 (Passive voice)

Name: Aleksandra Belousova

Lesson No 3 Inductive (45 min)

Topic/theme: Passive Voice (Present, Past, Future Simple, Modal verbs + Passive infinitive)

Aims: Communication, language focus, practice

Materials: pictures, flashcards, board pens

LESSON PROCEDURE FORM

Stage	Procedure	Rationale	Time	Interaction
Lead-in	I will ask the students to make a list of things they take when they travel (e.g. toothbrush, swimming costume, etc.), discuss in pairs and report back on what they have discussed: - What things they usually take - Why they take them when travelling	To activate the schemata of students and let them communicate. Review of Present Simple Active.	3 min	Work in pairs
Feedback	I will elicit opinions and answers from the students	To check the answers for the lead-in	1 min	Open class

Stage	Procedure	Rationale	Time	Interaction
Language focus: Passive Voice (Present Simple)	I will tell the students what other personal belongings people can take. I write my model sentences on the board (interrogative and affirmative) near appropriate pictures: - *Why are passports taken? - Passports are taken to check-in at the airport - Why is money taken? - Money is taken to buy some presents. - Is any furniture taken?*	To focus on target grammar (Present Simple Passive) and to teach Passive Voice inductively.	4 min	Open class
Grammar practice	I'll ask the students to make similar sentences about other pictures with personal belongings. For example: - *Why are sandals taken? - They are taken because the weather is hot.* Students work in pairs. Feedback. I will elicit some answers.	To get students to practise new grammar rules. To get students to practise target grammar when speaking. To ensure students got the right answers	1 min 5 min 2 min	Open class Pair work Open class

Language focus: Passive voice (Past Simple)	I will write some models with *Past Simple Passive*, using the pictures with prehistoric items/tools: *Stones were used to kill animals. Fire was used to cook food.* I will ask 2-3 students to hold the pictures. I'll address them with the questions and I'll put them down on the board: - *Why were arrows used? –How was a cave used? –Were smartphones used?*	To focus on target grammar (form and meaning) and teach Passive voice inductively.	3 min 3 min	Open class Open class
Grammar practice	I will ask the students to make similar dialogues about other items/tools in the picture. Students work in pairs. Feedback. I'll elicit some answers.	To get students to practise target grammar. To get students to practise target grammar when speaking. To ensure students understood the rules.	1 min 5 min 2 min	Open class Pair work Open class

Language focus: Passive Voice (Future Simple, Modal verbs)	I will make some models with *Future Simple Passive* and modal verbs must/should about life in future. I'll show some pictures and write on the board: - *Will cars be used? - No, they won't. - Should planets be visited? - They must be visited. - When will other planets be visited? - They will be visited in 1000 years.*	To focus on target grammar (form and meaning) and teach Passive Voice inductively.	4 min	Open class
Grammar practice	I will ask the students to work in pairs and make similar dialogues about life in 50/100/ 500 years. What should/must be made now? Students work in pairs. Feedback. I'll elicit some answers.	To get students to practise target grammar. To get students to practise target grammar when speaking. To ensure students understood the rules.	1 min 5 min 2 min	Open class Pair work Open class
Communication	I will ask the students to work in two groups. Each group makes a poster about their town/city infrastructure: - *What was made in the city? - What is made in the city? - What will be made in the city?* I'll put their posters on the wall	To get students to have a freer speaking activity and communicate using target grammar.	4 min	Pair work

Deductive rule provision. Lesson plan 4 (Passive voice)

Name: Aleksandra Belousova
Lesson № 4 Deductive (45 min)
Topic/theme: Passive Voice (Present, Past, Future Simple, Modal verbs + Passive infinitive)
Aims: Presentation, practice, production
Materials: Oxford English Grammar Basic (M. Swan, C. Walter), pictures, flashcards, board pens

LESSON PROCEDURE FORM

Stage	Procedure	Rationale	Time	Interaction
Lead-in	I will ask the students to make a list of things they take when they travel (e.g. toothbrush, swimming costume, etc.), discuss in pairs and report back on what they have discussed: - What things they usually take - Why they take them when travelling	To activate the schemata of students and let them communicate. Review of Present Simple Active.	3 min	Work in pairs
Feedback	I will elicit opinions and answers from the students	To check the answers for the lead-in	1 min	Open class
Grammar presentation: Passive Voice (Present Simple)	I will tell the students that they are going to learn how to speak about different things using Passive Voice. I'll write my model sentences on the board (interrogative and affirmative) near appropriate pictures: - *Why are passports taken?* - *Passports are taken to check in at the airport* - *Why is money taken?* - *Money is taken to buy some presents.* - *Is any furniture taken?* - *No, it isn't!*	To focus on target grammar (Present Simple Passive) and to teach Passive Voice deductively.	4 min	Open class

	I'll explain the students Passive Voice patterns underlying auxiliary verbs and Past Participle forms. I'll also explain the difference between active and passive forms: *I take money/ Money is taken.*			
Grammar practice	I'll ask the students to do one grammar exercise (Ex. 4).	To get students to practise new grammar rules.	1 min	Individually
	Students work in pairs.	To get students to practise target grammar when speaking.	5 min	Pair work
	Feedback. I will elicit some answers.	To ensure students got the right answers	2 min	Open class
Grammar presentation: Passive voice (Past Simple)	I will write some models using the pictures with items/tools from the past (Stone Age): *Stones were used to kill animals. Fire was used to cook food.* I'll explain the students Passive Voice forms and the difference between active and passive forms: *They used caves/ Caves were used.* I'll use Spanish if necessary.	To focus on target grammar (form and meaning) and teach Passive Voice deductively.	3 min	Open class
	I will explain how to transform a sentence into a question with the help of board pens. - *Why were arrows used?* - *How was a cave used?* - *Were smartphones used?*		3 min	Open class

Grammar practice	I'll ask the students to do one exercise (Ex.5)	To get students to practise new grammar rules.	1 min	Individually
	Students work in pairs.	To get students to practise target grammar when speaking.	5 min	Pair work
	Feedback. I'll put down the answers on the board.	To ensure students got the right answers	2 min	Open class
Grammar presentation: Passive Voice (Future Simple, modal verbs)	I will make some models with *Future Simple Passive* and modal verbs *must and should* about life in future. I'll show some pictures and write on the board: - *Will cars be used?* - *No, they won't.* - *Should other planets be visited?* - *They should be visited! They will be visited in 1000 years.* I'll draw students' attention to the form, underlying auxiliary verbs and Past Participles.	To focus on target grammar (form and meaning) and teach Passive Voice deductively.	4 min	Open class
Grammar practice	I will ask the students to work in pairs and fill in the gaps (Ex.6).	To get students to practise new grammar rules.	1 min	Individually
	Students work in pairs.	To get students to practise target grammar when speaking.	5 min	Pair work
	Feedback. I'll elicit some answers.	To ensure students got the right answers	2 min	Open class

| Production. | I will ask the students to role-play a dialogue. One student is the mayor, the second student is a journalist. They make an interview:

- What was made in the city
- What is made in the city
- What will be made in the city
- What must be made in the city
- What should be made in the city | To get students to have a freer speaking activity and communicate using target grammar. | 4 min | Pair work |
| | | | | |

Appendix D

Exercises for lesson 1 (Modal verbs)

Ex.1 Fill in the gaps with *must*, *should* or *have to*.

1. I _____ eat more fruit, but I don't like fruit.
2. An accountant _____ be good with numbers.
3. We _____ hurry - we're late.
4. In a big city, you _____ be careful with your money
5. You _____ stop smoking.
6. "Do I look OK?" "You _____ get a haircut."

Ex.2 Fill in the gaps with *must/ mustn't, should/ shouldn't* or *do … have to/ don't have to*.

1. You _____ buy breakfast for me, I'll have lunch at the canteen.
2. _____you _____ help John? He hasn't done any work.
3. You _____ drive so fast - the police will stop you.
4. _____ everybody_____ know a foreign language?
5. _____ parents_____ read their children's letters?
6. You _____ eat so many chocolates - you can get fat.

Ex. 3 Fill in the gaps with *have to/ had to/ will have to*.

1. Joe and Sue _____ wait for a long time for a train yesterday.

2. You _____ show your passport at the airport tomorrow.

3. Peter _____cook supper now.

4. Liz wants to go to the US. _____ she _____ have a visa?

5. "I couldn't go home early last Friday." " _____ you_____work?"

6. "I've got a job with a Swiss company." "_____you ___speak French?

Exercises for lesson 4 (Passive voice)

Ex.4 Put simple present passive verbs into these sentences.

1. A lot of olive oil _____ in Greek cooking. (use)
2. The police say that nothing _____ about the child's family. (know)
3. Where _____ these computers _____? (make)
4. How much ____ you _____? (pay)
5. Wow! ___ I _____? (invite)
6. In English, 'e' _____ in a lot of different ways. (pronounce)

Ex. 5 Put simple past passive verbs into these sentences.

1. We _____ when we finished the work. (not pay)
2. I don't think this room _____ yesterday. (clean)
3. We couldn't find the station, but we _____ by a very kind woman. (help)
4. When _____ you _____? (be born)
5. _____ your suit _____ in Hong Kong? (make)
6. Where _____ your father _____? (educate)

Ex. 6 Make passive sentences with the verbs from the box, using

will, must and should

clean close finish open send speak

1. The motorway _____ for three days.
2. _____ the museum _____ by the Queen?
3. One day English _____ everywhere.
4. _____ this job _____ in a few days?
5. Your room _____ while you're out.
6. _____ our tickets _____ to us next week?

Appendix E

Answer Sheets

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____
27. _____
28. _____
29. _____
30. _____

Modal verbs. Pre-test

1. There are few eggs in the fridge.   _____
2. He don't have to go to work today.   _____
3. We don't must smoke here.   _____
4. He has a little friends.   _____
5. The players shouldn't to break the rules.   _____
6. You mustn't make mistakes.   _____
7.   Barcelona is as beautiful as Madrid.   _____
8.   I was having a holiday for 5 weeks last year.   _____
9.   Passengers must to listen to the cabin crew.   _____
10. Nick should goes to the dentist.   _____
11. Does a doctor have to wear a uniform?   _____
12. Did Columbus discover America?   _____
13. Must you help your grandparents?   _____
14. Your photographs are many more beautiful than mine.   _____
15. Has he to wake up at 7 am?   _____
16. A good boy should listen to his parents.   _____
17. The goalkeeper in football have to be quick.   _____
18. They must work hard to pass an exam.   _____
19. She was breaking her leg yesterday.   _____
20. Does Carla have to study at night?   _____
21. Students have to have classes on Fridays.   _____
22. A sportsman must trains hard to win the race.   _____
23. John wants finding a good job.   _____
24. Should she tell her parents about it?   _____
25. Children are good at playing computer games.   _____
26. We should start right now?   _____
27. Did you visited Canada last year?   _____
28. My granny had to work at the age of 10.   _____
29. I think Mary shouldn't try this.   _____
30. You must travel a lot last year.   _____

Modal verbs. Post-test

1. I have little money. _____
2. Teachers don't have to work at night. _____
3. People don't should speak loudly in public places. _____
4. Tigers are as dangerous as sharks. _____
5. Everybody should says NO to political repressions. _____
6. Have you to work on Saturday? _____
7. I didn't noticed a crocodile in the river. _____
8. People should respect each other. _____
9. Why does she must wear a white shirt? _____
10. He has few time. _____
11. Should she tell her parents about it? _____
12. Immediately, a lion was jumping at us. _____
13. Do you have to do it yourself? _____
14. You had to say all what you thought yesterday. _____
15. Competitors have to listen to the judge's decision. _____
16. Students have to classes on Fridays. _____
17. Biology is not as hard than Geography. _____
18. We don't must eat a lot if we want to be fit. _____
19. All people in the world must save water. _____
20. You mustn't cheat in class. _____
21. Doctors say you shouldn't drink a lot of alcohol. _____
22. We should start right now? _____
23. A snake was lying in the sun. _____
24. Michael Jackson started his solo career in 1971. _____
25. You must travel a lot last year. _____
26. How much do I have to pay for this service? _____
27. It's not hard to find examples of globalization. _____
28. I think John musts keep promises. _____
29. It's never late learning something new. _____
30. You haven't to book the tickets in advance. _____

Passive voice. Pre-test

1. Few people live in the Arctic. _____
2. He is invited to the conferences every year. _____
3. Australia was discovered by James Cook. _____
4. Camels drink few water in the desert. _____
5. Many new houses will be built next year. _____
6. Did Leonardo DiCaprio was given an Oscar? _____
7. He is as smart as his elder brother. _____
8. I was talking on the phone when the connection broke down. _____
9. Will be the money found? _____
10. The book won't published next month. _____
11. You weren't born in Malaga. _____
12. Who invented the telescope in 1608? _____
13. People isn't loved if they lie. _____
14. It's many more difficult to enter a university than a college. _____
15. Are dogs trained in this centre? _____
16. His pictures won't be sold! _____
17. The factory should be reconstructed. _____
18. The book can not be read. _____
19. I wouldn't like going there with unknown people. _____
20. John Lennon didn't killed in 1979. _____
21. Do many patients operated in the hospital? _____
22. John isn't loved by his teacher. _____
23. I was cutting my finger when I was cooking. _____
24. Kangaroos keep in zooparks. _____
25. She is keen on making sketches in pencil. _____
26. Will Sagrada Familia be finished in 2026? _____
27. Why you invited him to a party? _____
28. Was the car repaired by your dad? _____
29. The robber will be catch by police. _____
30. A bad mark put to Mary. _____

Passive voice. Post-test

1. Few people want to learn quantum physics. _____
2. Nobody is allowed to smoke in public places. _____
3. Who will be elected as a new president? _____
4. It's much more difficult than I thought. _____
5. It will be not sold - it's mine. _____
6. Will be fuel used in 50 years? _____
7. Please, drink a few juice. _____
8. He lived in a small town near London. _____
9. Perpetuum Mobile won't be invented! _____
10. It mustn't to be watched, it's a horror film. _____
11. Was this picture paint by Picasso? _____
12. Some young men are fond of cycling. _____
13. Why do I respected at work? _____
14. We all want enter the university! _____
15. Electric cars will use in all countries one day. _____
16. The problem couldn't be solved yesterday. _____
17. He was took to hospital 2 days ago. _____
18. Planes don't made of plastic. _____
19. I was living with my grandparents for 5 years. _____
20. We wasn't played with in class. _____
21. Where were the first Olympic Games held? _____
22. The best computers made in Japan. _____
23. Princess Diana was being very kind. _____
24. Albert Einstein wasn't well-known when he was 5. _____
25. Did he wanted to be an Olympic winner? _____
26. Champagne isn't produced in Russia. _____
27. Horses are not as strong than elephants. _____
28. Penicillin was discovered by A. Fleming. _____
29. Are tigers kept as pets? _____
30. Fantastic buildings will be built in 100 years. _____

Appendix F

Pre-test on modal verbs. Example sentences and interest areas

General grammaticality

1. Quantifiers: 1. There are <u>few eggs</u> in the fridge.

                 2. *He has <u>a little friends</u>.

2. Comparatives: 1. Barcelona is <u>as beautiful as</u> Madrid.

              2. *Your photographs are <u>many more beautiful than</u> mine.

3. Regular Past Simple: 1. <u>Did Columbus discover</u> America?

               2.*<u>Did you visited</u> Canada last year?

4. Past Continuous: 1. I <u>was having </u>a holiday for 5 weeks last year.

             2.*She <u>was breaking</u> her leg yesterday.

5. Gerunds/Infinitives: 1. Children <u>are good at playing </u>computer games.

             2.*John <u>wants finding</u> a good job.

Target grammaticality

6. Have to Negative:1. Students <u>don't have to have</u> classes on Sundays.

              2. *He <u>don't have to go</u> to work today.

7. Must Negative: 1. You <u>mustn't make</u> mistakes.

              2. *We <u>don't must smoke </u>here.

8. Should Negative: 1. I think Mary <u>shouldn't try </u>this.

             2.*The players <u>shouldn't to break</u> the rules.

9. Must Positive: 1. They <u>must work</u> hard to pass an exam.

            2.*Passengers <u>must to listen</u> to the cabin crew.

10. Should Positive: 1. A good boy should listen to his parents.

        2.*Nick should goes to the dentist.

11. Have to Interrogative: 1. Does a doctor have to wear a uniform?

        2.*Has he to wake up at 7 am?

12. Must/Have to Interrogative: 1. Does Carla have to study at night?

        2.*Must you help your grandparents?

13. Have to Positive: 1. The goalkeeper in football has to be quick.

        2.*My younger sister have to do her homework everyday.

14. Should Interrogative: 1. Should we tell the truth every time they ask us?

        2.*Should do we all the exercises?

15. Must/Have to Past simple: 1. My granny had to work at the age of 10.

        2.*She musted look after her children yesterday.

Post-test on modal verbs. Example sentences and interest areas

General grammaticality

1. Quantifiers: 1. I have little money.

        2.*He has few time.

2. Comparatives: 1. Tigers are as dangerous as sharks.

        2.*Biology is not as hard than Geography.

3. Regular Past Simple: 1. Michael Jackson started his career in 1971.

        2.*I didn't noticed a crocodile in the river.

4. Past Continuous: 1. A snake was lying in the sun.

        2.*Immediately, a lion was jumping at us.

5. Gerunds/Infinitives: 1. <u>It's not hard to find</u> examples of globalization.

   2.* <u>It's never late learning</u> something new.

Target grammaticality

6. Have to Negative:1. Teachers <u>don't have to </u>work at night.

   2. *You <u>haven't to</u> book the tickets in advance.

7. Must Negative: 1. You <u>mustn't </u>cheat in class.

   2. *We <u>don't must</u> eat a lot if we want to be fit.

8. Should Negative: 1. Doctors say you <u>shouldn't </u>drink a lot of alcohol.

   2.*People <u>don't should</u> speak loud in public places.

9. Must Positive: 1. All people in the world <u>must save</u> water.

   2. *I think John <u>musts</u> keep promises.

10. Should Positive: 1. People <u>should respect</u> each other.

   2.*Everybody <u>should says</u> NO to political repressions.

11. Have to Interrogative: 1. How much <u>do I have to</u> pay for this service?

   2.*<u>Have you to work </u>on Saturday?

12. Must/Have to Interrogative: 1. <u>Do you have to do</u> it yourself?

   2.*Why <u>does she must</u> wear a white shirt?

13. Have to Positive: 1. Competitors <u>have to listen </u>to the judge's decision.

   2.*Students <u>have to</u> classes on Fridays.

14. Should Interrogative: 1. <u>Should she tell </u>her parents about it?

   2.*<u>We should start</u> right now?

15. Must/Have to Past simple: 1. You <u>had to say</u> all what you thought.

   2.*<u>I must travel</u> a lot last year.

Pre-test on passive voice. Example sentences and interest areas

General grammaticality

1. Quantifiers: 1. <u>Few people</u> live in the Arctic.

    2. *Camels drink <u>few water</u> in the desert.

2. Comparatives: 1. He is <u>as smart as</u> his elder brother.

    2. *It's <u>many more difficult </u>to enter a university than a college.

3. Regular Past Simple: 1. <u>Who invented</u> the telescope in 1608?

    2. *<u>Why you invited him</u> to a party?

4. Past Continuous: 1. I <u>was talking on the phone when </u>the connection broke down.

    2. *I <u>was cutting</u> my finger when I was cooking.

5. Gerunds/Infinitives: 1. She is <u>keen on making </u>sketches in pencil.

    2. *I <u>wouldn't like going </u>there with unknown people.

Target grammaticality

6. Present Simple Passive: 1. <u>He is invited </u>to the conferences every year.

    2. *<u>Kangaroos keep </u>in zooparks.

7. Past Simple Passive: 1. <u>Australia was discovered</u> by James Cook.

    2. *A bad <u>mark put </u>to Mary.

8. Future Simple Passive: 1. Many new <u>houses will be built</u> next year.

    2. *The <u>robber will be catch</u> by police.

9. Present Simple Passive Interrogative: 1. <u>Are dogs trained</u> in this centre?

    2.*<u>Do many patients operated</u> in the hospital?

10. Past Simple Passive Interrogative: 1. <u>Was the car repaired </u>by your dad?

    2.*<u>Did Leonardo DiCaprio was given</u> an Oscar?

11. Future Simple Passive Interrogative: 1.<u>Will Sagrada Familia be finished</u> in 2026?

2.*<u>Will be the money found</u>?

12. Present Simple Passive Negative: 1. <u>John isn't loved </u>by his teacher<u>.</u>

2. *<u>People isn't loved </u>if they lie.

13. Past Simple Passive Negative: 1. <u>You weren't born</u> in Malaga.

2.*<u>John Lennon didn't killed</u> in 1979.

14. Future Simple Passive Negative: 1. His <u>pictures won't be sold</u>!

2.*<u>The book won't published </u>next month.

15. Modal verbs Passive: 1. The<u> factory should be reconstructed</u>.

2.*The <u>book can be not read</u>.

Post-test on passive voice. Example sentences and interest areas

General grammaticality

1. Quantifiers: 1. <u>Few people</u> want to learn quantum physics.

2. *Please, drink <u>a few juice.</u>

2. Comparatives: 1. It's much <u>more difficult than </u>I thought.

2.*Horses <u>are not as strong than</u> elephants.

3. Regular Past Simple: 1. <u>He lived</u> in a small town near London.

2.*<u>Did he wanted </u>to be an Olympic winner?

4. Past Continuous: 1. <u>I was living </u>with my grandparents <u>for 5 years.</u>

2.*Princess Diana <u>was being very kind.</u>

5. Gerunds/Infinitives: 1. Some young men are<u> fond of cycling</u>.

2. *We all <u>want enter</u> the university!

Target grammaticality

6. Present Simple Passive: 1. <u>Nobody is allowed</u> to smoke in public places.

         2. *The best <u>computers made</u> in Japan.

7. Past Simple Passive: 1. <u>Penicillin was discovered</u> by A. Fleming.

         2. *<u>He was took</u> to hospital 2 days ago.

8. Future Simple Passive: 1. Fantastic <u>buildings will be built</u> in 100 years.

         2. *Electric <u>cars will use in all countries</u> one day.

9. Present Simple Passive Interrogative: 1. <u>Are tigers kept</u> as pets?

         2.*Why <u>do I respected</u> at work?

10. Past Simple Passive Interrogative: 1.Where <u>were the first Olympic Games held</u>?

         2.*<u>Was this picture paint</u> by Picasso?

11. Future Simple Passive Interrogative: 1.<u>Who will be elected</u> as a new president?

         2.*<u>Will be fuel used</u> in 50 years?

12. Present Simple Passive Negative: 1. <u>Champagne isn't produced</u> in Russia.

         2. *<u>Planes don't made</u> of plastic.

13. Past Simple Passive Negative:1.Albert <u>Einstein wasn't well-known</u> when he was 5.

         2.*<u>We wasn't played</u> with in class.

14. Future Simple Passive Negative: 1. <u>Perpetuum Mobile won't be invented</u>!

         2.*<u>It will be not sold</u> - it's mine.

15. Modal verbs Passive: 1. The <u>problem couldn't be solved</u> yesterday.

         2.*<u>It mustn't to be watched</u>, it's a horror film.

Appendix G

A list of the placement test tasks

PLACEMENT TEST

Circle the correct letter.

1 I'm 18 and my brother is 20, so he's
   .... me.
   a the oldest of
   b older than
   c as old as

2 Carl's very .... He's never late, and he
   never forgets to do things.
   a reliable
   b patient
   c strict

3 We stayed in a lovely villa .... the sea.
   a it overlooks
   b overlooked
   c overlooking

4 Not until the 1980s .... for the average
   person to own a computer.
   a it was possible
   b was it possible
   c was possible

5 Jan .... her arm on a hot iron.
   a broke
   b burned
   c sprained

6 Tomorrow's a holiday, so we .... go to
   work.
   a have to
   b mustn't
   c don't have to

7 I usually .... swimming at least once a
   week.
   a go
   b do
   c play

8 My friend Siena .... to Russia last year.
   a went
   b has gone
   c has been

9 This is .... area, with a lot of factories
   and warehouses.
   a an agricultural
   b an industrial
   c a residential

10 If I .... well in my exams, I .... to
    university.
    a will do; will go
    b will do; go
    c do; will go

11 She was so upset that she burst ....
    tears.
    a into
    b out
    c with

12 Where did you go .... holiday last
    year?
    a for
    b on
    c to

13 Ocean currents .... play an important
    part in regulating global climate.
    a are known to
    b thought to
    c are believed that they

14 My cousin .... getting a job in Bahrain.
    a would like
    b is planning
    c is thinking of

15 I can't .... your hair, because I haven't got any scissors.
    a brush
    b cut
    c wash

16 I wish I .... have an exam tomorrow!
    a don't
    b didn't
    c won't

17 The government plans to .... taxes on sales of luxury items.
    a increase
    b expand
    c go up

18 When I first moved to Hong Kong, life in a different country was very strange, but now I'm used .... here.
    a living
    b to live
    c to living

19 There .... milk in the fridge.
    a is some
    b are some
    c is a

20 Criminals are people who are guilty of .... the law.
    a breaking
    b cheating
    c committing

21 Why on earth isn't Josh here yet? .... for him for over an hour!
    a I'm waiting
    b I've been waiting
    c I've waited

22 "It's pouring down, and it's freezing." What are the weather conditions?
    a high winds and snow
    b heavy rain and cold temperatures
    c thick cloud but quite warm

23 .... feeling OK? You don't look very well.
    a Do you
    b You are
    c Are you

24 Daniel's hair is getting far too long; he should .... soon.
    a cut it
    b have cut it
    c have it cut

25 Mandy works for a computer software company. She got .... recently, and so now she's an area manager.
    a made redundant
    b promoted
    c a raise

26 I can't hear you – it's .... noisy in here.
    a too
    b too much
    c too many

27 Jamal has just sent me .... to arrange plans for this weekend.
    a a blog
    b an email
    c a website

28 I promise I'll call you as soon as I ....
    a I arrive
    b I arrived
    c I'll arrive

29 Photographers and designers need to be
very ....
a creative
b fit
c annoying

30 The global financial crisis, ... is
forcing lots of small businesses to close,
does not look set to end soon.
a it
b that
c which

31 There .... a terrible accident if the pilot
hadn't reacted so quickly.
a had been
b was
c would have been

32 "Are you ready to order?"
"Not yet – I'm still looking at the ...."
a bill
b menu
c service

33 "My job is never boring."
The speaker's job is always ....
a interesting
b popular
c difficult

34 I've been working here .... about the
last two years.
a during
b for
c since

35 "It leaves from Platform 2 at 4.15."
The speaker is talking about ....
a an airline flight
b a train
c a taxi

36 I went to a lovely .... last Saturday.
The bride was my best friend when we
were at school.
a anniversary
b marriage
c wedding

37 "I've got a headache."
"Maybe you .... to take an aspirin."
a should
b ought
c don't

38 The patient had an .... to insert metal
pins in his broken leg.
a injection
b operation
c X-ray

39 She won a seat in parliament at the last
....
a general election
b opinion poll
c referendum

40 I'm surprised you didn't get upset. If
someone said that to me, ... really
angry.
a I'm
b I was
c I'd be

41 This used to be .... part of the city, but since the old buildings were renovated it's become a very fashionable area.
a an affluent
b a run-down
c a trendy

42 Cassie went to bed early because she was ....
a tired
b stressed
c relaxed

43 In the 1960s, computers were .... expensive that ordinary people couldn't afford them.
a so
b such
c too

44 Do you want .... the match tonight?
a watching
b watch
c to watch

45 Researchers claim the new discovery is a major .... in the fight against malaria.
a breakthrough
b investigation
c progress

46 The Maths problem was really difficult and I just couldn't .... the answer.
a check in
b set off
c work out

47 When I was a child, I never .... about the future.
a have worried
b used to worry
c was worrying

48 A local politician has .... charges of corruption made by the opposition party.
a accused
b blamed
c denied

49 .... worries me about society today is how completely we have come to depend on technology.
a That
b What
c Which

50 Cats and dogs are usually kept as ....
a farm animals
b wild animals
c pets

Appendix H

Didactic materials for the lesson on modal verbs

Didactic materials for the lesson on passive voice.