Instruction Type, Motivation, and Transferability in L1-Arabic and L2-French Speakers' L3-English Cognates Pronunciation

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This study investigated the extent to which explicit and implicit instruction improve L1-Arabic speakers' articulation of English words whose cognates were acquired earlier in their L2 French. Sixty-eight secondary school students, explicit (*n*=35) and implicit (*n*=33), participated in a programme incorporating focus-on-pronunciation activities, comprising three 45-minute sessions. Their learning motivation was first rated using an adapted version of Attitude/Motivation Test Battery (AMTB). Their pronunciation improvement was assessed through an oral-reading task. Ten new words were included in the post-test to see if they would generalize the instructed knowledge analogically. Results indicated that both explicit and implicit instruction had a positive impact on the students' pronunciation advancement. However, the explicit group outperformed the implicit group with both the targeted and untaught words. There was insignificant interaction effect between instructional method and students' motivation level, with higher motivation uniformly enhancing the effect of instruction. Nevertheless, motivation played a more crucial role in the learnt knowledge transferability when instruction was of implicit.

Key words: explicit instruction, implicit instruction, EFL pronunciation, motivation

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1. INTRODUCTION

For many foreign language (FL) learners, pronunciation is the most immediate and daunting challenge that persists even at the advanced level of proficiency. However, its importance in the development of communicative competence has been given relatively less attention (Derwing & Munro, 2005). Approaches to teaching pronunciation can be broadly classified into two kinds: implicit and explicit. Implicit approaches, formally addressed as early as in Reber (1967), refer to pedagogical strategies to facilitate learners' spontaneous acquisition of experiences by virtue of merely having them exposed to relevant input. The effectiveness of such implicit ways of instruction has been reported in a variety of subject areas from the mastery of social behaviour to the acquisition of foreign languages.

Research also shows that explicit explanation and awareness raising about L2 phonological features can improve learners' pronunciation to a substantial degree (Al-Jasser, 2008; Jang & Lee, 2015; Kissling, 2015). Explicit instruction steers learners' attention towards specific language features, usually accompanying the instructor's modelling and focus-on-form activities (Loewen, 2015). The purpose is to supply them with well-established guidelines to build their skills via conscious recognition and strategic practice (Hughes, Morris, Therrien, & Benson, 2017). In its typical manifestation, lesson objectives and procedures are clearly stated and presented to learners in a step-by-step fashion whereby they are expected to internalize the instructed knowledge. Another line of argument for explicit instruction is associated with the cognitive load imposed upon learners. Since learning is often broken into small portions and subgoals, their cognitive resources such as attention and memory can be spared to a greater extent.

Implicit instruction, on the contrary, entails providing learners with relevant input and indirect feedback, employing more meaning-oriented activities. It is assumed that learners can intake the targeted features with no explicit specifications; that is, they are believed to be capable of using positive evidence about what they can say in the target language along with (implicit) negative evidence when they recognise differences between their utterances and the correct form provided (Loewen, 2015). The goal is to strengthen learners' communicative fluency and adequacy through direct and personalized experience.

Furthermore, implicit and explicit instructions are known to engender differential effects on students' motivation in the classroom. Motivation has been conceived as one of the most important factors that determine the process and outcome of L2 learning. It is also seen as a critical factor that promotes students' engagement in creative and critical thinking (Chen & Hwang, 2020; Chien, Hwang, & Jong, 2020). Recent research has shown that motivation interacts closely with learning context (Smit, 2002) and students' motivation increases or decreases as a function of instruction type (Medina & Gordon, 2014). Thus, motivation may

well be taken into account as a modulator that governs the effectiveness of different instructional methods.

The communicative language teaching approach demands a threshold level of phonological fluency to develop learners' ability to convey and negotiate for meaning to appropriately complete a speech act (Moyer, 1999; Pennington & Richard, 1986). In this context, a systematic review of previous studies on explicit and implicit methods of teaching L2 pronunciation, and an attempt to identify their strengths and limitations in a (quasi-) experimental setting will help teachers to understand the issues involved in instruction design and practice, which will in turn allow them to make principled decisions in the classroom. To this end, the present study addresses the effects of explicit and implicit instructions on the Moroccan L1 Arabic students' pronunciation of L3 English in consideration of the modulating role of their motivational intensity.

2. REVIEW OF THE LITERATURE

2.1. Explicit Instruction and Implicit Instruction

As is well known, Krashen (1981) once remarked that many language teaching methods ran into failure due to their inconsistency with the nature of language learning. He stressed that language learning occurs implicitly with no need of instruction; if learners have to consciously monitor their utterances and are expected to be accurate, they will fail to learn a new language (Krashen & Terrel, 1983). Although exposure to fluent speech is crucial to language learning, comprehending (and processing) unmodified input is a very challenging task that causes considerable learning difficulty at the outset (Kissling, 2018; Sturm, 2019). A growing number of studies have thus supported that explicit instruction can be beneficial as it draws learners' attention to specific elements of knowledge that may not otherwise be noticed in natural settings (Saito & Plonsky, 2019; Sakai & Moorman, 2018; Trofimovich, Kennedy, & Blanchet, 2017).

One strand of argument against explicit instruction is based on the fact that individuals exhibit a wide range of difference in their ability to acquire knowledge in an analytical way. In this view, learning phonological rules is so complex a matter that learners are not likely to evoke them properly in spontaneous conversations (Krashen, 1982; Wells, 2006). The focus of explicit instruction is on raising learners' phonological awareness and then on having the declarative form of knowledge proceed to become proceduralized and automatized (Suzuki & DeKeyser, 2017). Al-Jasser (2008), for example, investigated whether teaching L2 phonotactic constraints could improve learners' lexical segmentation of L2 speech. The researcher found that raising students' awareness of L2 phonotactics

facilitated their internalization and utilization of the constraints in L2 speech, and that only a little explicit intervention was required to give them sufficient assistance. In the study of Khanbeiki and Abdolmanafi-Rokni (2015), where the effect of implicit and explicit instruction on the acquisition of English consonant clusters by Iranian EFL learners was compared, both types of instruction were effective to a similar extent.

While explicit instruction focuses on deliberate learning of generalizable rules (Ellis & Shintani, 2013), implicit approaches do not incorporate rule clarification. Instead, they seek to guide learners to notice the targeted structure, so that it can be internalised by implicit learning mechanisms (Taguchi & Roever, 2017). The goal is to prompt learners to deduce the rules in focus without elevating their attention (Ellis et al., 2009). Housen and Pierrard (2005) pointed out that implicit instruction is conducted voluntarily, is inconspicuous, and introduces the target features in context with no metalinguistic explication. For example, Papachristou (2011) reported that implicit instruction helps EFL learners improve pronunciation skills at the segmental level.

With regards to the role of explicit instruction in the development of oral proficiency, researchers generally agree that raising L2 learners' phonological awareness is positively correlated with their speech comprehensibility (Venkatagiri & Levis, 2007). In fact, phonological awareness was reported to be a key factor in speech comprehensibility. In parallel with comprehensibility, speech production is also a critical component of language learning. Giambo and Mckinney (2004) conducted a study to see if phonological awareness enhances learners' speaking ability. They found that increased phonological awareness led to significant levels of improvement in the learner's overall speaking proficiency. Gordon, Darcy, and Ewert (2013) further investigated the impact of explicit instruction on EFL learners' pronunciation comprehensibility. They conclude that explicit instruction can not only facilitate advancement in pronunciation but also yield substantial comprehensibility gains.

Moreover, according to Kissling (2013, 2015), explicit training in phonetics is particularly useful to teach the sounds that are problematic for learners whose L1 does not have similar sounds so that they cannot intuitively grasp the manner of articulating them. She reported that L2 learners adjusted their pronunciation, especially those segments that manifested production difficulties, through expository lessons of articulatory phonetics. The learners' perception of spoken English noticeably increased, and explicit instruction promoted the students to use the instructed skills to break out their habituated processing routines.

The vast majority of practitioners and researchers acknowledge the significant role of explicit instruction in helping learners to become aware of L2 articulatory and auditory knowledge and consequently to accomplish an increased level of intelligibility in L2 pronunciation (Saito & Plonsky, 2019). Sakai and Moorman's (2018) recent meta-analysis confirmed that learners who received explicit instruction showed medium-sized

advancement in L2 speech perception and production. However, the findings are not entirely determinate, which can be attributed to the variations among studies in participants' individual differences, research design, and instrumentations. All in all, previous studies in the area of L2 pronunciation teaching seem to fall into two distinct categories: those that put into operation implicit instruction as simple exposure and input manipulation to unnoticeably draw learners' awareness, and those that operationalise explicit instruction as ways to ensure learners' recognition of the target rules.

2.2. L2 Motivation

There is a general consensus among L2 researchers and practitioners that motivation and performance in language learning closely interact with each other. Motivation is a complex construct that comprises one's attitude, effort, and desire toward learning (Gardner, 2001; Smit, 2002). As motivation has been recognized as an essential construct of successful L2 learning, enhancing students' motivation in the classroom is now an integral part of L2 instruction (Dörnyei, 2001; Gardner, 1985). Learning an L2 cannot be taken apart from the learners' attitude toward the speech community, and so the factors that affect their attitudinal traits and changes play an important role in L2 learning. L2 motivation can be seen as one's willingness and perseverance to strive to learn the target language, which according to Gardner (1985), consists of three components; motivational intensity, desire to learn a language, and attitude toward learning a language (Gardner, 1985; Lambert, 1963).

In general, foreign language programs have two goals: One is to develop learners' four skills in the target language, i.e., abilities to listen, speak, read, and write for communication. The other is to cultivate their awareness and tolerance of the sociocultural aspects of the L2 community, which is often considered paralinguistic in nature. Gardner (1985) developed the Attitude/Motivation Test Battery (AMTB), a tool to assess the main affective constructs that are associated with a learner's predisposition to be immersed in L2 learning. It is composed of 12 scales, among which three were adopted for the present study, those that best fit the present purpose and context. It has been indicated that L2 learning objectives differ substantially across individuals and from one context to another (Dörnyei & Ottó, 1998). Smit (2002) conducted a longitudinal experiment to investigate the interaction between motivation and EFL pronunciation achievement among college students. She found a strong correlation between motivation level and learning context, also revealing that learning context is a significant predictor of the degree of anxiety that learners experience.

Researchers have attempted to describe and clarify the constructs of motivation in language learning. Specifically, pronunciation learning appears to be unique and have its own type of motivation (Smit, 2002; Smit & Dalton, 2000). For example, the nine-week experimental study of Medina and Gordon (2014) shows that students' motivation and

attitude may change considerably during the course of learning. It also proves that motivation is a complex amalgam combining individuals' attitude, desire, and effort in relation to L2 learning (Gardner, 2001; Smit, 2002; Smit & Dalton, 2000). According to Huensch and Thompson (2017), upper-level students tend to positively judge the importance of pronunciation accuracy, whereas lower-level students have positive attitudes mainly toward interaction.

Learners' attitudes change as their language learning goals change (Huensch & Thompson, 2017; Elliott, 1995; Kissling, 2014; Lord, 2008). There are positive correlations between attitudes toward pronunciation and accuracy. The comprehension of the factors will contribute to successful production of positive attitudes toward language learning (Elliott, 1995). Furthermore, developing one's pronunciation skills gives rise to another goal, i.e., reducing accentedness (Moyer, 1999, 2007). Moyer (2007) and Tokumoto and Shibata (2011) reported in their studies that learners showed positive attitudes toward improving their pronunciation to the extent that they would be judged to be free of accent, and that accentedness and fluency were the major factors to raise their motivation.

Motivation and attitudes are time-varying constructs and thus continue to change over time (Busse & Walter, 2013; Nagle, 2018; Waninge, Dörnyei, & de Bot, 2014). This is in part rooted in a discrepancy between learners' objectives and educational practices. For example, Busse and Walter (2013) examined the motivational phases of college students over a year, and found that in spite of their strong desire to improve L2 proficiency, their motivation decreased over time. They commented that this decrease seemed to be attributable to a mismatch between their goals and learning settings. By the same token, Waninge et al. (2014) investigated the motivational trajectory of secondary school students of Spanish and German. The researchers profiled the students' motivational change on three occasions during a 50-minute lesson. They found that interacting closely with instructional settings, motivation exhibited dynamic ups and downs across individual students. In another year-long longitudinal study, Nagle (2018) showed that most students shifted their motivation and attitudes towards learning for various reasons and that their motivational intensity tended to decrease as a function of time.

2.3. L2-L3 Transfer

L3 researchers are mainly concerned with how learners' prior experience and knowledge of L1 and L2 can affect their later acquisition of an additional language. This process is often referred to as *language transfer*; learners subliminally transfer the knowledge obtained from their previous languages to the current language that they are trying to learn (Cenoz, 2013; Ringbom, 2006). The transfer can either facilitate or hinder the acquisition of a new language. Cenoz (2003) and De Angelis (2007) note that there are three essential factors for L1/L2

transfer. First, L1/L2 proficiency largely determines which language will actively intervene in L3 production. Second, L2 status is a crucial factor in determining if L2 knowledge can be a useful source for L3 learning (Sanchez, 2011). Third, word-order typology also plays a role in building a working hypothesis regarding which language most likely has the direct impact on L3 production (Cenoz, 2001).

Language learners naturally prefer to learn a new language when they can relate its structures of expressing communicative functions to the former language(s) that they know. French and English are two typologically related languages which share many linguistic features including a sizable portion of vocabulary. In this regard, the activation and influence of L2 may serve as an efficient shortcut to L3 acquisition. In the same vein, the strategies used to learn a foreign language differ from those applied to acquire L1 (Fernandes-Boëchat & Siebeneicher Brito, 2008; Gut, 2010; Hammarberg & Hammarberg, 2005). That is, L3 learning reactivates L2 learning strategies since they usually take the same route of acquisition (Fernandes-Boëchat, 2007). Wrembel (2010), for example, investigated the cross-linguistic L2 impact on L3 phonological acquisition of Polish university students majoring in German philology. The findings suggested that the participants' L2 (German) affected their English phonology development, which in turn positively correlated with their overall proficiency in English.

Linguistic distance is another factor that influences L3 learnability. It refers to the degree of linguistic distinctions between L2 and L3 (Schepens, Van der Slik, & Van Hout, 2013, 2016). Relying on the data from the official state exam of Dutch as a Second Language (STEX) scores of 39,300 multilingual candidates, Schepens et al. (2016) investigated if linguistic distances between formerly learned languages and L3 are related to the ease and difficulty in learning the latter. They found that linguistic distance predicted L3 learnability to a significant degree. That is, the shorter the distance between L1/L2 and L3 is, the higher the latter is learnable.

On the basis of the foregoing review of literature, the present study focuses primarily on the extent to which explicit and implicit instructions develop L3 learners' pronunciation skills. It also attempts to measure the transferability of the instructed knowledge to new analogous cases in the two instructional settings. Furthermore, the study addresses whether the effectiveness of each instructional method interacts with learners' intrinsic motivation in the given instructional setting. The research questions are stated as follows:

1. Which instructional method, explicit explanations or implicit recasts, is more effective to improve Moroccan students' ability to discern and remedy their pronunciation of English words whose cognates were acquired in their L2 French?

2. Is there any significant interaction effect between instructional method and students' motivation level on the rate of improvement in pronunciation of the instructed words?

3. Is there any significant interaction effect between instructional method and students' motivation level on the generalization of the instructed knowledge to new words?

3. METHODOLOGY

3.1. Participants

Sixty-eight L1 Arabic students (age: $M = 14.76$, $SD = 0.775$) from a Moroccan middle school participated in this study. At the time of this study, the participants had learned L2 French for about 8 years, and depending on the exam conducted at the beginning of the semester, and all the participants who were selected were upper-intermediate learners of L2 French. Furthermore, they started to learn English as a third language 6 months ago, had never received any type of pronunciation instruction during the 6-month English study, and did not have any other English class during the 3-week experiment period. They were assigned randomly to two instructional conditions, explicit group (EI group: $n = 35$) and implicit group (II group: $n = 33$). The students did not know anything about the experiment. The teacher was running the class during the experiment as the students were taking their classes before the experiment. Additionally, the two groups were instructed by the same instructor.

3.2. Teaching Procedures

The focus-on-pronunciation tasks were implemented across three sessions, 45 minutes per session, for 3 weeks. In each session, students were presented with 10 French-English cognates. In the pre-task phase, they were asked to study the target words individually and then work collaboratively in small groups to infer the meanings and pronunciations of the words.

After the group work, the EI group received metalinguistic explanations and the II group were given interactive recasts in controlled dialogues. In the EI class, the instructor led whole-class discussion by eliciting responses from students about the semantic and articulatory features of the target words. Students in the II class either engaged in or observed conversational interactions incorporating the instructor's reformulations of pronunciation errors. At the final phase, students worked again in small groups for a peer-feedback activity, where they focused on the contrasts in pronunciation between French and English. The instructor tried to ensure every student's participation in the activity and hence to promote their recognition and correction of pronunciation errors.

In order to motivate them to be engaged in the learning process, game elements similar to those in *Spelling Bee* were implemented, in which they competed with each other to complete the task of mastering the orthography and pronunciation of the target words.

3.3. Measures

3.3.1. Pronunciation performance

To evaluate students' improvement in pronunciation, they were pre- and post-tested with the target cognate words in TABLE 1. They were 4 to 5 multisyllabic words containing Latinate morphemes and suffixes, representing some typical morphophonological features of French-English cognates. Approximately a half of them were already known to the students in the spoken and written form of L2 French. They were selected to make the L2-L3 contrasts salient and to render the input more comprehensible by adjusting its amount and familiarity, with similar meanings.

TABLE 1
Target Words (Pre/Post-Test)

First Session	Second Session	Third Session
Appreciation, Creativity, Electricity, Humiliation, Opportunity, Popularity, Similarity, Perpendicular, Vocabulary, Obligatory	Personality, Discrimination, Organization, Globalization, Evaporation, Evaluation, Intellectual, Encouragement, Agriculture, Architecture	Punctuality, Justification, Clarification, Extraordinary, Solidarity, Collaboration, Cooperation, Association, Verification, Immediately

Along with these 30 target words, the students also carried out a generalisation test as a part of the post-test. Ten additional cognates were included in the post-test so as to examine the transferability of the instructed knowledge to other analogues. They were *assimilation, mathematical, communication, imagination, generosity, university, hospitality, dermatology, metabolism, international.* The target words were presented in single word form, and read by each participant one by one. The participants were allowed to repeat the words several times if necessary. The pre-test was conducted one week before the start of the experiment, and the post-test (including generalisation test) was conducted three days after the experiment.

The pre-, post-, and generalisation tests were scored by two raters with a 15-year-long English teaching experience and proficient English level. Pronunciation skills are usually assessed in terms of segmental and suprasegmental features. The former refers to the characteristics of individual phonemes and their realizations that distinguish one word from another. The latter consists of prosodic features such as stress and intonation above the

lexical level. Since the participants were beginners and the focus of the study was on word pronunciation, the scoring procedure was based on articulatory normality in respect of segments and syllables. The scoring procedure was as follows: 3 points for target-like pronunciation, 2 points for one mispronounced segment/syllable, 1 point for two mispronounced segments/syllables, 0 for more than two mispronounced segments/syllables. Namely, if a syllable was pronounced wrong or in French, then it was mispronounced. For the pre- and post-tests, the maximum score was 90 and the minimum 0, and the scores of the knowledge generalization test ranged from 0 to 30. The raters individually gave their scores using audio recording tapes.

The interrater reliability was estimated using average measure intra-class correlation coefficients (ICC), resulting in a strong agreement for the pre-test, ICC = .980, the post-test, ICC = .970, and the generalisation test, ICC = .908, respectively.

3.3.2. Motivation

The Attitude/Motivation Test Battery (AMTB) developed by Gardner (1985) was adopted to rate students' motivation for learning. It was slightly adapted for the present purpose. The adapted version consisted of 30 assertively or negatively worded items probing three dimensions of language learning motivation; interest in foreign languages, motivational intensity, and desire to learn English. Interest in foreign languages (e.g., "I wish I could speak many foreign languages perfectly") means students' general pleasure and interest in learning foreign languages. Motivational intensity gauges the degree of the learners' commitment, and the extent of efforts that they put, to improving their foreign language skills (e.g., "I make a point of trying to understand all the English I see and hear"). Desire to learn has to do with the learners' longing to become a proficient speaker of English (e.g., "I have a strong desire to know all aspects of English"). The participants were directed to fill in the questionnaire on a 1 to 5 Likert scale, from "strongly disagree" (1) to "strongly agree" (5). Negatively directed answers were positively swapped. The internal consistency of the questionnaire turned out to be highly reliable (α = .890).

The AMTB test was conducted before the training. It was first translated into Arabic by each of the two raters. Then, each rater translated back the other rater's Arabic version into English. Finally, the versions were compared and revised to adjust any discrepancies.

3.4. Data Analysis

Data analysis was carried out using SPSS 22.0. First, paired samples *t*-tests were conducted to compare the gains of the two groups after instruction. Next, two-way ANOVAs were implemented to examine the interaction effects between instructional method and students' motivation level on the improved pronunciation of the instructed words on one hand and the applicability of the instructed knowledge to new words on the other. Finally, one-way ANOVAs were conducted to estimate the main effects of instructional method and motivation level, respectively.

4. RESULTS AND DISCUSSION

4.1. Motivation, Pre-Test, Post-Test, and Generalisation Test

The primary goal of the present study was to determine the effectiveness of implicit and explicit instructions of Moroccan L1 Arabic speakers' remediation of pronunciation of L3 English words whose cognates were acquired previously in their L2 French, while taking into account the modulating role of their motivational variations. As shown in TABLE 2 and TABLE 3, the students' mean scores increased from the pre-test ($M = 37.228$, $SD = 10.581$) to the post-test ($M = 74.456$, $SD = 9.717$), with significant correlations between pre-test and post-test ($r = .332$, $p < .01$), pre-test and generalisation test ($r = .449$, $p < .001$), and post-test and generalisation test ($r = .699$, $p < .001$). Furthermore, the pre-test did not yield any significant difference between the EI and the II groups ($F(1, 66) = 0.008$, $p = .928$, $\eta^2 = .000$) showing that both groups did have the same proficiency level at English pronunciation.

TABLE 2

Descriptive Statistics of Motivation, Pre-Test, Post-Test and Generalisation Test

	M	*SD*	*Skewness*	*Kurtosis*
Motivation	126.650	13.222	-.550	-.013
Pre-test	37.228	10.581	.179	-.198
Post-test	74.456	9.717	-.598	-.227
Generalisation test	20.493	4.085	-.304	-.745

TABLE 3

Correlation Coefficients between Pre-Test, Post-Test, and Generalisation Test

	Pre-Test	Post-Test	Generalisation Test
Pre-test	-		
Post-test	.332**	-	
Generalisation test	.449***	.699***	-

** p < .01, *** p < .001

Paired-samples *t*-tests were conducted to compare the students' performance prior to and after the instruction, which verified that both groups made significant advancements (see TABLE 4). This indicates that both types of instruction helped the students notice and remedy their pronunciation errors. This result is consistent with the findings of previous studies (Khanbeiki & Abdolmanafi-Rokni, 2015; Kissling, 2015; Papachristou, 2011) for implicit instruction and (Al-Jasser, 2008; Gordon et al., 2013; Saito & Plonsky, 2019; Sakai & Moorman, 2018; Trofimovich et al., 2017) for explicit instruction.

TABLE 4
Descriptive Statistics and *t*-tests of the Pre- and Post-Test Results

Group	M	SD	95% CI of Difference		Paired *t*-test		
					t	df	p
Explicit (*n*= 35)							
Pre-test	37.114	12.394	-46.674	-40.355	-27.987***	34	.000
Post-test	80.629	5.714					
Implicit (*n*= 33)							
Pre-test	37.348	8.436	-34.281	-26.840	-16.731***	32	.000
Post-test	67.909	8.782					

*** p < .001

Both instruction types seem to significantly help the students improve their pronunciation. In the II group, most students translated the instructor's recasts as corrective feedback, and this finding goes hand in hand with the fact that learning should happen in a natural flow (Krashen, 1981, 1982) and requires low cognitive load while relying more on perceptual and imitative strategies (Taguchi & Roever, 2017). Likewise, the EI group also displayed significant results. The metalinguistic explanation succeeded in raising the students' awareness to specific element of pronunciation knowledge (Saito & Plonsky, 2019; Sakai & Moorman, 2018) as well facilitating the internalization and utilization of L3 pronunciation (Al-Jasser, 2008).

4.2. The Effect of Instructional Method on Pronunciation Performance

To estimate the main and interaction effects of instructional method and motivation (high vs. low), a two-way ANOVA was carried out after having checked the assumptions for the statistical procedure. The Levene's Test of Homogeneity revealed that the error variance of the post-test was equal across the two groups ($F (3, 64) = 2.522$, $p = .066$). There was no significant interaction effect between instruction type and motivation level either: $F (1, 64) = 0.372$, $p = .544$, $\eta^2 = .006$.

The follow-up one-way ANOVAs estimated the effects of instruction type and motivation level on the students' improvement in L3 pronunciation, respectively. The statistical results

demonstrated that instruction type produced a large effect (F (1, 66) = 50.691, p = .000, η^2 = .434) and that metalinguistic explanations were more influential than recasts (see TABLE 5). The findings also revealed that the effect of metalinguistic explanations was not temporary. Metalinguistic explanations seemed to lead the students to pay closer attention to how the cognates are pronounced differently in L2 and L3, and thereby refined the learners' perception and production of L2-L3 sound contrasts.

TABLE 5
One-way ANOVA for English Pronunciation Performance (Post-Test) by Instructional Methods

Groups	*N*	*M*	*SD*	*F*	*Partial η^2*
EI	35	80.629	5.7142	50.691***	.434
II	33	67.909	8.7816		

*** $p < .001$

4.3. The Effect of Motivation Level on the Pronunciation Performance

Motivation has been conceived to be as one of the most significant factors that lead to successful language learning and promotes students' active engagement to learning (Chen & Hwang, 2020; Chien et al., 2020). The groups were divided into high- and low-motivators to thoroughly scrutinize the influence of motivation level on students' L3-English learning. Therefore, the analysis proceeded to estimate the effect of students' motivation level on their improvement in pronunciation. For this purpose, the students in each group were divided into two subgroups, high-motivators and low-motivators according to their median split (Median = 126.50) obtained from the motivation test scores. TABLE 6 shows the results, revealing that there is a significant difference between high- and low-motivators within each group: F (1, 33) = 7.409, p = .010, η^2 = .183 for the EI group and F (1, 31) = 5.760, p = .023, η^2 = .157 for the II group.

High-motivators significantly outperformed the low-motivators within each group. Motivation is a crucial construct of successful language learning (Dörnyei, 2001) as the students' motivation was interpreted as remarkable performance with high-motivators (Medina & Gardon, 2014). This difference in performance may be due to low-motivators' idiosyncratic reasons associated with their linguistic weaknesses (Nagle, 2018; Waninge et al., 2014).

TABLE 6

Pronunciation Improvement Rates by Motivation Level

Groups	Motivation	N	M	SD	F	Partial η^2
Explicit	High	18	82.972	4.6320	7.409*	.183
	Low	17	78.147	5.8196		
Implicit	High	16	71.438	8.2843	5.760*	.157
	Low	17	64.588	8.1072		

$p < .05$

4.4. The Effect of Instructional Method on Transferability

Next, in order to see the students' ability (or inclination) to apply the instructed knowledge to new words, another set of cognates was included in the post-test. A two-way ANOVA was conducted under the satisfaction of the assumptions. According to the Levene's Test of Homogeneity, the error variance was equal in the two groups, $F(3, 64) = 1.239$, $p = .303$. There was no significant interaction effect between instruction type and motivation level with regard to the generalizability of instructed knowledge, $F(1, 64) = 0.684$, $p = .411$, $\eta^2 = .011$.

The main effects of instruction type and motivation level on the generalizability of instructed knowledge were examined separately. First, there was a significant difference in the test scores between the EI group and the II group, $F(1, 66) = 15.922$, $p = .000$, $\eta^2 = .194$ (see TABLE 7). The EI group showed a greater degree of mastery of the L2-L3 pronunciation contrasts not only with the instructed words but also with the untaught words that are subject to the generalization of the instructed knowledge and skill. The II group could not transfer the instructed knowledge to new words, probably because they did not yet internalize the relevant phonological rules. Therefore, it can be said that metalinguistic explanations were comparatively more effective in having students remedy their pronunciation errors and apply the instructed content to new cases while recasts influenced students' generalization tendency to a lesser extent. That is, they were less likely to extend the implicitly taught knowledge to other untaught items. This may be attributed to the fact that implicit feedback did not immediately, nor consistently, lead to their conception of the rules underlying the L2-L3 pronunciation contrasts.

TABLE 7

Results of the Instructed Generalisation Test by Instruction Type

Groups	N	M	SD	F	Partial η^2
EI	35	22.229	3.4006	15.922***	.194
II	33	18.652	3.9833		

****$p < .001$*

4.5. The Effect of Motivation Level on Transferability

Finally, an ANOVA was conducted to estimate the influence of students' motivation level on their tendency or willingness to transfer the instructed knowledge to new cases. Likewise, the students in each group were divided into high-motivators and low-motivators. As shown in TABLE 8, high-motivators and low-motivators in the EI group did not exhibit any significant difference: F (1, 33) = 2.615, p = .115, η^2 = .073.

This implies that insofar as instruction is given in an explicit way, students' motivation level may not greatly influence their tendency to generalize the instructed knowledge to similar contexts. This seems to be due to students' conception of metalinguistic explanations as rules for generalization across all relevant cases. Explicit explanations of linguistic phenomena are likely to give rise to learners' understanding of the phenomena as rules, or at least rule-like patterning. This will in turn readily allow them to apply the knowledge thus formed to other untaught items irrespective of their motivational traits.

On the contrary, high-motivators and low-motivators in the implicit instruction condition showed a significant difference, F (1, 31) = 6.294, p = .018, η^2 = .169. Higher motivation increased the likelihood of generalization of the instructed knowledge. That is, only motivated students were able to internalize the knowledge implied by the instructor's recasts and apply it to similar contexts. In other words, high levels of motivation perform a critical role in pronunciation learning (Moyer, 1999, 2007). The low-motivation group were less likely to transfer their knowledge to other untaught contexts. These findings support that students' attitudinal readiness is a necessary condition required for their acquisition and application of implicitly taught knowledge.

TABLE 8
One-way ANOVA for Generalisation Test by Motivation

Groups	Motivation	N	M	SD	F	Partial η^2
Explicit	High	18	23.111	2.9880	2.615	.073
	Low	17	21.294	3.6446		
Implicit	High	16	20.312	4.4305	6.294*	.169
	Low	17	17.088	2.8242		

* p < .05

5. CONCLUSION

The present study investigated the relationship between instruction type, learner motivation, and language development in the Moroccan EFL context where L1 Arabic students learn two typologically close languages, French and English, sequentially with a considerable time gap. Of particular interest was the extent to which explicit explanations and implicit recasts improve their articulation of L3 English words whose cognates were previously acquired in their L2 French.

The main findings are summarized as follows: First, explicit and implicit approaches were both effective in developing their target-like pronunciation in L3 English; that is, metalinguistic awareness and implicit corrective feedback facilitated them to discern the pronunciation contrasts in French and English and understand the underlying phonological principles associated with those contrasts. Second, when the degree of effectiveness was compared, the explicit group outperformed the implicit group not only with the targeted words but also with new words that were not directly taught. Third, largely irrespective of instruction type, higher motivation was positively correlated with the likelihood and extent of the learner's improvement in pronunciation, corroborating the point that learner motivation plays a significance role in the development of pronunciation skills. Fourth, as regarding the generalizability of the instructed knowledge, learner motivation did not make differential effects in the explicit instruction condition. It appeared that students conceived the instructed content as general rules for application without being affected by their motivational intensity. Fifth, by contrast, in the implicit learning condition, only highly motivated students tended to apply the instructed knowledge to new words. They were also more likely to notice the instructor's recasts as corrective feedback than lower motivators.

This study has several limitations. First, instructional effects and the role of learner motivation were investigated only for a very short period of time. It goes without saying that a more extensive study in scope and time is required to gain meaningful insight into the interplay of the two and consequently to draw more reliable conclusions. Second, all the students participating in this study were upper-intermediate-level learners in L2 French and beginning-level learners in L3 English. Further studies with learners whose L2 proficiency levels vary may provide new findings about L2 effects on L3 acquisition in connection with instruction type, learner motivation, and individual differences in the application of instructed knowledge. Finally, learner motivation was measured only once before the treatment. Investigating its change (or persistence) before, during, and after the treatment will shed light on its close interaction with instruction type and the learning outcome thereof.

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