

ORIGINAL RESEARCH

The acquisition of the English temporal system: A developmental perspective

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Abstract

This study evaluates the relationship between the inherent tense and aspect systems among Moroccan EFL learners. The study was conducted through a mixed-methods approach focusing mainly on statistically significant findings. Data was collected using a self-governed grammaticality judgment test, translation, and writing tasks. Two hundred and twenty subjects were arbitrarily selected to participate in the study, mainly from the Rabat-Salé region given the high diversity of the latter. The statistical analysis highlighted second language learning in the case of Moroccan EFL learners. The study deduced that there is an impact on the learning process related to the student's academic level. The results revealed that the higher the level of education attained, the more learning is exhibited, highlighting the crucial role of the academic level in the acquisitional process. The paper also highlights the role of the developmental path among Moroccan EFL learners. The findings reiterated the gradual learning claims in temporal system research, indicating that tense and aspect are learned simultaneously.

Keywords language learning; Moroccan EFL learners; temporality; academic level; contrastive analysis; error analysis

1. Introduction

Despite their paramount importance in speech, Tense and Aspect seem to lack sufficient attention in applied linguistics research. The distinction between Tense and Aspect in the writings of traditional grammarians did not differentiate between these two pillars. However, attempts have been made in modern linguistics to differentiate between the two (cf. Alsalmi, 2013; Comrie, 1985; Hammand & Bott, 2014; Tsvetkova, 2019; Quirk et al., 1985). Whilst tense is associated with the time of action, aspect expresses duration and sets the start and finish for a given event in time. The study at hand seeks to define the two elements concerning time affiliations and how they vary in form when conveying information about the time location of the topic (Comrie, 1985). Tense represents the three main temporal forms, namely, Past, Present, and Future. Aspect, however, contradicts tense in that it represents more complicated temporal forms.

Comrie, (1976, p. 5) posits that it stands for “situation-internal time”. It refers to the properties of the event itself. Aspect, according to many linguists, bifurcates into grammatical and lexical aspect (cf. Rothstein 2004a, p.1). The former is identified through ‘verbal morphology’ while the latter is ‘inherent’. With this in mind, this paper aims to investigate whether the academic level is a factor in the acquisition of tense and aspect systems, identifying how and in what fashion tense and aspect are learned in the context of Moroccan EFL learners. To this end, two research questions are addressed herein: 1) To what extent is the academic level crucial in the acquisition of tense and aspect? and 2) What gradual learning process, if any, is followed by Moroccan EFL learners?¹

2. Temporality

2.1. Tense and aspect in grammar

¹ It should be duly noted that this article is part of a larger unpublished study investigating the acquisition of the English temporal

system among Moroccan EFL learners from an Optimality Theoretic (OT) perspective.

Natural languages have a specific way of expressing time, using both tense and aspect. What differentiates them, however, is whether the focus is on grammaticalization or lexicalization. On the one hand, the latter refers to lexical means of expression. (e.g., adverbials such as a month later, last week, yesterday, etc.). Grammaticalization, on the other hand, denotes ways of establishing time that necessitates a precise expression and morphological boundness (cf. Comrie, 1985). English past and non-past opposition are easy cases of a grammaticalized time-location. The past from is necessary despite the context containing a clear indication of time reference (i.e., the bound morpheme in the past tense “-ed” for regular verbs). While the set of adverbials is infinite, as people continuously create new phrases, the set of grammaticalized forms is extremely bound. Grammaticalization is manifested in verbs that in most languages containing tense, the latter is identified on the verb, either by the verb morphology or by grammatical words contiguous to the verb with auxiliaries.

2.2. Tense and aspect in English

2.2.1. Tense

Comrie (1985, p.9) defines tenses as “Grammatical expressions of time.” The term tense is used in this paper, to refer to three-time references, namely the simple past, present, and future forms. This then addresses simple sentence forms where the temporal form indicates a finalized action. For instance, the sentence “He drank coffee” denotes a full meaning where the action is complete while any ongoing reference would signify an aspectual meaning instead.

2.2.2. Aspect

Considered the counterpart of tense, Aspect refers to the internal temporal setting of a situation. It encompasses all tenses in English except simple past, present and future. According to Comrie (1976), Aspect refers to the way an event unfolds in time with an intense focus on the properties of an event without relating the latter to a specific time reference. For instance, the sentence “He was drinking coffee” signifies an incomplete, yet, continuous meaning. There are two types of aspect that are commonly recognized:

- a) **Lexical aspect:** the kind of action denoted by the verb about the temporal flow of the event.
e.g., *I noticed the note* → reflects a momentary event.
- b) **Grammatical aspect:** used to show whether the event seems completed or continuous.
 - b.1. *I have done my homework yesterday* → completed event.
 - b.2. *I was doing my homework yesterday* → progressive.

3. Tense-aspect interaction

The English temporal forms associate time with

points of reference, indicating the relation among these time references (Leech, 1987). The fundamental point of orientation is either the current time of utterance or a specific moment in time in the present. Borrowing from Hoffman (1993), tense appears on the occurrence of an event preceding the time being (happen-ed) and currently (is happen-ing), after the time being (will happen) or even repeatedly in time (happen-S).

Time is considered one of the fundamental research topics in the study of logic. Many scholars have studied the transmission of temporal information. It is universally recognized that time is a collective property of all human languages. However, tense differs from one language to another depending on sentence structure (head-first or head-final languages). Additionally, the number of principles the language adopts from universal grammar (UG) also plays a role in this variation and language acquisition. Tense is the grammatical form and time is the semantic basis of the grammatical category of the latter. Huddleston (1988) states that a language has tense, if and only if, it has a set of grammatically contrasting verb inflections with the ultimate semantic function of relating the time of the grammaticalization.

While tense is the formal way of expressing time, it is not the only way associated with this function. Several linguistic means contribute to expressing time such as adverbials, temporal adjectives and temporal nouns. As far as the interaction between the two is concerned, aspectual distinctions were formed in the past tense, but not in any of the other tenses. This suggests that it is a general trait endowed within human languages to seek crucial aspectual differences in the past more than the other tenses since the English habitual aspect exists only in the past form. Since the present tense is primarily used for description, rather than narration, it is essentially the imperfective form rather than the perfective. That is, while some languages possess the present perfective, to primarily express a perfective non-past, the progressive form does not present an unambiguous time reference. To this end, the perfective connotation is a conceptual understanding in that it signifies the subordinate clause of time. For instance, in the sentence “*when she arrives at work, I will voice my concerns*” the future indication in the first clause is exhibited through the verb ‘*arrives*’ (cf. Comrie, 1976).

3.1. The contrastive analysis hypothesis

A precise definition of Contrastive Analysis (CA) asserts that it examines dichotomies between twosome of languages. It assesses their commonalities to administer observations that applied disciplines such as second language teaching and translation studies find extremely helpful. CA creates an intersection linking theory and implementation of its explanatory nature (Gast, 2012).

Studies in CA are concerned with the comparison of languages overlapping in some way (cf. Ringbom, 1994, pp. 737-738). CA compares languages and determines possible errors to distinguish between what

is and what is not needed in the second language learning process. CA employs a dichotomous comparison of the phonological forms of two individual languages. This leads to the identification of shared and distinct elements of both languages. The intention is to make predictions of the linguistic elements that will be deemed effortless and those expected to be more challenging for the learner (cf. Lado, 1957). The original goal of CA (a priori) was to speculate about learner difficulties and establish suppositions to enhance the language teaching process. Nonetheless, CA was criticized because its predictions were doubtful. Not all errors predicted through CA can be traced back to the differences between the first and second languages. Despite this limitation, CA provided a crucial catalyst to the birth of other theories and research approaches in Second Language Acquisition (SLA) namely, Error Analysis (a posteriori).

3.2. The error analysis hypothesis

Error analysis (EA) is a methodical form of linguistic analysis. The focal point of EA is the errors found in the learners' production. Different from CA, the comparison is done between the errors committed by the learner in the target language production and form. EA starts from a different perspective where the learner's language is analyzed first and then efforts are made to identify the errors. It seeks to find rational explanations for these errors, which may include differences between L1 and L2. Therefore, the contrastive approach is coalescing into EA, though it is not the only possibility to clarify learner errors and it is not expected to predict errors. EA shares the same objectives with CA as it provides feedback for language teaching and insights into how languages are learned.

The connotation and perception of errors were changed radically when an article by Corder (1967) titled "The significance of learners' errors" was published. Teachers used to perceive errors as anomalies that must be eradicated. Corder, however, rectified this idea, claiming that they are essential output forms that are necessary for the learning process. Errors are not necessarily the output of flawed learning of the target language. According to Gass & Selinker (1994), it has been noticed in research on child language acquisition that L2 errors are not faulty imitations. Rather, they must be seen as indications of the learners' attempt to discover the system of the target language. Corder (1967) also maintained that errors and mistakes must be distinguished. Mistakes are similar to slips of the tongue. The person committing mistakes can identify them and consciously correct them. Conversely, an error is systematic. It is more likely to occur repeatedly and is identified by the learner as an unconscious error. In this respect, the learner has integrated a certain erroneous form into his system of language. The criticism EA received, however, was related to its focus on errors while discarding correct productions and its view of errors as erroneous output from a second language standpoint.

3.3. The input hypothesis

The input hypothesis draws the link between Krashen's acquisition process and the Natural Order hypothesis which assumes that there is a predictable order for the natural acquisition of language rules regardless of instruction. It seeks to study how the learner shifts from one point to another in the natural order of acquisition. Krashen (1985) believes that second languages are acquired "...by understanding messages, or by receiving comprehensible input" (p. 6).

Comprehensible input (CI) is defined by Krashen (1985) as an element of language that can be read or heard and is partly ahead of the learner's current state of grammatical knowledge. CI includes a precise area that is partly ahead but still not beyond the learner's knowledge. CI can trigger the learner's innate ability to tackle both L1 and L2 acquisition. For Krashen, the input hypothesis plays a fundamental role in language acquisition. It functions as a stimulus for the abilities stored within the learners' abstract level responsible for tackling both their first and second language (cf. Krashen 1985, p.2).

4. The prototype hypothesis

To account for the distributional bias found in learners' as well as native speakers' data, Andersen and Shirai (1995) adopted the Prototype Hypothesis. The latter explains the underlying cognitive processes affecting the acquisition of the temporal system. According to this theory, each category has its best exemplars (i.e., prototypes) that share characteristic features with members of the category. When applied to language acquisition, it predicts that in L1 and L2 acquisition, learners initially acquire the prototypical aspects of a grammatical category. They then extend their mental capacity in language gradually to non-prototypical members. Linguistic input is of distributional bias and language learners create a prototype depending on degenerate and 'unclean' input. However, there are languages permitting the acquisition of the progressive meaning earlier than the resultative state meaning. This confutes, to some extent, the data used for the input by Shirai (1995) as well as the frequency analysis by Shirai and Nishi (2005). Conversely, the study by Ishida (2004) illustrated the potential effect of the input. It reported a higher accuracy for resultative use over progressive use.

5. Tense and aspect acquisition among Moroccan EFL learners

Several factors contribute to the acquisition of a given language. The learners' mother tongue is thought of as a major factor that affects the L2 learning process, both positively and negatively (i.e., language transfer). The latter occurs due to the differences in languages' properties. In the case of positive transfer, the mother

tongue has similar properties to those of L2. Hence, the learning of the latter is sped. When the structure and grammar rules of L1 are similar to those of L2 the learning process is facilitated. On the other hand, negative transfer refers to the instance wherein the principles of L1 contradict those of L2, making the learning process more challenging. For example, a French native speaker learning English is influenced by the principles of his mother tongue in terms of pronouncing certain sounds or words. A study on a Finnish/English woman by Jarvis (2003) showed that L1 rules are still there, but the L2 rules are also used occasionally. Kecskes (1999, p. 325-326) proved that

“Intensive and successful foreign language learning (FLL) can have a strong and beneficial influence on the development of L1 skills”

5.1. The L1 transfer

Presently, there are no reported instances of the influence of L1 in the longitudinal corpus. On this matter, studies found that speakers of typologically different languages produce similar results regarding the present perfect form. Each high procedure for a random L1 is possible to be matched by an L1 counterpart of lower status. Additionally, some L1 learners encounter different mistakes since the level of academic attainment plays a crucial role in determining the difference in the use of the present perfect form or any other tense.

It is premature, however, to claim that observed acquisitional sequences are universal. It appears that there is a group of sequences that are common to the European dialects studied hitherto. As mentioned in Jiyad (2006), the equivalent tense for the simple present in standard Arabic is *al-moudarie* or the imperfective. In Arabic, this tense form carries a wide variety of meanings. It is equal to the English simple present and present continuous. Moreover, tense could be of an intra-lingual nature contained within the same language and involving a monolingual process, as opposed to a bilingual nature of two different languages. Thus, this tense form does not include any auxiliary, modal, or function word. It has only one case of inflection with the third person singular present form indicated with the suffix - [e]s. In terms of spelling, it is likely to be formed in most cases by adding -s to the verb's base form: e.g.: run → runs. If the base form ends in one of the following sounds (/s/, /z/, /ʃ/, /z/, /ʃ/, /dʒ/) and does not end with a silent 'e' in terms of spelling, then -es is added e.g.: bus → busses.

It appears rather simple to be used by the foreign language learner who feels uncomfortable with the rule of L2. This is the case for Moroccan learners, as they acquire Moroccan Arabic or Amazigh as their L1. They later learn Modern Standard Arabic (MSA), followed by French in primary school, and most of them learn English only in their senior year in middle school. Hence, most Moroccan EFL learners find it much easier to use their background knowledge of MSA in acquiring the Simple present form because it's similar to *al-moudarie* in Arabic.

The simple past, equated in Arabic with *al-madi* (the perfective), carries the semantic value of the English simple past, past perfect, present perfect, past perfect continuous and present perfect continuous. It is because of this wide range of equivalents that the simple present tense is used frequently by Moroccan learners even though it does not necessarily carry the value needed. One essential observation to be noted is that Moroccan learners are likely to choose another equivalent apart from the simple past. The simple form of this tense (no function words, no auxiliary) and the clear and general rule of adding the suffix [ed] to the verb stem or root in regular verbs is the fundamental motivation for this choice. Due to the similarities mentioned above, Moroccan learners tend to make use of inflections as much as possible whenever this option is given due to the influence of their mother tongue.

5.2. The acquisitional sequence of tense and aspect

Language acquisition is believed to allow the acquisition of one aspect after the other and not all aspects at once. All languages are considered similar on an abstract level. Hence, the case of tense and aspect being acquired one before the other is a universal human language trait, regardless of sentence structure or linguistic principles of the target language. As Klein (1993 & 1995) stated, there is an order of emergence of several tense forms:

The order of emergence: Past Simple → Past Progressive → Present Perfect Simple → Present Perfect Progressive → Past Perfect Simple → Past Perfect Progressive.

Dietrich et al.'s (1995) observation led to the conclusion that learners continuously use base verb forms even at very advanced stages of inter-language. Therefore, cases of inappropriate over-generalisations of certain tenses at the expense of others in a great majority of mono-languages' samples are likely.

6. Methodology

6.1. Research approach

The study at hand abides by the cross-sectional study design. It follows the mixed-method approach whereby quantitative data governs the data herein. This means that the purpose of the study is to account for the acquisition of tense and aspect through an inferentially statistical standpoint. The Grammaticality Judgments Test (GJT), Translation Task (TT) and Writing Task (WT) were the instruments employed to account for the mixed-method approach. While GJT tested the grammar production, the TT and WT provided more extended forms of production. While the GJT accounted for the morpho-syntactic elements in the output, the translation and writing tasks determined if the mistakes found in the subjects' production were mistakes or errors. This contributed to understanding

the underpinning elements that might affect the outcome and account for the shortcomings of the GJT.

6.2. Participants

To border the targeted sample, the study arbitrarily chose N=220 students. The sample represented different backgrounds, with different mother tongues, namely Moroccan Arabic and Amazigh. The participants took part in the study voluntarily and anonymity was guaranteed. The data was gathered mainly from the region of Rabat except for the 4th group. Those participants were selected from different universities as there was an insufficient number of master's studies in the aforementioned area. Data were collected from master's programs in Rabat, Kenitra, Casablanca, Marrakesh, and Meknes.

The average number of years of L2 instruction for the second-year Baccalaureate students' group was 2 to 5 hours a week (2 hours at school and 3 hours at night school) for a period of 3 years. 20 of them (12 females and 8 males) had extra hours in English. The senior group studied English for 7 to 13 hours weekly. They study 14 to 17 hours of English per week (14 at the Faculty of Literature and Humanities and 3 hours at night school), with 10 males, and 5 females taking extra hours. Only 5 Freshman participants took extra hours in English. For the master's group, all classes were delivered in English; hence, the students had continuous contact with the target language with 5 students taking extra classes (3 females and 2 males).

All participants spoke Darija (i.e., Moroccan Arabic) as their mother tongue. Only 15 of the participants spoke both Darija and Amazigh as mother tongues, making them bilinguals. This reflects the diverse nature of the Moroccan community and gives authenticity to the sample population. All participants were in constant contact with Darija at home. Only 15 had parents who spoke both Darija and a variety of Amazigh at home. Also, all participants learned French as their second language since primary school. Although all participants belonged to the Mohammed V University of Rabat, the sample was diverse and representative of the whole country's population in the sense that participants originated from different regions in Morocco and moved to Rabat for higher studies. This made the population sample an embodiment of the proficiency level of Moroccan students across the country. All 220 participants had roughly the same exposure to English. All students started learning English in high school. They also employed sources like films, sitcoms, news, songs, and books to better their English. The average sample per group was $\bar{x}=55$. This number was chosen after careful consideration of the average number of students per class in Morocco. The total was regarded herein as a reflection of the actual number of students in Morocco to ensure a representative and diverse population sample.

6.3. Sampling

Data collection was carried out pre and post-normal class hours, after getting permission from the instructors a week ahead. The researcher explained all steps and sections included in the tests to avoid any confusion. Students were asked to fill out the background information part and complete the grammaticality judgment test. They were then asked to move to the translation task and the writing task consecutively. In each step, the students were told to take the necessary time as long as all tasks are finished properly. This took approximately 5 minutes for the background information, 15 minutes for the grammaticality judgment test, 15 minutes for the translation task, and 10 minutes for the writing task. The process was longer for the Baccalaureate level given their unfamiliarity with such tasks. Hence, each task was explained carefully to the students in simple English. The explanation was in English and Darija. For the Baccalaureate group, the explanations were also oversimplified as they can't yet fully understand some of the words used in the questionnaire compared to other groups. For the group, data were collected from various schools, both private and public and from various areas, mainly Rabat, Salé and the region of El-rommani. For the S2 group, data were collected from the Faculty of Literature and Humanities, Rabat. For the S6 group, data were collected from Linguistics, Literature, and Culture majors to obtain an inclusive representation of the English level of all last year's students in the English department.

6.4. The proficiency levels

Given the challenging endeavour of conducting a proficiency level test, the academic level is used as an alternative. Although some participants may have a higher proficiency level than their academic level indicates, some participants did have a lower proficiency level than their academic level indicates. This reflects the reality of the students in the Moroccan educational system and increases the homogeneity of the participants involved in the present study. It should be noted that the term 'proficiency level' used herein is solely to refer to the academic level of the participants. The Baccalaureate level may be equivalent to level A (A1-A2) following the British proficiency categories. It may be referred to as 'pre-intermediate' in the American context. The S2 group may be identified as level B (B1-B2), which corresponds to the intermediate level. The S6 participants were allocated to an intermediate stage (B1-C1); the 'upper-intermediate' level. The master's group corresponds to levels C1-C2 or the 'advanced' level.

6.5. Instrumentation

The instrumentation used herein was carefully chosen to meet the objectives set in the study. The test on its whole was five pages long. It began with an introductory disclaimer to assure anonymity of personal information and data provided. This was followed by several questions eliciting background information. This helped in categorizing the

participants and ensuring the homogeneity of the sample. The Grammaticality Judgment Test (GJT) was employed to account for the morpho-syntactic data in the participants' production. The task included a set of randomly selected sentences where the participants were asked to determine their grammatical correctness. The translation and writing tasks aimed at depicting their ability to translate words along with the right tense form and the use of the English temporal system in a prolonged form of production (i.e., the writing task). These two tasks were employed to account for the qualitative part of the mixed-method approach adopted herein. The translation task determined errors/ mistakes related to language transfer while the writing task assessed mistakes/errors committed in a lengthier form of production in which participants were asked to produce two paragraphs on two different topics aimed at assessing their knowledge of English tenses.

6.6. Procedure and analysis

Data collection was carried out during and after normal class hours with permission from the instructors beforehand. The students were asked to answer a list of background information. After that, the three tasks were explained and sufficient time was given to all participants to complete the tasks, taking into consideration their academic levels. This was measured as approximately 5 minutes for the background information, 15 minutes for the grammaticality judgment test, 10 minutes for the translation task, and 20 minutes for the writing task.

It should be noted that the GJT took longer in the case of the Baccalaureate level. This was expected given their limited experience with English. This was also the case for the other supporting tasks. More time was allocated to this group since some of the tasks were deemed more challenging in their case. Explanations were simplified for this group to match their proficiency level and make sure they fully comprehended what was required of them. The explanations were provided in English and Darija (i.e., Moroccan Arabic) for all four groups to ensure a fulsome understanding.

In the GJT, all participants were asked to judge 20 randomized sentences, 5 of which were intentionally correct while the rest tested tense and aspect both separately and in the same sentence. To ensure the authenticity of the data, the participants were not informed of the exact grammatical forms targeted. Explanation of the task included brief instruction and two examples, enough to ensure the participants understood what was required. The examples were intentionally haphazard to avoid insinuations of the intentions of the test. This increased validity of the data. The examples used were

e.g., 1 Sharks swim around their prey before attacking it. C _____

e.g., 2 Sharks swims around their prey before attacking it. Inc swim _____

Participants were asked to answer with (C) or (Inc) for correct or incorrect. Should the answer be "Inc",

they were asked to provide the correct form. The sentences tested the entire English temporal system. The jargon, sentences, coherence, and cohesion employed were chosen carefully taking into account the academic level of the targeted population. This meant avoiding double meanings, confusing or vague sentences, etc. Similarly, the TT, as the most frequently used task to test the acquisition of tense and aspect, offered invaluable findings. Translating sentences and phrases ensured a balance of predicates involved. The population was asked to translate 11 sentences from Darija to English. The sentences were carefully chosen to assess the grasp of the temporal system. Lastly, The WT required writing two paragraphs, where the first instruction invited the students to tell a short story about a sad moment and the second paragraph was a description of a reaction to hearing great news. This dichotomy is aimed at activating the students' unconscious production; hence, taking their minds off tenses and providing genuine and honest data.

The coding process focused on counting the total number of mistakes made in the production. All mistakes/errors committed were counted carefully for each task. The coding was binary in the form where mistakes were given a value of 0 while correct forms were referred to by the number 1. It should be noted, however, that these numbers had no numerical value and no hierarchy was developed between the two groups of production.

6.7. Validity and reliability

Validity and reliability were ensured throughout the entire process. Testability of the findings was employed at all stages. This ensures that future research would be able to reach comparably similar results in a replication of the study using the experimental design herein. This makes the findings below more robust and reliable. Several statistical tests and measurements allow validity in quantitative data. Hence, both external and content validity were accounted for. LoBiondo-Wood & Haber (1998, p. 561) stated that validity refers to the determination of whether a measurement instrument quantifies what it purports to measure (cf. Long & Johnson, 2000). Although no clear-cut determination is found between the two, external validity refers to the extent to which the findings of the present paper are generalizable. Since the prevailing approach is quantitative in nature, it is safe to say that the findings produced testable results. Conversely, content validity, measuring the extent of interaction between variables was consciously employed in the tasks reducing room for sheer guesswork and haphazard sentences. Reliability, on the other hand, was increased through piloting the tasks before data collection. Piloting aimed at identifying the sufficient time needed for the completion of all tasks and was randomized since the population represented different levels of proficiency and

participants were chosen objectively ensuring a representative sample of all Moroccan EFL learners. The difference in the time allocated to finish the tasks for each group was taken into consideration before data collection.

7. Findings and interpretations

While the first part of this study set the scene for the research, the second part presents the statistical findings. Several tests were employed to deduce the results from the data collected herein. After the descriptive statistics, this part provides the findings of the paired samples *t*-test, and the One-way ANOVA test used herein. The latter was used to test if there are any noticeable differences among the independent groups.

7.1. Descriptive data

The descriptive statistics herein determine measures of central tendency (i.e., mean) and measures of dispersion (i.e., range and standard deviation). One way of describing the general picture of the total number of mistakes in tense and aspect is through the measures of central tendency and dispersion. This is exhibited in the table below:

Table 1. The total number of mistakes in tense and aspect

	N	Mean	SD
Mistakes committed by subjects in both tense & aspect	231	5.06	4.32

The table above shows the total number of mistakes in tense and aspect combined. It reports the total number of mistakes committed by the four groups (i.e., N = 231). The mean reports M = 5.06, while the standard deviation indicates SD = 4.32. This gives us a general overview of the nature of the data used in the inferential statistics below. Consequently, the following section provides the results of the paired-samples *t*-test for the four groups separately.

7.2. Paired samples *t*-test

This test was used for several reasons as it compares the means of two related groups on the same continuous, dependent variable (cf. Hatch & Lazaraton, 1991). Subsequently, the dependent variable herein is the number of mistakes in tense and aspect while the two related independent variables are Tense and Aspect. The number of mistakes in each one can be measured on a continuous scale. The academic level, on the other hand, consists of two categorical, related variables, namely tense and aspect, within each group. The third requirement fulfilled here is the absence of any significant outliers. The fourth, and last, requirement had to do with the distribution of differences in the dependent variable.

7.2.1. The Baccalaureate group

The table below presents the correlations between the number of mistakes in tense and aspect for the Baccalaureate group.

Table 2. Correlation between tense and aspect

		Mean	N	SD
Pair 1	Mistakes in Tense	2.35	42	2.53
	Mistakes in Aspect	2.73	42	2.88

Table 2 presents the mean and standard deviation for the number of mistakes in both tense and aspect. This exhibits a slight skewness in the production of the population whereby mistakes in aspect are more frequent. This is normal in the sense that aspect is a more complicated form of temporality.

Table 3. Paired samples *t*-test

		T	df	Sig. (2-tailed)
Pair 1	The Number of Mistakes in Tense - The Number of Mistakes in Aspect	-.966	41	.04

The table above presents the result of the paired samples *t*-tests for the Baccalaureate group in both tense and aspect. The most relevant finding of the paired *t*-test is the *p*-value ($p = 0.04$) indicating a significance level below .05. This entails that the number of mistakes made by the participants in this group differs greatly between tense and aspect indicating the existence of separate developmental paths for tense and aspect.

7.2.2. The Semester 2 group

The proceeding table presents the correlations between the number of mistakes in tense and aspect related to the Semester 2 group.

Table 4. Correlation for the Semester 2 group

		Mean	N	SD
Pair 1	The Number of Mistakes in Tense	3.18	60	2.81
	The Number of Mistakes in Aspect	3.50	60	2.29

Table 4 above presents the mean and the standard deviation for the number of mistakes in both tense and aspect. This goes hand in hand with the difference found in the previous group whereby the mean varies between tense and aspect.

Table 5. Paired Samples *t*-test for semester 2 group

		t	df	Sig. (2-tailed)
Pair 1	The Number of Mistakes in Tense - The Number of Mistakes in Aspect	-1.036	9	.03

The table above presents the result of the paired samples *t*-tests for the semester 2 group in both tense and aspect. The significance level entails that the number of mistakes made by the participants in this group differs greatly between tense and aspect since the *p*-value is below .05.

7.2.3. The Semester 6 group

The table below presents the correlations between the number of mistakes in tense and aspect related to the S6 group.

Table 6. Correlation for the Semester 6 group

		Mean	N	SD
Pair 1	The Number of Mistakes in Tense	2.90	80	2.19
	The Number of Mistakes in Aspect	2.92	80	2.40

Table 6 above presents the mean and standard deviation for the Semester 6 group. The succeeding table presents the paired samples *t*-test results between the number of mistakes in tense and aspect.

Table 7. Paired Samples *t*-test for semester 6 group

		<i>t</i>	df	Sig. (2-tailed)
Pair 1	The Number of Mistakes in Tense - The Number of Mistakes in Aspect	-.10	79	.01

The *t*-value herein is $t = -.10$ with a degree of freedom of ($df = 79$). The relevant result for the paired *t*-test herein is the *p*-value, reporting a high significance of $p = 0.01$. This significance level shows that the number of mistakes made by the participants in this group differs greatly between tense and aspect. It can be noted that there is a significant difference between the two, indicating a gradual increase in the difference between tense and aspect across the academic levels. This entails that the acquisition of both tense and aspect differs from one academic level to the other whereby a developmental path is recorded in the case of Moroccan EFL learners.

7.2.4. The Master's group

The table below presents the correlations between the number of mistakes in tense and aspect related to the masters' group.

Table 8. Correlation for the master's group

		Mean	N	SD
Pair 1	Mistakes in Tense	.50	48	.82
	Mistakes in Aspect	1.33	48	1.01

Table 8 above presents the mean and standard deviation for the number of mistakes in both tense and aspect for the Masters' group. The gap between the mean of tense and aspect widens indicating a bigger

difference in the acquisition of the two across the groups. This is confirmed by the results of the paired *t*-test below.

Table 9. Paired Samples *t*-test for the master's group

		<i>t</i>	df	Sig. (2-tailed)
Pair 1	Mistakes in Tense - Mistakes in Aspect	-5.25	47	.000

The *t*-value reported $t = -5.25$, the degree of freedom is $df = 47$ and the *p*-value is $p = 0.00$ indicating that the gap between tense and aspect is widened further. That is, the number of mistakes committed by the participants in this group differs greatly between tense and aspect since the *p*-value is highly significant. Thus, this group shows a higher level of difference between the acquisition of tense and aspect.

7.3. One-Way MANOVA

The paired sample *t*-test employed earlier demonstrated varying significance levels within each group between tense and aspect. This supported the claims made in the current study that the English temporal system is learned through a developmental path in the case of Moroccan EFL learners. To find out if there are any significant differences among the groups, a one-way MANOVA analysis of variance was conducted.

Table 10. One-Way MANOVA test

	(I) Academic Level	(J) Academic Level	Sig.
Semester 6	Semester 2		.000
	Baccalaureate		.033
	Masters		.033
Semester 2	Semester 6		.000
	Masters		.113
	Baccalaureate		.113
Masters	Semester 6		.033
	Semester 2		.113
	Baccalaureate		.000

The table above reports a significance between Baccalaureate and Semester 2 and 6 groups. Bigger significance was reported then when compared to the master's group. This gradual increase in significance confirms the previous findings in the paired-samples *t*-test. This confirms the hypothesis proposed earlier in this study that the acquisitional process of tense and aspect in the case of Moroccan EFL learners follows a developmental path. These results also confirm the

hypothesis that the academic level plays an important role in the learning process in the case of Moroccan EFL learners. In other words, the higher the academic level, the more learning is demonstrated; thus, highlighting the crucial role of the academic level in the acquisitional process and creating a gap between the acquisition of tense and aspect. In other words, the findings highlight that academic level plays a crucial role in the acquisition of the English temporal system. Moreover, the similarity exhibited in the significance levels reported among the first three groups depicts the slight changes happening in the learning process when compared to a much higher level of proficiency such as that exhibited in the master's level where the gap widens. Compared to the Baccalaureate, the significance in the master's group showed that there is a separation in the interlanguage between tense and aspect where each is learned separately. This highlights the order of acquisition of the two grammatical elements. This was also noticed in the finding that the means of tense across the groups were slightly less than that of aspect. This means that mistakes in tense were less frequent and, therefore, learning the forms of the latter is easier to some extent. Conversely, the findings exhibited the challenge in learning aspectual forms. Both findings denote gradual learning existing in the interlanguage, before the output. In the case of Moroccan EFL Learners, tense is acquired at the early stages of the learning process. At some point during the S2 and S6 levels, there is a slight shift towards focusing on the acquisition of aspect where mistakes in aspect are less frequent. This indicates a decline in the importance of tense with the increase in students' proficiency levels across the academic levels. Lack of focus on tense during higher levels in the teaching process makes students more conscious of aspectual forms. At the master's level, learners focus again on tense after having already learned aspect to a great extent. This creates a balance between tense and aspect where the two are acquired through a developmental path and in parallel at a certain point during the learning process.

8. Conclusion

Given the findings exhibited in the two tests employed herein, it can be deduced that the academic level plays a significant role in the process of acquiring tense and aspect in Moroccan EFL learners. Both the paired samples t-test and the One-way MANOVA consolidated the hypothesis that the academic level affects the learning process where a developmental path is followed. Findings suggest that the development of the learning process starts after the Baccalaureate level and continues to exhibit itself throughout all the groups used in the study. All groups showed a decrease in the number of mistakes committed and an increase in the proficiency level as the academic level increased. The change was apparent in the case of the second and third groups with a spike increase in the Masters' group.

The latter reported a noticeable decrease in the number of mistakes committed in both tense and aspect where the mean decreased greatly indicating a significant improvement in the learning of the English temporal system. The findings revealed a tendency among the group members belonging to higher academic levels, especially the master's group members. The latter group consisted of several students from different universities as mentioned earlier. These findings also support the claims made by the prototype hypothesis that the Moroccan EFL learners seem to develop exemplars (i.e., prototypes) interchanging between tense and aspect whereby these prototypes share characteristic features between the two. The mistakes committed have created a degenerate or 'unclean' input that was processed in the interlanguage to recreate grammatically correct productions.

Notes

The present article is part of a larger, unpublished, study examining the acquisition of tense and aspect among Moroccan EFL learners employing a constraint demotion model. Thus, it should be noted that some background information employed herein are partly drawn from another study expected to be published in Southern African Linguistics and Applied Language Studies, available through:

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