Investigating the Impact of French Grammar Knowledge on English Grammar Acquisition in Moroccan EFL University Students: A Correlational Analysis

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Abstract: This study investigates the relationship between French and English grammar proficiency among university students in Meknes, Morocco. A statistically significant positive correlation (r = 0.797, p < 0.01) was found between French and English grammar test scores. This suggests that students with stronger French grammar skills also tend to perform better on the English grammar test. Aligning with research on positive grammar transfer, this finding highlights the potential benefits of a strong foundation in French grammar for Moroccan students learning English. However, the study acknowledges the limitations of a correlational design. Further research is needed to explore the underlying mechanisms that contribute to the observed relationship and the impact of instructional methods. The findings hold valuable implications for various stakeholders in education: educators (utilizing comparative grammar exercises and promoting cross-linguistic awareness), researchers (investigating mechanisms and effective instructional methods), and policymakers (optimizing bilingual education by emphasizing transferable grammar skills in French instruction and curriculum design). By acknowledging the transferability of grammar skills, stakeholders can collaborate to improve overall language proficiency among Moroccan students.

Keywords: Bilingual Education, Grammar Transfer, Positive Correlation, University Students, L2 Grammar, L3 Grammar

1. Introduction

Multilingual language acquisition presents a fascinating area of inquiry, characterized by the dynamic interplay between existing linguistic knowledge and the development of new grammar systems. This study investigates the intricate relationship between second language French (L2) and third language English (L3) grammar acquisition specifically among Moroccan university students enrolled in English language courses. By examining potential correlations between French and English grammar proficiency, this paper aims to contribute
to a deeper understanding of how previously acquired languages influence the learning of subsequent ones.

Cummins' (1981) influential Interdependence Theory provides the theoretical foundation for this investigation. This framework proposes that proficiency in underlying language skills, particularly those related to grammar, exhibits transferability across languages. In essence, strong French grammar knowledge may facilitate the acquisition of English (L3) grammar due to the shared cognitive processes involved. This concept of positive transfer has garnered significant scholarly attention. Cook (2016) emphasized how learners leverage their L2 knowledge as a resource for mastering an L3. Similarly, Hamarneh (2010) explored how Arabic, the first language (L1) for many Moroccan learners, influences their acquisition of English.

Morocco presents a unique multilingual landscape (Razkane, 2022; Sadiki, 2006). French holds a prominent position, introduced during the colonial era and remaining prevalent in administration, education, and some media (Sadiki, 2006). This early exposure typically leads to formal French instruction beginning in primary school, solidifying its foundation as a second language (L2) (Sadiki, 2006). English, on the other hand, is a more recent addition to the educational system, typically encountered for the first time in 9th grade, placing it as a third language (L3) relative to French and Arabic (Sadiki, 2006). Despite this later start, English continues to gain importance due to globalization and its role in various fields (Larouz, 2012). Notably, Razkane (2022) highlights that while French may be phased out as a primary language of instruction at the university level, it remains a complementary module for many English majors, showcasing its enduring presence in Moroccan academia. This complex interplay between French and English reflects Morocco's evolving linguistic needs and the growing significance of English on the global stage (Moustafaoui et al. 2018).

This study builds upon existing research by specifically examining the correlation between French (L2) and English (L3) grammar acquisition in Moroccan EFL learners at the university level. The findings hold significant value for educators and researchers in Morocco and beyond. Understanding the interplay between French and English grammar acquisition can inform pedagogical practices and curriculum development for EFL learners with a background in French. Additionally, the results can contribute to the broader field of multilingualism research by providing insights into the complex dynamics of L2 and L3 grammar acquisition.

2. Literature Review

2.1. The Conceptualization of Grammar

The conceptualization of grammar has undergone a significant shift in recent decades. Traditionally viewed as a set of prescriptive rules dictating word order and sentence formation (Bade, 2008; Rivers, 1968), grammar is now increasingly understood as a dynamic system for communication (Duso, 2007; Pontarolo, 2013). This broader perspective recognizes grammar's role in shaping meaning through its interaction with various linguistic elements, including pronunciation, vocabulary, and social context (Duso, 2007).
Larsen-Freeman (1991) highlights three key, interconnected aspects of teaching grammar: structure types, meaning, and pragmatic use. Structure types refer to the mechanics of sentence building, while meaning considers the interplay between lexical and grammatical choices. Pragmatic use emphasizes how context influences appropriate grammatical selections. These aspects hold equal weight, forming a holistic framework for understanding grammar as a tool for effective communication.

2.2. Theoretical Framework

The acquisition of multiple languages presents a fascinating phenomenon where existing linguistic knowledge interacts with the development of new grammatical systems. Cummins' (1981) Interdependence Hypothesis (IH) offers a robust framework for understanding this intricate interplay. It challenges the compartmentalization of language proficiency, proposing a significant degree of transferability for underlying language skills, particularly grammar, across languages (Cummins, 1981).

The IH conceptualizes these skills, such as sentence structure manipulation or verb conjugation, as a toolbox of cognitive processes. Learners can access and utilize these tools across languages, regardless of the specific language being acquired (Cummins, 1981). This core principle, transfer, forms the cornerstone of the IH. Transfer, as described by Cook (2016), refers to the ability to leverage L2 grammatical knowledge as a reference point for L3 acquisition. Positive transfer facilitates the acquisition of new grammatical structures in the L3. For example, Jia's (2012) research found that strong L2 Japanese proficiency aided Chinese learners in acquiring English negation patterns due to shared underlying logic. However, transfer can also be a double-edged sword. Liu (2015) found that Chinese learners with a strong L2 Japanese background struggled with subject-verb agreement in English due to differing agreement rules, leading to interference errors.

2.3. The Common Underlying Proficiency (CUP)

The Interdependence Hypothesis (IH) further proposes the existence of a Common Underlying Proficiency (CUP), a set of transferable cognitive processes that underpin language acquisition across languages (Cummins, 1981). These processes, such as those related to grammatical analysis and sentence formation, are believed to be transferable. This aligns with Birdsong's (2016) findings that successful L2 learners develop strong metalinguistic awareness, a consciousness of language structure, which can be applied to new language learning. A strong CUP essentially equips learners with a transferable set of cognitive tools readily adaptable to new languages.

The IH holds significant promise for multilingual learners. By leveraging existing L2 grammatical knowledge, learners can potentially accelerate L3 grammar acquisition, leading to faster overall language proficiency development (Cummins, 1981). Furthermore, a strong CUP can enhance learners' metalinguistic awareness, making them more strategic and adaptable across languages. This allows learners to identify similarities and avoid interference errors by drawing connections between grammatical structures – a key benefit of a well-developed CUP.
Understanding these core principles empowers educators to create learning environments that maximize the benefits of transfer and CUP development for multilingual learners. Pedagogical approaches that emphasize explicit L2 grammar instruction can potentially benefit L3 acquisition by strengthening the CUP (Cummins, 1981). Additionally, drawing connections between grammatical structures across languages can help learners leverage positive transfer and avoid interference errors. Further research is needed to explore the most effective pedagogical practices that can fully harness the potential of the IH in multilingual classrooms.

Figure 1: Cummins’ Interdependence paradigm (Cummins, 1984)

The intricate relationship between a learner’s first language (L1) and subsequent languages (L2, L3, etc.) has been a central theme in second language acquisition (SLA) research. Within this domain, Cummins’ (1981) LIH stands as a prominent framework positing a deep interconnectedness between languages. The LIH challenges traditional views of L2 acquisition as a separate process, arguing for the transferability of underlying language skills, particularly those related to literacy and metalinguistic awareness, across languages (Cummins, 1983).

A cornerstone of the LIH is the concept of the CUP, a set of transferable cognitive processes that underpin language proficiency across languages (Cummins, 1981). This CUP encompasses skills like phonological awareness, grammatical analysis, and higher-order thinking skills applicable to learning any language (Cummins, 1983). The LIH proposes that a strong CUP acts as a catalyst, accelerating acquisition in both L1 and subsequent languages (L2, L3) (Cummins, 1984). This transferability extends even between languages with distinct writing systems (Cummins, 1981), suggesting a level of abstraction beyond surface-level similarities.

The LIH departs from traditional views of transfer as solely unidirectional (L1 to L2). The well-developed CUP allows for the transfer of metalinguistic knowledge across languages in
a multidirectional manner: L1 to L2, L2 to L1, and even from a third language (L3) back to L2 and L1 (Cummins, 2008). This highlights the intricate interplay between languages within the CUP framework. For instance, research suggests that strong L2 grammatical proficiency can positively impact L2 grammatical proficiency development (Cummins, 1981).

While the LIH offers a valuable framework for understanding multilingualism, its application requires careful consideration. Researchers like García (2009) and Skutt et al. (2005) emphasize the influence of learner differences, instructional approaches, and the specific language pair on the LIH’s effectiveness. Furthermore, the concept of transfer can be a double-edged sword. Positive transfer, as described by Cook (2016), facilitates the acquisition of L3 structures based on similarities with L2. However, negative transfer can occur when L2 structures differ from L3, leading to interference errors (Liu, 2015).

While some research suggests similarities in the acquisition order of grammatical structures between first (L1) and second languages (L2) (Ellis, 1994), a growing body of evidence highlights learner variation (McLaughlin, 1987). Studies by Wells (1986b, cited in Ellis, 1994) demonstrate that not all learners follow the predicted sequence. Factors such as individual learning pace, social background, language interaction experience, and even sex or intelligence (Ellis, 1994) can influence acquisition order. McLaughlin (1987) further emphasizes how L1 can impact acquisition sequences, potentially slowing down or modifying the process.

This variability challenges the notion of a universally fixed order, as proposed by Krashen (McLaughlin, 1987). Individual variations in learning strategies, performance, and communication styles can further obscure the acquisition order for specific structures (McLaughlin, 1987). In conclusion, while a general order of morpheme acquisition might exist in both L2 and L3, acknowledging the flexibility within this order and the various factors influencing individual learner variation is crucial.

2.4 Markedness and Transfer

Research investigating linguistic universals has proposed two key approaches. Typological Universals (Greenberg, 1966, cited in Ellis, 1994) involve large-scale comparisons across languages to identify shared features, such as noun and verb categories. This approach categorizes universals as marked or unmarked. Unmarked features, being common across languages, are more readily transferred during L1 or L2 acquisition (Ellis, 1994). Conversely, marked features, specific to a single language, are typically resisted by learners during transfer (Ellis, 1994).

The second approach, Universal Grammar (Chomsky), focuses on core principles underlying grammar. This theory proposes that some core grammatical rules, like word order, are innate and can be learned through general language structure principles. Conversely, peripheral rules, often arising from a language's history or chance, are considered marked and more challenging to learn (Ellis, 1994; McLaughlin, 1987). This distinction between marked
and unmarked elements holds relevance for understanding both L1 and L2 acquisition processes (Ipek, 2009).

2.5. Transfer in Multilingual Learning

Research on multilingual language acquisition centers on transfer as a key phenomenon. Learners often leverage their L2 knowledge as a reference point for acquiring L3 grammar (Cook, 2016). This transfer can be positive, facilitating acquisition, or negative, leading to interference errors. For instance, studies by Jia (2012) and Liu (2015) with Chinese learners of English (L3) found evidence of both positive and negative transfer from their L2, Japanese.

Studies have explored using discovery learning (Teodor & Munteanu, 2012) to teach grammar in foreign languages. This method engages students by encouraging them to actively explore, analyze, and use grammar concepts while solving problems. This fosters a framework for understanding language mechanics applicable to new concepts. Additionally, discovery learning promotes critical thinking and "creative doubt" as students consider different perspectives on grammar (Teodor & Munteanu, 2012), thus building reasoning skills and a deeper understanding. However, this method requires additional effort from both teachers (tailoring activities) and students (active participation) (Teodor & Munteanu, 2012).

Contrasting languages can also simplify learning (Liu, 2014). A study comparing English and French tenses highlights the value of highlighting similarities and differences (Liu, 2014). Understanding these relationships can benefit learners regardless of their native language. Interestingly, some research suggests that students find using their L1 helpful for learning L2 grammar (Ebrahimpourtaher & Eissaie, 2015). Furthermore, a study by German et al. (2015) demonstrated that English speakers learning French can develop an implicit understanding of French pronoun placement and structure through exposure and exploration. This suggests that learners can develop an unconscious grasp of grammatical rules without explicit instruction. Overall, while discovery-based learning offers benefits for grammar acquisition, it necessitates effort and can be informed by an understanding of the relationships between languages. Further research is needed to explore the most effective pedagogical practices that can harness the potential of L1 knowledge and transfer in multilingual classrooms.

2.6. Similarities between French and English Grammar

According to Kang (2021), English and French grammar share many similarities, making it easier for learners with a strong foundation in French grammar to grasp English grammar concepts. This can significantly accelerate initial L2 acquisition (focusing on preliminary French grammar). From a vocabulary standpoint, both languages categorize words similarly, using the same parts of speech (nouns, verbs, pronouns, etc.). Even the subcategories within these parts of speech often align. For instance, both languages classify pronouns as relative, interrogative, personal, and so on. Additionally, the functions of many words, such as articles, prepositions, and adjectives, are comparable across the two languages (Tabari, 2011). Many words even have direct counterparts, like "this/that" translating to "ce/cet/cette" and "ces" in French.
To illustrate the similarities between English and French tenses, here are some examples of corresponding forms:

Table 1: Similarities between French and English tenses (Adopted from Kang, 2021, p,70)

<table>
<thead>
<tr>
<th>French</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicatif Présent</td>
<td>Present Simple/Presen: Progressive</td>
</tr>
<tr>
<td>Indicatif Futur Simple</td>
<td>Future Simple</td>
</tr>
<tr>
<td>Indicatif Le Futur dans le Passé</td>
<td>Past Future</td>
</tr>
<tr>
<td>Indicatif Futur Antérieur</td>
<td>Future Perfective</td>
</tr>
<tr>
<td>Indicatif Passé Simple</td>
<td>Past Simple</td>
</tr>
<tr>
<td>Indicatif Passé Composé</td>
<td>Present Perfective/Past Simple</td>
</tr>
<tr>
<td>Indicatif Plus-que-parfait</td>
<td>Past Perfective</td>
</tr>
<tr>
<td>Indicatif Imparfait</td>
<td>Past Progressive</td>
</tr>
</tbody>
</table>

2.6.1. Shared Sentence Structures and Nuances

Both English and French follow a subject-verb-object (SVO) sentence structure. This basic pattern can be further broken down into five fundamental sentence types. These fundamental sentence types can be further categorized based on their function: juxtaposed (simply joined) and principal-subordinate (with a clear main and dependent clause). Interestingly, English and French compound sentences share similarities. They can both be categorized based on function: juxtaposed (simply joined) and principal-subordinate (with a clear main and dependent clause).

While the basic structure is similar, there might be some finer details that differ between the two languages:

Table 2: Structural Similarities in English and French (Adopted from Kang, 2021, p,71)

<table>
<thead>
<tr>
<th>French</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>dans l'ensemble</td>
<td>in general</td>
</tr>
<tr>
<td>de plus en plus</td>
<td>more and more</td>
</tr>
<tr>
<td>de ... à ...</td>
<td>from … to …</td>
</tr>
<tr>
<td>avoir droit à qch.</td>
<td>have right to sth.</td>
</tr>
<tr>
<td>arrêter de faire qch.</td>
<td>stop to do sth.</td>
</tr>
<tr>
<td>par conséquent</td>
<td>as a consequence</td>
</tr>
<tr>
<td>pour le moment</td>
<td>at this moment</td>
</tr>
</tbody>
</table>

2.6.2. Transferable Knowledge in Verb Tenses and Degrees

Similarities extend beyond vocabulary. The way French adjectives and adverbs form comparative and superlative degrees is very similar to English, allowing learners to leverage their understanding of English patterns. Similarly, verb tenses, aspects (perfect/imperfect), and voices (active/passive) exhibit a rough parallel between the two languages (present, past, future; positive, passive). This overlap allows learners to draw on their English knowledge to understand these concepts in French.

Unlike negative transfer in pronunciation and vocabulary, negative transfer in English-to-French grammar primarily arises from structural differences between the languages. Students who come to French after years of English often have deeply ingrained English grammar rules
in their minds. This established mindset can lead them to unconsciously apply English patterns to French, causing errors. These negative effects are particularly evident in tense usage.

Tense is a common area of difficulty for English speakers learning French. While creating a comparative list of tenses can be helpful, these often mask subtle nuances. For instance, many English-speaking beginners struggle to differentiate between the French "passé composé" and "imparfait" tenses. They tend to rely on their understanding of the English present perfect and simple past tenses, which are not directly equivalent to their French counterparts. The French tenses hold more complexity and require a deeper understanding.

Table 3: Comparison between English and French Tense in Sentences (Adopted from Kang, 2021, p.71)

<table>
<thead>
<tr>
<th>English Tense</th>
<th>French Tense</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you been to Shanghai?</td>
<td>Avez-vous été à Shanghai?</td>
<td>Present Perfect (Passé Composé)</td>
</tr>
<tr>
<td>I went to town yesterday.</td>
<td>Je suis allé en ville hier.</td>
<td>Past Simple (Passé Composé)</td>
</tr>
<tr>
<td>I was doing my homework.</td>
<td>Je faisais mes devoirs.</td>
<td>Past Progressive (Imparfait)</td>
</tr>
<tr>
<td>Every summer, he returned to Shanghai.</td>
<td>Chaque été, il retournait à Shanghai.</td>
<td>Past Simple (Imparfait)</td>
</tr>
<tr>
<td>He was reading the newspaper when I entered the classroom.</td>
<td>Il lisait les journaux quand je suis entré dans la classe.</td>
<td>Past Progressive, Past Simple (Imparfait)</td>
</tr>
<tr>
<td>She has been ill for a week.</td>
<td>&quot;Il y a huit jours qu'elle a été malade.</td>
<td>Past Perfect (Passé Composé)</td>
</tr>
<tr>
<td>I went to Paris last year.</td>
<td>&quot;L'année dernière, j'allais à Paris.</td>
<td>Present (Présent)</td>
</tr>
</tbody>
</table>

2.7. Language Transfer in French & English Acquisition

Several studies acknowledge the potential benefits of positive transfer. Singleton (1987) examines how similarities between English and French, particularly in vocabulary related to their shared Latin roots, can facilitate French learning. Similarly, Taylor (1976) suggests that lexical cognates (words with similar forms and meanings) between the two languages can aid bilingual language behavior. These findings highlight the advantage that learners possess when their L2 shares features with their L3.

However, negative transfer can also arise due to differences between the languages. Corder's (2009) seminal works on error analysis, particularly "The Significance of Learner's Errors" (Corder, 2009) and "Idiosyncratic Dialects and Error Analysis" (Corder, 2009), demonstrate how learners' errors can stem from the application of L1 rules to the L2. For instance, French verb tenses like "passé composé" and "imparfait" have nuances that differ from the simple past and present perfect tenses in English. Learners accustomed to French tense usage might struggle with these distinctions, leading to errors in their English production.

Understanding interlanguage, the learner's developing system that reflects transfer from the L1, is crucial in this context. Selinker's (2009) work on interlanguage sheds light on how learners construct a unique system as they move towards proficiency in the L2. Analyzing
learner errors within this framework can reveal areas where negative transfer from French hinders English acquisition.

In a nutshell, research demonstrates that language transfer, both positive and negative, significantly impacts English speakers learning French. While similarities between the languages can aid learning, recognizing and addressing the influence of L1 differences is vital for effective L2 acquisition. This review has provided a foundation for further exploration of specific areas where transfer from English affects French learning, paving the way for more targeted pedagogical approaches.

2.8. Moroccan Context and French Influence

Understanding the Moroccan context is crucial for this study. Arabic is the first language (L1) for most Moroccans, and French holds a significant position due to the country's colonial history. This bilingual background influences English acquisition. Hamarneh (2010) investigated the influence of Arabic on Jordanian EFL learners' English acquisition, highlighting similar challenges faced by learners with Arabic as an L1.

Several Moroccan researchers have specifically addressed the challenges faced by Moroccan EFL learners. Berkani (2014) explored the difficulties encountered in areas where French and English grammar diverge, such as verb tense usage. A similar focus is observed in Lachkar's (2017) investigation of the influence of L1 Arabic and L2 French on Moroccan EFL learners' writing, highlighting areas where transfer effects are evident.

While research exists on L2 and L3 grammar transfer and the Moroccan context of EFL learning, some gaps remain. Existing studies often focus on L1 influence or explore L2 and L3 interactions in general. This study aims to specifically examine the correlation between L2 French and L3 English grammar acquisition in Moroccan EFL learners during their second semester of English instruction. This period is crucial as learners are actively building their foundational grammar skills in English.

3. The Present Study

3.1. Design of the Study

This study adopted a correlational design to investigate the relationship between French (L2) grammar proficiency and English (L3) grammar acquisition among Moroccan EFL students. Correlational research, as described by Creswell (2014), explores the existence and strength of a potential association between two or more variables, without establishing cause-and-effect relationships. This paper aims to analyse the degree of correlation between French (L2) grammar proficiency and English (L3) grammar acquisition. By measuring these variables through assessments or tests, we can analyze the degree of correlation between them.
This approach offers several advantages for the current investigation. Firstly, correlational designs are well-suited for examining how existing knowledge or skills in one domain (French grammar) might relate to learning outcomes in another domain (English grammar). Secondly, as Bryman (2016) highlights, correlational research is often less resource-intensive and time-consuming compared to experimental designs. This makes it a practical choice for studies exploring initial hypotheses or associations in complex educational settings. While the correlational design provides valuable insights into potential relationships, it's important to acknowledge that it cannot definitively prove causation. Future research could build upon these findings by employing experimental designs to manipulate variables and establish a cause-and-effect relationship between French grammar proficiency and English grammar acquisition in Moroccan EFL learners.

3.2. Participants and Sampling Technique

This study recruited a sample of 96 Moroccan EFL (English as a Foreign Language) students enrolled in their second semester (S2) of English language instruction. The participants were drawn from the Faculty of Arts and Humanities at Meknes University through convenience sampling technique. The age range of the student population primarily fell between 18 and 25 years old, although there may have been a small number of older students pursuing English language studies. It is important to note that socio-economic information was observed, indicating that the majority of participants belonged to the middle class.

3.3. Data Collection Instruments

Following a similar approach to the English Grammar Test (EGT), the French Grammar Test (FGT) was developed. While the EGT drew upon university-level exams, the FGT was adapted from a pool of high school grammar assessments. Both tests, however, underwent a rigorous revision process. Experienced teachers of French meticulously reviewed the FGT, offering valuable modifications and identifying potential areas of concern.

Most importantly, the researchers ensured consistency between the EGT and FGT. They established a uniform set of rubrics, or assessment criteria, to gauge student grammar proficiency. These rubrics focused on core areas common to both languages: verb conjugation, sentence correction, matching exercises, sentence completion, rule application within sentences, and sentence transformation. By meticulously designing these indicators to maintain a similar level of difficulty, the researchers guaranteed a fair and comparable assessment experience across both the English and French tests. Scoring procedures also mirrored each other, further solidifying the data's reliability and allowing for a meaningful comparison of student performance in each language.

The tests underwent a pilot phase with a group of 30 students who shared similar characteristics with the main study participants. This pilot ensured the test's reliability, which was subsequently calculated using the KR-21 method and yielded a very acceptable score of 0.85.
3.4. Reliability and Validity of the Data Collection Tools

In quantitative research, ensuring the robustness of findings hinges on the reliability and validity of the instruments used to measure the concepts of interest. This study addressed the issue of reliability by meticulously considering several factors. To establish this internal reliability, particularly relevant for multi-indicator measures, numerous professors and examiners were consulted. These experts evaluated whether the rubrics and subscales employed within the two tests effectively captured grammatical ability. Furthermore, inter-examiner consistency, a cornerstone of reliability which ensures consistent scoring across multiple raters, was achieved through rigorous training. This training ensured all raters adhered to the same scoring criteria and procedures.

Beyond reliability, measurement validity was also a paramount concern. The researchers prioritized face validity, which assesses whether the instrument appears to measure the intended concept. To achieve this, practitioners in the field were consulted to determine if the tests appeared to effectively assess grammatical ability. Subsequently, the tests were refined based on the feedback and suggestions provided by these experts. By meticulously addressing both reliability and validity, the researchers instilled confidence in the ability of the instruments to accurately measure grammatical proficiency.

3.5. Data Collection Procedures

The administration of the two grammar proficiency tests necessitated a flexible scheduling approach due to their individual length of 1 hour and 30 minutes. This resulted in a testing plan spanning approximately 20 days across the campus grounds. To optimize participant convenience and reduce test fatigue, a three-session format was implemented. This involved separate testing sessions for the French and English exams, ensuring participants could dedicate their full attention to each assessment within their available time.

To optimize participant comfort and maximize participation, the researchers implemented several strategies. First, they emphasized the non-evaluative nature of the tests, stressing that these were for research purposes only and would not impact university grades. Participants were even offered the option to use nicknames for anonymity. Additionally, the researchers partnered with colleagues to ensure smooth test administration. Clear instructions were provided beforehand, with encouragement to ask for further clarification.

Initially, recruitment faced challenges due to a low number of volunteers. To address this, the researchers consulted professors and secured permission to administer the tests directly after existing classes. This strategic approach, leveraging professorial authority, significantly boosted participation rates.

3.6. Data Analysis Procedures
Data analysis constituted a critical subsequent step in achieving the study's objectives. Following data collection, a multi-pronged analytical approach was employed to comprehensively examine the generated results. Given the use of tests and inventories as data collection instruments, the resulting data naturally took the form of numerical scores, making them amenable to statistical analysis. The Statistical Package for Social Sciences (SPSS) software 21 served as the primary tool for data analysis. The initial stage involved tabulation of participants' scores on both the French and English tests. These scores were then interpreted and discussed alongside measures of central tendency. To investigate the research hypothesis - which posits a correlation between French and English grammatical abilities - Pearson's correlation coefficient and ANOVA were employed. These statistical tests provided a robust measure of the strength and direction of the linear relationship between the two variables.

4. Results

4.1. Descriptive Statistics

This sub-section investigates the correlation between French grammar proficiency and English grammar development among Moroccan university students enrolled in English language courses. It aims to address the following research question and test the corresponding directional hypotheses:

- **RQ1:** To what extent does proficiency in French grammar predict proficiency in English grammar among Moroccan EFL learners in their second semester of English instruction?
- **DH:** Moroccan EFL learners with higher proficiency in French grammar will demonstrate significantly better performance in English grammar compared to learners with lower proficiency in French grammar.

This section examines the correlation between two quantitative variables: French grammatical performance (independent variable) and English grammar proficiency (dependent variable). Both variables are measured numerically through standardized grammar tests. Pearson's product-moment correlation, along with a scatterplot, will be employed to assess the strength and direction of the linear relationship between these variables. The results will be presented along with interpretations and discussion. Additionally, regression analysis will be conducted to explore the strength of the association and the extent to which French grammar proficiency predicts English grammar proficiency.

This analysis is examining the following Null hypothesis:

- **NH:** There is no correlation between French grammatical ability and English grammatical proficiency.

To ensure the validity of the correlation analysis, this section will also address the assumptions of linearity and homoscedasticity. Visual inspection of the scatterplot depicting
the relationship between French and English grammar scores will be used to assess these assumptions.

Figure 2: The scatterplot of the French and English Grammar Tests

The scatterplot visually confirms the positive correlation indicated by the high R-value in the model summary. We see a general upward trend, with data points concentrated in the upper right quadrant. This confirms the positive correlation. The spread of the data points reveals a moderately strong connection. If the points formed a tight cluster along a diagonal line, it would suggest a very strong linear association. However, the scattering of points indicates a less perfect linear relationship, though a positive association is still evident. The distance of each point from the regression line reflects how well the model predicts that student's English grammar score. This visual analysis complements the statistical results, providing a clearer understanding of the relationship between French and English grammar proficiency as measured by these tests.

Table 4: The nexus between French and English grammar tests

<table>
<thead>
<tr>
<th>Correlations</th>
<th>EnglishGTest</th>
<th>FrenchGTest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>1</td>
<td>.797**</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>96</td>
<td>96</td>
</tr>
<tr>
<td>Pearson Correlation</td>
<td>.797**</td>
<td>1</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.000</td>
<td>1</td>
</tr>
<tr>
<td>N</td>
<td>96</td>
<td>96</td>
</tr>
</tbody>
</table>
**. Correlation is significant at the 0.01 level (2-tailed).

This correlation table shows a strong positive relationship between French and English grammar test scores. The Pearson correlation coefficient is 0.797, which is significant at the 0.01 level (indicated by the double asterisks). This means that students who scored higher on the French grammar test also tend to score higher on the English grammar test, and vice versa. The significance level indicates that this observed correlation is unlikely to be due to chance.

Table 5: Model Summary of French and English grammar tests

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.797&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.635</td>
<td>0.632</td>
<td>1.62086</td>
<td>1.698</td>
</tr>
</tbody>
</table>

<sup>a</sup> Predictors: (Constant), FrenchGTest

Examining the model summary table from SPSS reveals a strong positive association between French grammar test scores (FrenchGTest) and English grammar test scores (EnglishGTest). The Pearson correlation coefficient (R) of 0.797 indicates a substantial positive relationship. Moreover, the R-squared value of 0.635 indicates that French grammar scores account for 63.5% of the variance in English grammar scores. The adjusted R-squared (0.632) reinforces this finding, mitigating potential overestimation due to the single predictor. The standard error of the estimate (1.62086) suggests a reasonable fit of the model to the data. However, the Durbin-Watson statistic (1.698) is inconclusive regarding autocorrelation in the residuals, requiring further investigation to ensure the model's validity. Overall, the results provide strong evidence for a statistically significant positive connection between French and English grammar proficiency as measured by these tests.

Table 6: ANOVA for French and English grammar scores

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>430,497</td>
<td>1</td>
<td>430,497</td>
<td>163,863</td>
<td>.000&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>1</td>
<td>Residual</td>
<td>246,955</td>
<td>94</td>
<td>2,627</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>677,452</td>
<td>95</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: EnglishGTest

<sup>b</sup> Predictors: (Constant), FrenchGTest

This ANOVA table reveals a statistically significant relationship (Sig.: 0.000) between French grammatical ability (FrenchGTest) and English grammatical ability (EnglishGTest). The model that includes FrenchGTest as a predictor explains a significant portion of the variance in English grammar test scores (Regression Sum of Squares: 430,497). This suggests a positive correlation between French grammar test scores and English grammar test scores.
However, the ANOVA does not provide information on the strength or direction of this association, and other factors likely influence performance on these grammar tests.

Table 7: Coefficients of French grammar test

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>5.413</td>
<td>.612</td>
<td>8.850</td>
</tr>
<tr>
<td></td>
<td>FrenchGTest</td>
<td>.615</td>
<td>.048</td>
<td>.797</td>
</tr>
</tbody>
</table>

a. Dependent Variable: EnglishGTest

The regression coefficients table offers further insights into the relationship between French and English grammar abilities. The statistically significant coefficient for FrenchGTest (t = 12.801, sig. = 0.000) indicates that French grammatical proficiency positively impacts English grammar test scores. This suggests that, on average, a one-unit increase in French grammar score is associated with a 0.615-point increase in English grammar scores. Furthermore, the standardized Beta coefficient (0.797) reveals a moderately strong positive association between the two variables, independent of the specific scales used in each test. These findings support the presence of a statistically significant and moderately strong positive relationship between French and English grammatical abilities.

Table 8: Residuals Statistics for the French and English grammar scores

<table>
<thead>
<tr>
<th>Residuals Statisticsa</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Predicted Value</td>
<td>5,4130</td>
<td>16,1718</td>
<td>12,9505</td>
<td>2,12874</td>
<td>96</td>
</tr>
<tr>
<td>Residual</td>
<td>-4,79042</td>
<td>5,35746</td>
<td>,00000</td>
<td>1,61231</td>
<td>96</td>
</tr>
<tr>
<td>Std. Predicted Value</td>
<td>-3,541</td>
<td>1,513</td>
<td>,000</td>
<td>1,000</td>
<td>96</td>
</tr>
<tr>
<td>Std. Residual</td>
<td>-2,955</td>
<td>3,305</td>
<td>.995</td>
<td>96</td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: EnglishGTest

The residuals statistics table offers further assurance regarding the model's fit. The mean residuals are centred around zero for both the original (Mean: 0.00000) and standardized scales (Mean: 0.000), indicating that, on average, the model's predictions closely match the observed English grammar test scores (EnglishGTest). The standard deviations of the residuals (1.61231 for original and 0.995 for standardized) reflect a moderate spread around the mean, suggesting no substantial deviations between predicted and actual scores. While a visual inspection of a residual plot is recommended for a more comprehensive evaluation, these statistics provide initial evidence that the model's assumptions regarding the residuals are likely met.
4.2. Discussion of the results

This study investigated the relationship between French and English grammar proficiency among university students in Meknes, Morocco. The findings revealed a statistically significant and moderately strong positive correlation between the two grammar test scores. This suggests that students with higher scores in French grammar also tend to perform better on the English grammar test.

This result aligns with previous research conducted in multilingual contexts outside Morocco. For instance, Filipov & Mol (2013), studying bilingual students in Bulgaria, found a positive correlation between first language (L1) grammar knowledge and second language (L2) acquisition. Similarly, Jia & MacWhinney (2009) in their work with Chinese-English bilingual children, observed positive transfer of grammatical knowledge from L1 to L2. These findings add weight to the notion that a strong foundation in one language's grammar system can facilitate learning and performance in another (Alizadeh, 2023).

Moreover, the positive correlation between French and English grammar proficiency observed in this study aligns well with previous research on grammar transfer in bilingual contexts. Similar findings were reported by Abraham & Dressler (2003) who investigated adult English learners with a French background. Their study also demonstrated that strong French grammar knowledge benefited performance on English grammar tests. Similarly, Hamidi & Safavi's (2011) research with Iranian high school students learning English found a positive correlation between French and English grammar skills, supporting the notion that a foundation in one language can facilitate learning another.

In the same way, Kang's (2021) exploration of language transfer sheds light on the unique challenges faced by English majors learning French. While the presence of some grammatical and structural similarities between the languages can facilitate a smoother initial learning curve, these very similarities can also be a double-edged sword, as they could lead to negative interferences that might hinder the learning process (Liu, 2014). This fact aligns in part with the findings of this study as some participants showed good predisposition towards the French grammatical mechanisms that lead to the construction of their English grammatical repertoire.

The Scatterplot showed that there a good relationship between the variables and this fact aligns with the arguments of Achour (2019). In her seminal work, “The influence of French on English foreign learners’ vocabulary case: A2 and B1 students of the intensive center of languages at Biskra University (Chetma)”, Achour (2019) maintains that there is a strong link between French and English as they share commonalities at the level of vocabulary, grammar and receptive and productive skills. Essentially, this aligns with the findings of this study especially when it comes to the shared grammatical constructs that could find a way from the French code to the English linguistic system of students. Additionally, Achour’s thesis adheres to the idea that French could have a facilitative power that leads the quick acquisition of English.

Furthermore, Liu's study "Theory and Practice in Language Studies"(2014) employs contrastive analysis to compare verb tenses in English and French. This approach aligns with this research focus, as it investigates the interplay between grammatical structures across French and English grammatical structures. Through a detailed examination of tense and aspect marking in both English and French, Liu's work (2014) provided valuable insights into potential areas of confusion for learners. By analyzing the similarities and divergences
between these two systems, particularly regarding the use of the present tense for recent past actions in French (unlike English present perfect), and his research present EFL teachers with a stronger foundation for understanding how learners grapple with these nuanced differences in tense usage. In essence, Liu's work (2014) lays the groundwork for this research by highlighting the specific areas where French & English contrastive analysis can illuminate the linguistic challenges faced by learners acquiring verb tense systems in a second language.

While French and English grammar have evolved into distinct systems, a comparative analysis by Václavík (2020) reveals underlying commonalities. Despite highlighting differences in conjugation and the presence of multiple future tense markers in French, the study underscores a fundamental similarity: both languages utilize a future tense construction (futur simple and "will" + verb) to convey actions occurring at a future time point. This shared core function in expressing time reference demonstrates a deeper connection between French and English grammar, even within the nuanced realm of verb tense usage (Václavík, 2020).

In their paper, "Essential linguistic knowledge on French and English language", Unubi & Bello (2019) delved into areas directly relevant to the relationship between French and English grammar. By analyzing aspects like verb conjugations, tense usage, and potentially other grammatical features, they provided insights into the historical development of both languages. Their analysis helped identify shared elements that hint at a common ancestor, while also highlighting the unique grammatical features that emerged as the languages diverged over time. Their finding upholds the correlation coefficient of this study by stressing that French and grammar are founded on more or less the same grammatical ground. Once this ground is learned in French, it paves the way directly towards other features of L2 and L3.

The tendency for English majors to project their existing English knowledge onto French grammar can lead to confusion and errors. Kang (2021) highlights the example of tenses, where the seemingly similar "passé composé" and "imparfait" in French do not perfectly map onto the present perfect and past simple tenses of English. This reinforces the importance of teachers actively guiding students to recognize these nuanced differences and avoid negative transfer. Kang's work (2021) emphasized the value of a learner-centered approach in mitigating the challenges of negative transfer. By understanding individual learning styles and cognitive factors, teachers can create tasks that encourage students to critically analyze similarities and differences between English and French. This approach can empower students to leverage their English knowledge for positive transfer while simultaneously developing a deeper understanding of French grammar's unique characteristics.

Creed (1995) also highlighted in his thesis "A Contrastive Analysis of French and English Social Statistics Texts" that French and English have facilitative influence over each other. In other words, when French is learned first, it paves the way towards other languages (L2, L3...) especially if they share the same lexical, syntactical and morphological background. This idea aligns with the regression analysis of this study, because French grammar, in a way, creates an image to students about how tenses function and how verbs are conjugated.

In the context of Morocco, where French is a mandatory second language in primary and secondary education, this study offers valuable insights. The positive correlation between French and English grammar scores suggests that the skills and knowledge acquired in French grammar studies might be transferable to English. This highlights the potential benefits of
strong foundation in French grammar for Moroccan students embarking on English language learning (Wells, 1986b).

However, it is important to acknowledge that the current study focused solely on the correlation between test scores and does not necessarily imply causation. Further research is needed to explore the underlying mechanisms behind this connection. Additionally, investigating the impact of instructional methods and language learning strategies employed in both French and English classrooms could provide valuable insights into fostering transferable grammar skills and optimizing bilingual education in Morocco.

4.3. Implications

The positive correlation between French and English grammar proficiency suggests that Moroccan students' French grammar knowledge can be a valuable asset for learning English. This section expands on the implications for language teaching practices, incorporating specific strategies and highlighting the role of teacher training.

4.3.1. Fostering Transferable Grammar Skills

Language teachers can leverage this finding by explicitly highlighting transferable grammar skills across French and English. This could involve incorporating activities like side-by-side charts comparing verb conjugations or sentence structures. Gap-filling exercises could challenge students to utilize their French grammar knowledge to fill in missing elements in similar English grammar structures. Collaborative tasks analyzing texts in both languages can encourage students to identify and discuss grammatical similarities and differences. These activities not only reinforce grammar concepts but also promote metacognitive awareness, allowing students to recognize transferable skills and strategies they use when learning grammar across languages.

4.3.2. Promoting Cross-Linguistic Awareness

By promoting cross-linguistic awareness, educators can further strengthen the connection between French and English grammar. This could involve activities where students reflect on how a specific grammatical concept is expressed in French and then explore how it is conveyed in English. Encouraging students to use their French grammar knowledge to predict or explain English grammar rules can enhance their understanding. Additionally, metacognitive exercises can further encourage students to reflect on and articulate the transferable skills and strategies they use when learning grammar across languages. These strategies can empower students to recognize and utilize their existing French grammar knowledge to facilitate English language acquisition.

4.3.3. Teacher Training and Curriculum Integration

To effectively implement these strategies, teacher training is crucial. Workshops could equip French teachers with techniques for identifying and highlighting transferable grammar skills to English. Additionally, curriculum materials could be revised to integrate cross-
linguistic comparisons and metacognitive strategies for recognizing transferable skills. Collaboration between French and English language teachers could lead to the development of joint lessons or projects that leverage transferable grammar skills. Syllabus designers can also play a role by integrating explicit connections between French and English grammar within both language programs. For example, a unit focused on past tense verb conjugations could include comparing French verb tenses (passé composé, imparfait) with their English counterparts (simple past, past continuous) and practicing translations that highlight these similarities and differences.

By incorporating these strategies and fostering collaboration between educators, policymakers, and syllabus designers, Moroccan bilingual education can be optimized to acknowledge and leverage the transferability of grammar skills between French and English. This will ultimately lead to stronger overall language proficiency among Moroccan students.

5. Conclusion

This study investigated the relationship between French and English grammar proficiency among university students in Meknes, Morocco. The findings revealed a statistically significant and moderately strong positive correlation between the two grammar test scores, suggesting that students with stronger French grammar skills also tend to perform better on the English grammar test. These results align with prior research on positive grammar transfer across languages, highlighting the potential benefits of a strong foundation in one language's grammar system for learning another (Kang, 2021). In fact, the limited body of empirical research available on this subject in Morocco, a country where English holds official foreign language status, motivated the undertaking of the current investigation.

While this study offers valuable insights for educators in the Moroccan context, it acknowledges limitations inherent to correlational research. Future research can delve deeper by exploring the underlying mechanisms that contribute to the observed positive correlation. This could involve employing methodologies such as eye-tracking technology or neuroimaging to investigate how students process grammatical structures across languages. Additionally, research investigating the effectiveness of instructional methods that explicitly promote the transfer of grammatical knowledge between French and English would be valuable. This could involve comparing the effectiveness of traditional approaches to methods that emphasize cross-linguistic comparisons and metacognitive strategies for recognizing transferable skills.

Further research opportunities can explore the student perspective and instructional contexts in more detail. Studies employing qualitative methodologies such as interviews or focus groups could provide valuable insights into students' experiences and self-perceptions of grammar transfer between French and English. Additionally, classroom observations or case studies could investigate how French and English teachers currently address grammar instruction and explore the potential for integrating strategies that explicitly promote cross-linguistic grammar awareness and transferable skills.
Despite these limitations, this study contributes to the understanding of the relationship between French and English grammar skills in a Moroccan university student population. The findings suggest that leveraging transferable grammar knowledge across languages has the potential to be a valuable strategy for enhancing bilingual education outcomes. By focusing on future research directions as outlined above, educators and researchers can gain a more comprehensive understanding of how to optimize bilingual education programs in Morocco and empower students to become proficient in both French and English.

References


