# A FUNCTION-FIRST APPROACH TO VERB TENSE USAGE IN RESEARCH ARTICLE INTRODUCTIONS IN APPLIED LINGUISTICS

## İŞLEV-ÖNCELİKLİ YAKLAŞIM AÇISINDAN UYGULAMALI DİLBİLİM ALANINDAKI ARAŞTIRMA MAKALELERİNİN GİRİŞ BÖLÜMLERİNDE (FİİLDEKİ) ZAMAN KULLANIMI

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*Abstract*

*The study aims to investigate verb tense usage in research article introductions in the field of Applied Linguistics by adopting a 'function-first' approach. The corpus used in the study consists of 50 research article introductions published in five prominent journals of the field. The communicative function of the sentences was determined on the basis Swales' (1990; 2004) CARS (Create a Research Space) model. In the coding of data Maxqda 11 was used. The results show that each function is associated with particular verb tense. For instance, in 'claiming centrality' the present perfect tense, in 'making topic generalisations' the simple present and in 'reviewing items of previous research' the simple past tense is predominant. The results suggest that the 'function-first' approach provides a more accurate description of verb tense usage in writing research article introductions than the 'form-first' approach. The findings have implications for teaching academic writing.*

*Öz*

*Bu çalışma, 'işlev-öncelikli' yaklaşım açısından Uygulamalı Dilbilim alanındaki araştırma makalelerinin giriş bölümlerinde (fiildeki) zaman kullanımını incelemeyi amaçlamaktadır. Çalışmada kullanılan veritabanı (corpus), alanın önde gelen beş dergisinde yayınlanan 50 araştırma makalesinden oluşmaktadır. Cümlelerin iletişimsel işlevi, Swales'ın (1990; 2004) CARS (Bir Araştırma Alanı Yarat) modeli temelinde belirlenmiştir. Verilerin kodlanmasında Maxqda 11 kullanılmıştır. Sonuçlar, her işlevin belirli fiil zamanıyla ilişkili olduğunu göstermektedir. Örneğin, 'konunun öneminin vurgulanmasında', yakın geçmiş (present perfect) zamanın, 'konu genellemelerinin' yapılmasında geniş zamanın (simple present) ve 'önceki literatürün taranmasında' basit geçmiş zamanın (simple past) baskın olduğunu göstermektedir. Sonuçlar, araştırma makalelerinin giriş bölümlerindeki zaman kullanımının araştırılmasında 'işlev-öncelikli' yaklaşımın 'yapı-öncelikli' yaklaşıma nazaran çok daha net sonuçlar verdiğini göstermektedir. Bu çalışmanın bulguları akademik yazma öğretiminde rahatlıkla kullanılabilir.*

## 1. Introduction

In the last few decades, the organisation of research article introductions (RAIs) has received considerable attention. Studies have been conducted on the rhetorical organisation of RAIs in various academic disciplines (e.g. Samraj, 2002; Öztürk, 2007; Hirano, 2009). In addition to the overall organisation of RAIs, which might be called 'macro' structure, the 'micro' organisation of RAIs has also attracted the attention of researchers. Issues studied include collocations of grammatical words (Gledhill, 2000), metadiscoursal features used in signalling moves (Del Saz Rubio, 2011), the relationship between lexical bundles and moves (Cortes, 2013), hedging in RAIs (Samaie et. al., 2014), verb tense and modality in abstracts (Salager-Meyer , 1992; Tseng, 2011). Surprisingly, there is a lack of studies investigating verb tense usage in RAIs. The purpose of the present study is to fill in this gap.

### 1.1. Studies Adopting a Form-First Approach

Studies on verb tense usage in the available literature have generally used the 'form-first' approach. In this approach "patterns are identified entirely based on the recurrence of linguistic forms, with information about how the forms are used only being integrated at a later stage of analysis" (Durrant & Mathews-Aydınlı, 2011, p. 61).

By adopting this approach, Gunawardena (1989) investigated the use of the present perfect tense in the Introduction, Methods, Results and Discussion sections of research articles in the fields of biology and biochemistry. She found that the present perfect was more common in the introduction section of RAs than in other sections. However, most of the studies in this line of research have focussed on tense usage in academic citations (or reporting literature) rather than specific sections of RAs. Hawes and Thomas (1997, p.397), who studied tense choice in citations in the field of psychosomatic medicine, found that the past tense was the most frequently used tense (41.6 %), and followed by the present perfect (32.8 %) and the present tense (25.6 %).

However, these findings contradict with Chen's (2009) results. Chen investigated tense usage of reporting verbs in 100 native English speaker dissertation literature reviews (which "refers to a separate chapter in a dissertation, equal in status with other chapters like Introduction" (p. 139)) and concluded that the simple present was the most frequent tense (70.6%) followed by the simple past tense (15.8%) and the present perfect tense (8.9%). The difference between the two studies may have resulted from the fact that Hawes and Thomas (1997) analysed the articles in the corpus as whole whereas Chen (2009) focussed on the literature review chapters in PhD dissertations, which he equates with the introduction sections of RAs. In a more recent study Hyland and Jiang (2017), who examined the changes in academic citation practices over the past 50 years (1965-1985-2015), argue that while there is "a shift

towards the past" in Applied Linguistics, in Sociology and Engineering the shift is towards the present tenses (p.78).

As far as the purposes for which the tenses are used (i.e., the function of tenses is concerned), Swales and Feak (2004, p. 183) suggest that the past tense is used in referring to a single study; the present perfect is used in referring to "areas of inquiry"; and, the present tense is used in referring to "state of current knowledge". Hawes and Thomas (1997), on the other hand, claim that

1. Past tense citations with a named researcher as subject provide particulars for a preceding generalisation or basis for a claim.

2. Present tense citations communicate generalized interpretations / conclusions and suggest writer commitment to the information reported.

3. Present Perfect citations highlight the direct relevance of previous studies to the reporting writer's own research write up. (p.413)

In this regard, Gunawardena (1989, p. 271) argues that in reporting previous research "the past tense is used when the writers intend to focus their attention on the occurrence of the event itself, and that the present perfect is used when they intend to focus their attention on the present state of the thing they are talking about". Finally, Chen (2009, p.146) suggests that "there are some rules governing the tense usage":

a) the simple present tense of reporting verbs can be used in all the four elements of LRs, b) the simple past tense of reporting verbs can be used to refer to specific research when the writer reviews the previous studies of a subject and indicates research gaps in Elements 2 and 3, c) the present perfect tense of reporting verbs can be used to refer to areas of research, and to make generalizations of a subject in Element 1, and d) the present future tense of reporting verbs is used to announce the writer's own research in Element 4[1].

However, the studies reported above have provided conflicting results. To begin with the frequency of occurrence, Hawes and Thomas (1997) found that the past tense is the most frequently used tense whereas according to Chen's (2009) findings it is the simple present tense which occurs most frequently. In a recent study, Hyland & Jiang (2017) suggest that there is a shift from present to past in the field of Applied Linguistics.

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1    In this quotation Element 1 refers to "making topic generalisations", Element 2 to "reviews of previous studies on a subject", Element 3 to "indicating research gaps" and Element 4 to "announcing the present research" (p. 144).

As for the functions of the tenses, there is no agreement between the studies reported above. For instance, regarding the use of the *simple past* tense Gunawardena (1989, p. 271) argues that it is used "when the writers intend to focus their attention on the occurrence of the event itself". Hawes and Thomas (1997, p. 397) propose that it is used to "provide particulars for a preceding generalization or basis for a claim". Chen (2009, p. 146), on the other hand, claims that it "can be used to refer to specific research when the writer reviews the previous studies of a subject".

It should be pointed out, however, that such information seems to have little pedagogical value for novice and non-native research writers. For instance, knowing that the past tense is the most frequently used tense, and is followed by the present perfect and the present tense in research articles (Hawes & Thomas, 1997) is unlikely to help novice writers. They need more specific information such as which tense to use in a particular section or parts of a section of a research paper. As emphasised by Durrant and Mathews-Aydınlı (2011, p. 61) "learners need to know what functions they are likely to need to express, what forms most appropriately fulfil those functions, and what variation those forms permit when they are fitted into specific contexts". Therefore, there is a need for 'function-first' analysis of tense usage in research writing.

### 1.2. Studies Adopting a Function-First Approach

In the literature on verb tense usage in academic writing studies adopting a function-first approach are scarce, and the existing studies (e.g., Salager-Meyer, 1992; Tseng, 2011) examine verb tense usage in RA abstracts only. Salager-Meyer's (1992) study can be considered as the first step towards a 'function-first' approach to verb tense usage in research writing. She examined the distribution of verb tenses and modals in Medical English abstracts in terms of a genre-based move analysis. The moves she identifies were *purpose*, *methods*, *results* and *conclusions*. The 'communicative function' of each abstract move was defined on the basis of the "notes for contributors" and "instructions for authors" sections of four leading medical periodicals (p. 96). For example, the communicative function of the move 'purpose' was defined as "primary objective, central question of the study and questions addressed by the article" (p. 110). The analysis involved examining the distribution of verb tenses and modals in each move. She found that the past tense was predominant in the results and the methods moves and the present tense was mostly used in the conclusion move. Also, the 'statement of the problem' was realised either by the present (59.5%) or the present perfect tense (30.4%), and the 'purpose' either by the past (57.1%) or the present tense (28.6%). A similar study was carried out by Tseng (2011). As an analytical framework for move analysis, he adopted Swales and Feak's (2004) model which consisted of the moves *Background*, *Aim*, *Method*, *Results*, and *Conclusion*. He investigated tense usage in Applied Linguistics RA abstracts and found that the present tense (including the

present perfect) was used in Move 1 (*Background*), Move 2 (*Aim*), and Move 5 (*Conclusion*) and the past tense was the preferred tense in Move 3 (*Method*), and Move 4 (*Results*).

Compared to the finding of studies adopting a 'form-first' approach, Salager-Meyer's (1992) and Tseng's (2011) approach provides more detailed information which might be useful for novice writers. For instance, the information that the purpose move in an abstract is realised by the use of either the past or the present tense is likely to benefit novice writers. The only drawback of these studies is that the terms used to refer to the moves of an abstract are not fully functional but rather refer to the parts of an abstract.

With the exception of the studies reviewed above, there is a lack of research focussing on verb tense usage in academic writing from a functional perspective. Analysis of verb tense usage from a functional perspective in RA introductions, in particular, has not received any attention so far. Hence, the present study is intended to fill in this gap.

The purpose of this study is to investigate verb tense usage in RAIs in the field of Applied Linguistics by adopting a 'function-first' approach. The study aims to address the following research questions:

1) What is the distribution of verb tense usage in RAIs as a whole?
2) What is the distribution of verb tense usage in the moves of RAIs?
3) What is the distribution of verb tense usage in the steps of the moves in RAIs?

## 2. Methodology

### 2.1. The Corpus

The corpus consisted of 50 research article introductions (RAIs) published in the 2014 and 2015 issues of five journals - *Applied Linguistics* (AL), *Studies in Second Language Acquisition* (SSLA), *Language Learning* (LL), *English for Specific Purposes* (ESP) and *Journal of Second Language Writing* (JSLW). These are among the leading journals in the field of Applied Linguistics with the highest impact factor. The impact factors ranged from 1.453 to 1.773 at the Thompson-Reuters journal rankings (Clarivate Analytics). Ten empirical research articles from each journal were randomly selected; special issues were excluded. Theoretical and review articles were also excluded from the corpus because they may not follow the standard IMRD (introduction-methods-results-discussion) pattern. In total, the corpus consisted of 50 736 words. The shortest and the longest RAI contained 1580 and 4017 words respectively; the average number of words was 2670.

## 2.2. Analytical Framework

### 2.2.1. Identifying Functions

The communicative function of the sentences was determined on the basis Swales' (1990; 2004) CARS (Create a Research Space) model. It contains three moves, each of which is realised by a number of steps. The model used in the analysis of data is presented in Figure 1. It is a mixture of Swales' 1990 and 2004 CARS models. The modification was done by the present researcher.

**Move 1 Establishing a territory**
Step 1 Claiming centrality and/or
Step 2 Making topic generalization(s) and/or
Step 3 Reviewing items of previous research
**Move 2 Establishing a niche**
Step 1 Indicating a gap in the previous research or raising a question about it OR
Step 2 Adding to what is known
**Move 3 Occupying the niche/Presenting the Present Work**
Step 1 (obligatory) Announcing present research descriptively and/or purposively
Step 2 (optional) Presenting research questions or hypotheses
Step 3 (optional) Definitional clarifications
Step 4 (optional) Summarizing methods
Step 5 (PISF*) Announcing principal outcomes
Step 6 (PISF) Stating the value of the present research
Step 7 (PISF) Outlining the structure of the paper

*Probable in some fields

**Figure 1.** *The modified CARS model* **(based on Swales, 1990, 2004)**

The moves and steps in Figure 1. are functional units in the sense that they perform specific communicative functions in discourse. As pointed out by Swales (2004), who introduced these terms, a move is "a discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse" (p. 228). Hence, "at one extreme in can be realized by a clause, at the other by several sentences. It is a functional, not a formal unit" (p. 229). Moves can be considered as 'general' functions and steps as 'specific' functions used in the realisation of each move.

In the coding of moves and steps, the sentence was taken as the basic unit of analysis. Each sentence in the RAIs analysed was assigned a move and a step label (e.g., M1S1). In a limited number of cases where a sentence contained multiple clauses, following Holmes (1997)

and Öztürk (2007), it was assigned to the move and step that appeared more salient. This is exemplified below.

> As mentioned by Roberts (1993), the study of multiword units has interested scholars as far back as Saint Augustine … (SSLA2)

The sentence contains two clauses. The first clause would normally be coded as M1S3 (reviewing items of previous research); however, the focus here is on the second clause as the author emphasises the importance of the topic. The sentence as a whole was coded as M1S1 (claiming centrality) because here 'claiming centrality' seems more salient than 'reviewing items of previous research'.

### 2.2.2. Analysis of Verb Tenses

Following the common practice in the literature (e.g., Salager-Meyer, 1992; Hawes & Thomas, 1997; Arsyad et al., 2018) the analysis of tenses was based on the finite verb of the main clauses in the sentences. This is exemplified below.

> The central issue in the arguments for and against error correction in L2 writing *has focused* on whether or not writing improves as a consequence of corrective feedback. (JSLW3)

In this sentence the verb tense of the main clause is in the *present perfect* tense; therefore, the sentence as a whole was coded as *Present Perfect*.

### 2.3. Procedure

In the coding of data MaxQDA 11 was used. It is a software package developed for qualitative and mixed methods research (https://www.maxqda.com/what-is-maxqda). Each sentence in the RAIs was coded for the type of move, step and tense. For example, the sentence given below was coded as *M1/S1/Present perfect*, where M1 stands for *Move 1 (establishing a territory),* S1 for *Step 1 (claiming centrality)* and *Present perfect* for the verb tense of the sentence.

> The rhetorical and organizational structure of the research article (RA) has been a focus of applied linguistics research for the past three decades (AL7).

The procedure enabled the coding of a sentence for the move, step and verb tense type simultaneously, (i.e., both for function and form). Here, the terms 'move' and 'step' are used as functional categories. That is to say; they indicate the function of the sentence. For instance, the function of the sentence above is '*establishing a territory*' (general function)/'c*laiming centrality*' (specific function). The tense type (*present perfect*) is related to the form of the sentence.

The analysis was carried out mainly by the present researcher. However, a subset of the data (10 introductions) was analysed by an independent researcher specialising in Applied Linguistics. The analysis of both researchers was compared and revised until an agreement was reached.

### 3. Results

### 3.1. The Distribution of Verb Tense Usage in RAIs as a Whole

The first research question of the present study addressed the distribution of verb tenses in RAIs as a whole. The results are given in Table 1 below:

**Table 1. Frequency and Percentage of the Verb Tenses Used in RAI moves**

| | | Present Perfect | | Simple Present | | Simple Past | | Modal | | Present Cont. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | F | % | F | % | F | % | F | % | F | % |
| **Move 1** Establishing a territory | 3126 | 434 | 13.88 | **1397** | **44.69** | 972 | 31.09 | 320 | 10.24 | 3 | 0.1 |
| **Move 2** Establishing a niche | 252 | 101 | 40.08 | **121** | **48.02** | 14 | 5.6 | 16 | 6.35 | 0 | 0 |
| **Move 3** Occupying the niche / Presenting the present work | 670 | 7 | 1.04 | **425** | **63.43** | 154 | 22.98 | 84 | 12.53 | 0 | 0 |
| TOTAL | 4048 | 542 | 13.39 | **1943** | **48.00** | 1140 | 28.16 | 420 | 10.38 | 3 | 0.1 |

The results given in Table 1(the last row) show that in RAIs as a whole the *simple present* is the most frequently used tense (with 1943 occurrences out of 4048, 48%). It is followed by the *simple past* tense (28.16%), the *present perfect* tense (13.39%) and the *modal verbs* (10.38%). The occurrence of the present continuous is restricted to 3 cases in the whole data (0.1%).

This information seems to be of little use to novice writers since it offers a too general picture of verb tense usage in RAIs. Therefore, a move analysis of verb tense usage in RAIs was carried out.

### 3.2. The Distribution of Verb Tense Usage in the Moves of RAIs

The second research question was concerned with the distribution of verb tenses in the moves of RAIs. The results are given in the first three rows of Table 1.

To begin with Move 1 (*Establishing a territory*), the results in Table 1 (the first row) demonstrate that the *simple present* is the most frequently used tense with 1397 occurrences

out of 3126 (44.69%) and is followed by the *simple past* (31.09%). These two tenses are followed by the *present perfect* tense (13.39%) and the *modal verbs* (10.39%).

As for Move 2 (*Establishing a niche*), the results in Table 1 (the second row) reveal that the *simple present* tense is the dominant tense (48.08%) followed closely by the *present perfect* tense (40.08%). The use of these two tenses accounts for 88.16 percent of the data. The occurrence of the *simple past* tense and the *modal verbs* is restricted to 5.6% and 6.35% respectively.

Finally, the results regarding verb tense usage in Move 3 (*Occupying the niche / Presenting the Present Work*) are shown in Table 1 (the third row) above. The results reveal that in Move 3 the *simple present* is the most frequently used tense with 425 occurrences out of 670 (63.43%). It is followed by the *simple past* tense (22.98%) and the *modal verbs* (12.53%). The occurrence of the *present perfect* tense is restricted to 1.04 per cent.

However, even though the analysis of verb tense usage in the moves of RAIs seems more revealing that the analysis of RAIs as a whole, for more illuminating findings analysis of the steps in each move was performed. The findings are given below.

### 3.3. The Distribution of Verb Tense Usage in Steps of RAI Moves

The third research question was concerned with the distribution of verb tenses in the steps of each move in RAIs. Results regarding verb tense usage in the steps of each move are given below.

### 3.3.1. The Distribution of Verb Tenses in Steps of Move 1

The results regarding verb tense usage in the steps of Move 1(*Establishing a territory*) are given in Table 2 below.

**Table 2. Frequency and Percentage of Verb Tenses in the Steps of Move 1 (Establishing a territory)**

| Move&Steps | | Present Perfect | | Simple Present | | Simple Past | | Modal | | Present Cont. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | F | F | % | F | % | F | % | F | % | F | % |
| **Step 1** Claiming centrality | 48 | **39** | **81.25** | 8 | 16.70 | 0 | 0 | 0 | 0 | 1 | 2.08 |
| **Step 2** Making topic generalization(s) | 1724 | 326 | 18.91 | **1100** | **63.81** | 10 | 0.58 | 286 | 16.59 | 2 | 0.12 |
| **Step 3** Reviewing items of previous research | 1354 | 69 | 5.10 | 289 | 21.34 | **962** | **71.05** | 34 | 2.51 | 0 | 0 |

The results given in Table 2 (the first row) indicate that Step 1 (*Claiming centrality*) is predominantly realised by the *present perfect* tense (in 39 out of 48 occurrences, (81.25%)).

*Claiming centrality* has been defined by Swales (1990, p.144) as "appeals to the discourse community whereby members are asked to accept that the research about to be reported is part of a lively, significant or well established research area". An example is given below:

(1) The rhetorical and organizational structure of the research article (RA*) has been* a focus of applied linguistics research for the past three decades. (AL7)

The *present perfect* is followed by the *simple present* tense in 8 out of 48 occurrences (16.7%). However, there is a significant difference between the occurrences of the two tenses. An example of topic generalisation realised by the simple present tense is given below. :

(2) A considerable amount of research in the field of instructed second language acquisition (SLA*) is devoted* to exploring pedagogical techniques … . (LL5)

Step 2 (M*aking topic generalisations*), on the other hand, is overwhelmingly realised by the *simple present* tense in 1100 out of 1724 occurrences (63.81%) (see, Table 2, the second row). It is followed by the *present perfect* tense (18.91%) and the *modal verbs* (16.59%). An example for each realisation respectively is given below:

(3) These features *are theorized* to affect the cognitive burden a student experiences during task performance by placing varying demands on learners' cognitive resources. (JSLW9)

(4) Different approaches *have been adopted* for the investigation of task representation in writing. (JSLW1)

(5) This *would* require researchers to have a sufficient volume of writing to analyze in order to demonstrate a learner's accuracy level. (JSLW3)

Finally, according to the results in Table 2 (the third row), Step 3 (R*eviewing items of previous research*) is predominantly realised by the *simple past* tense (in 962 out of 1354 occurrences, 71.05%), followed by the *simple present* tense (21.34%). The results show that the occurrence of the *present perfect* is restricted to 5.1% and the *modal verbs* to 2.51%). Extract (6) is an example of Step 3 realised by the use of *simple past*, and (7) by *simple present* tense.

(6) Yang and Allison (2004) *analysed* the macro-structures of two kinds of RAs in applied linguistics, those based on empirical research and those of an argumentative

nature (which the authors labeled 'secondary RAs'). (AL7)

(7)

(8) Similarly, Brooks (2009) *reports* more interaction, negotiation of meaning, and complex language in the paired format as compared to a one-on-one oral interview. (ESP3)

### 3.3.2. The Distribution of Verb Tenses in the Steps of Move 2

The results regarding verb tense usage in the steps of Move 2 (*Establishing a niche*) are displayed in Table 3. An interesting finding is that Step 2 (*Adding to what is known*) did not occur at all. The move is realised by Step 1 (*Indicating a gap in the previous research or raising a question about it*) in all cases. Regarding verb tense usage, the results indicate that the most frequently used tense in Step 1 is the *simple present* (121 out of 252 occurrences, 48%). It was closely followed by *present perfect* tense with 101 occurrences out of 252 (40%). According to the Chi-Square test, the p-value is .17949; therefore, the result is not significant at p < .05. This means that Step 1 is overwhelmingly realised by either the *simple present* tense or the *present perfect* tense. In the data, the use of the *simple past* tense was restricted to 5.56% and the *modal verbs* to 6.35%. An example of this usage is provided below:

**Table 3. Frequency and Percentage of the Verb Tenses Used in the Steps of Move 2 (Establishing a niche)**

| Move&Steps | | Present Perfect | | Simple Present | | Simple Past | | Modal | |
|---|---|---|---|---|---|---|---|---|---|
| | F | F | % | F | % | F | % | F | % |
| **Step 1** Indicating a gap in the previous research or raising a question about it | **252** | 101 | 40.08 | **121** | **48.02** | 14 | 5.56 | 16 | 6.35 |
| **Step 2** Adding to what is known | **0** | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Extract (8) below is an example of the *simple present* tense and (9) is an example of the *present perfect* tense usage.

(9) Applied linguistics research into mathematical discourse *is* scarce.(AL7)

(10) To date, no study of written feedback *has investigated* this.(LL2)

### 3.3.3. The Distribution of Verb Tenses in the Steps of Move 3

The results concerning verb tense usage in the steps of Move 3 (*Occupying the niche/ Presenting the present work*) are given in Table 4 below.

**Table 4. Frequency and Percentage of the Verb Tenses Used in the Steps of Move 3**

| Move&Steps | | Present Perfect | | Simple Present | | Simple Past | | Modal | |
|---|---|---|---|---|---|---|---|---|---|
| | F | F | % | F | % | F | % | F | % |
| **Step 1** (obligatory) Announcing present research descriptively and/or purposively | 177 | 0 | 0 | **121** | **68.36** | 50 | 28.25 | 6 | 3.39 |
| **Step 2** (optional) Presenting research questions or hypotheses | 158 | 1 | 0.63 | **106** | **67.09** | 33 | 20.89 | 18 | 11.39 |
| **Step 3** (optional) Definitional clarifications | 22 | 0 | 0 | **17** | **77.27** | 2 | 9.09 | 3 | 13.64 |
| **Step 4** (optional) Summarizing methods | 185 | 6 | 3.24 | **93** | **50.27** | 66 | 35.68 | 20 | 10.81 |
| **Step 5** (PISF*) Announcing principal outcomes | 7 | 0 | 0 | **6** | **85.71** | 0 | 0 | 1 | 14.29 |
| **Step 6** (PISF) Stating the value of the present research | 62 | 0 | 0 | **34** | **54.84** | 1 | 1.61 | 27 | 43.55 |
| **Step 7** (PISF) Outlining the structure of the paper | 59 | 0 | 0 | **48** | **81.36** | 3 | 5.08 | 8 | 13.56 |

*probable in some fields

To begin with Step 1 (*Announcing present research*), the results in Table 4 (the first row) indicate that the *simple present* and the *simple past* tense are the preferred tenses. The usage of these two tenses accounts for 97 percent of the data. The occurrence of *modal verbs* was restricted to 3.39% percent, and no use of the *present perfect* tense was observed. The *simple present* tense occurred in 121 out of 670 instances (68.36%) whereas the *simple past* tense occurred in 49 out of 670 (28.25%) cases. This can be taken to mean that most authors *announce their research* by using the *simple present* tense, but some use the *simple past*. Each use is exemplified in (10) and (11) below, respectively:

(11) *Simple present*

The current study *investigates* the validity of the EI and the word monitoring tasks as measures of implicit knowledge. (LL10)

(12) *Simple past*

The current study *investigated* the detection and production of novel constructions through two experiments which targeted the learning of the Esperanto transitive construction, addressing three research questions. (LL7)

Step 2 (*Presenting research questions or hypotheses*) is again realised by the use of the *simple present* tense (in 106 out of 158 occurrences, 67.09%) followed by the *simple past* (33 out of 158, 20.89%) (see, Table 4, the second row). These are illustrated in (12) and (13) below:

(13) *Do* learners *perceive* feedback provided during task-based interaction? (SSLA1)

(14) The following research questions *were formulated*: (SSLA2)

It should be pointed out, however, that the *simple past* tense mostly functioned as an introductory sentence whereas the research questions themselves were in the *simple present* tense as in the following extract.

(13)

In light of the issues mentioned above, the following questions *were formulated*:

(1) What *are* the effects of cognitive task complexity on syntactic complexity when measured (a) as the ratio of dependent clauses to T-units across all dependent clauses, and (b) as the ratio of dependent clauses to T-units when dependent clauses are measured separately? (JSLW9)

As for Step 3 (*Definitional clarifications*), the results in Table 4 (the third row) illustrate that it is usually realised by the use of the *simple present* tense (in 17 out of 22 occurrences, 77.27%). An example is given in extract (14) below:

(15) We *use* the term "feedback" to refer to an attempt to draw learners' attention to problems in their writing. (LL2)

In Step 4 (*Summarizing methods*) the *simple present* and the *simple past* are again the two dominant tenses. The *simple present* is the preferred tense (50.27%) and it is followed by the *simple past* (35.68%). The occurrence of the *modal verbs* was restricted to 10.81 percent (see, Table 4, the fourth row).

The occurrence of Step 5 (*Announcing principal outcomes*) was restricted; only 7 instances were observed and 6 of them were realised by the *simple present* tense as in (16) below:

(16) The findings obtained in this study *emphasise* the growing functional importance of promotional strategies in RA Introductions. (ESP1)

On the other hand, according to the results in Table 4 (the sixth row) in the realisation of Step 6 (*Stating the value of the present research*) the *simple present* tense is again the preferred verb tense (in 34 out of 62 occurrences, 54.84%). However, in contrast to the previous steps where the simple present was followed by the simple past, here it is followed by the *modal verbs* (in 27 out of 62 occurrences, 43.55%). These are exemplified in extracts (17) and (18) below:

(17) This *is* important because academic practices are known to be hard for students to comprehend. (ESP10)

(18) Such a study *would be* useful, as it could contribute descriptors pertaining to the use of metaphor, which could then be used in training materials.

Finally, regarding Step 7 (*Outlining the structure of the paper*) the results shown in Table 4 indicate that the *simple present* is the most preferred tense. 48 out of 59 occurrences (81.36%) are realised by the use of this tense as exemplified in the extract (18) below:

(19) In what follows, I first *provide* an overview of two competing theoretical explanations for age effects on late bilingualism (i.e., the critical period hypothesis [CPH] vs. the cognitive aging hypothesis [CAH]). *Subsequently*, I *review* how recent studies have examined the interlanguage development of L2 oral ability from pronunciation, fluency, vocabulary, and grammar research perspectives. Last, I *present* the results of the current study …(SSLA210)

The second place is occupied by the use of the *modal verbs* (in 8 out of 59 occurrences, 13.56%). Extract (19) is an example.

(20) In the following text, we *will* address the theoretical considerations behind researching complexity and accuracy from a dynamic systems perspective, and then we *will* present the 12-month case study.

## 4. Discussion

The purpose of the present study was to investigate verb tense usage in RAIs by adopting a function-first approach. Functions were determined on the basis of the moves and steps in the CARS model introduced by Swales (1990, 2004). This was followed by the analysis of verb tenses used in each step (i.e., function) in order to determine the distribution of verb tenses in the realisation of a particular step.

### 4.1. Verb Tense Usage in RAIs as a Whole

The results show that in RAIs as a whole the simple present is the most preferred tense (47.10%), which is followed by the simple past (28.2%), present perfect tense (13.4%) and modal verbs (10.4%). These findings are in partial agreement with those of Chen (2009), who observed the same order of preference in tense usage in the literature review chapters of PhD dissertations. In his data, the percentage of the simple present tense usage was 70.6, the simple past tense 15.8, the present perfect 8.9 and other 4.7. The differences in the percentages may be explained by the fact that his data contained introductions from the fields in both the humanities and sciences whereas in the present study the focus was on RAIs in the field of Applied Linguistics.

However, as pointed out earlier, knowing which tenses are used and what their distribution is in RAIs as a whole is unlikely to benefit novice research writers since different parts of an introduction may require different tenses. Therefore, in this study, the analysis of the introductions as a whole was followed by the analysis of tense usage in the constituent moves of the introductions.

### 4.2. Verb Tense Usage in the Moves of RAIs

As indicated earlier, in the CARS model proposed by Swales (1990, 2004) an introduction consists of three moves: *Establishing a territory*, *Establishing a niche*, and *Occupying the niche* (*or Presenting the present work*). The findings of this study indicate that in *Establishing a territory* (Move 1) the simple present tense is the preferred tense (44.69%), and is followed by the simple past (31.09%). The difference is statistically significant (p< .00001). As for *Establishing a niche* (Move 2), the simple present tense is again dominant (48.02%), but this time it is followed closely by the present perfect (40.08%). Here, the difference is not statistically significant (the p-value is 17949). This can be taken to mean that it is up to the writer to choose between the two tenses. Here, an interesting finding is that in this Move the use of the simple past tense falls to 5.6 percent (from 31.09% in Move 1). Finally, in *Occupying the niche/Presenting the present work* (Move 3) again the simple present is by far the predominant tense (63.43%) and is followed by the simple past (22.98%) (p< .00001). In this move, there is a sharp fall in the use of the present perfect tense from 13.88% in Move 1 and 40.08% in Move 2 to 1.04% in Move 3, which is an interesting finding.

If we are to compare these findings with the findings regarding tense usage in RAIs as a whole as discussed in 4.1 above, it can be suggested that the move analysis provides more specific results than the analysis of verb tense usage in RAIs as a whole. For instance, the use of the present perfect tense in RAIs as a whole is 13.39%, but its use rises to 40.08% in Move 2 and falls to 1.04% in Move 3 (see, Table 1). Similarly, while the use of the simple past tense is 28.16% in RAIs as a whole, its use rises to 31.09% in Move 1and falls to 6.35% in Move 2; the use of the simple present tense is 48% in RAIs as a whole, but its use rises to 63.43% in Move 3. However, as indicated earlier a Move consists of several steps; therefore, an analysis of verb tense usage in the steps of each move may provide valuable insights into the issue of tense usage in RAIs. This issue is discussed in the following sections.

### 4.3. Verb Tense Usage in the Steps of the Moves in RAIs

As indicated earlier Move 1 (*Establishing a territory*) may be realised by three steps *Claiming Centrality* (Step1), *Making topic generalisations* (Step 2) and *Reviewing items of previous research* (Step 3). The findings show that the analysis of the step enables us to associate a particular tense with a particular step more clearly than the move analysis.

As far as the Move 1 steps are concerned, the findings demonstrate that in Step1 (*Claiming Centrality*) the present perfect tense is the most preferred tense (81.25%). In Step 2 (*Making topic generalisations*) the simple present tense is predominant (63.81%), but the use of the present perfect is not very low (18.91%). Therefore, further research seems necessary here to see whether there are functional differences between the two tenses. Finally, in Step 3 (*Reviewing items of previous research*) the simple past tense is by far the most dominant tense (71.05%).

As for the steps in Move 2 *(Establishing a niche)*, the findings show that Step 2 (*Adding to what is known*) did not occur in the data at all, which means that it is not a step preferred by the researchers in the field of Applied Linguistics. Instead, Step 1 (*Indicating a gap in the previous research or raising a question about it*) is the preferred step. The findings indicate that it is realised by either the simple present (48.02%) or the present perfect (40.08%). Contextual analysis suggests that there are not any functional differences between the two tenses; it is up to the author to decide which tense to choose. However, further research is needed to verify this observation.

To proceed to the discussion of the results concerning tense usage in the steps in Move 3 (*Occupying the niche/Presenting the present work*), the findings show that the simple present tense is the preferred step with a different distribution across the steps. The use of the present perfect tense is very low ranging from 0.63% to 3.24%, which is an interesting finding.

In Step1 (*Announcing present research...*) the simple present is the preferred tense (68.36), but the use of the simple past tense is not low (28.25). This suggests that in *announcing their research* while most authors prefer the simple present tense, some choose the simple past tense. This finding confirms Swales and Feak's (2004, p.191) suggestion that "there is an increasing tendency to choose the present". In Step 2 (*Presenting research questions or hypotheses*) the simple present is again the predominant tense (67.09%) and is followed by the simple past tense (20.89%). However, the contextual analysis suggests that the introductory sentence (e.g., The following research questions were formulated) is usually in the simple past tense, but the research questions are realised by the use of the simple present tense. Considerably higher usage of the simple past tense (35.68%) is also observable in Step 4 (*Summarising methods*), but again the simple present tense is the dominant tense (50.27%). However, here the percentage of the simple past is higher than the other steps of Move 3. This may have resulted from the authors' conception that the methods should be expressed in the past. In Step 6 (*Stating the value of the present research*) the simple present is again the most preferred tense (54.84%), but here it is followed by the use of modal verbs (43.55%). Higher use of the modal verbs in this step can be explained by the fact that here authors evaluate their own work in terms of its contribution to their field of inquiry, and therefore, they tend to avoid commitment or making bold statements. Further research may shed light on the issue.

In the remaining steps, the simple present tense is the preferred tense. In Step 3 (*Definitional clarification*) and Step 5 (*Announcing principal outcomes*) authors generally use the simple present tense (77.27% and 85.71%, respectively), but the occurrence of these steps in the corpus used in the present study is limited. The frequency of occurrence of the former was 22 and the latter 7. Finally, in Step 7 (*Outlining the structure of the paper*), the simple present tense is by far the most predominant tense (81.36%).

The findings discussed above reveal that in the study of verb tense usage the analysis of steps, which is based on specific contextual functions, provides more accurate results that the analysis of introductions as a whole or the Move analysis. For instance, Hawes and Thomas (1997) suggest that in RA introductions the past tense is the most frequently used tense and is followed by the present perfect and the present tense in research articles, but they do not mention which functions these tenses realise. The same goes for the Move analysis because a move consists of several steps which may be realised by the use of different tenses.

In view of the findings of the present study, it may be argued that previous research has failed to provide such a detailed account of tense usage in RAIs because of a focus on form first. A function-first approach takes functions as a point of departure, and consequently, enables us to identify not only the preferred verb tenses in the construction of RAIs but also the other less used tenses. However, the issue of whether the use of other tenses points to a more specific functional difference requires further research.

### Conclusion

The present study explored verb tense usage in RAIs in the field of Applied Linguistics by adopting a function-first approach. Functions were identified on the basis of Swales' (1990, 2004) moves and steps model (i.e., CARS model). The study revealed that in the investigation of verb tense usage in RAIs an analysis based on specific functions (i.e., steps) provides more illuminating and fruitful results. The findings indicate that there is a link between function and verb tense usage in the construction of RAIs. However, the findings are based on a single field of inquiry (Applied Linguistics), and therefore, they are generalizable to this field only. Also, the corpus consisted of 50 research articles.

Further research with a larger corpus and with a focus on different disciplines or fields can be profitably conducted. Also, the study of verb tense usage in the other sections of RAs in terms of the approach used in this study may provide significant insights. Given the suggestions (e.g., Swales, 1990) that writing RAs, and particularly RA introductions, is difficult and troublesome, the findings have implications for both teaching and learning academic writing. Novice researchers and non-native speaker of English should be made aware of the functions found in RAIs and the tenses used in the realisation of each function. In this way their RAIs would confirm with the conventions and expectation of the academic community and their chances of being published increased.

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**Appendix - Articles in the corpus**

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