

# Providing an Overview of the Research Context: Pedagogical Implications for the Writing of Research Reports in Applied Linguistics

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**Abstract**—Instructors who have taught a course on English for academic purposes at tertiary level may have found that novice students encounter numerous problems comprehending the different parts of the Method section of a research report. While it is difficult for second language learners to understand the Method section because of the numerous inter-connected information elements found in it, we can envisage the complexity faced by these learners attempting to write the different elements in the section. As part of the effort to unpack the complexity involved, this study uses a genre-based analytical framework to identify the different rhetorical strategies and language mechanisms involved in ‘providing an overview of the research context’, which constitutes a major communicative move that is often confused with other rhetorical segments in experimental research reports in applied linguistics. Aside from the quantitative data showing the extent to which this rhetorical move is deployed, the qualitative analysis of the writers’ textual data and specialist informants’ spoken data has yielded a repertoire of useful communicative functions and language mechanisms that can be systematically presented and explained to second language learners attempting to read and write the Method section of an experimental research report.

**Index Terms**—Methodological overview, research methods, teaching materials, writing instruction.

## I. INTRODUCTION

In the field of applied linguistics, the Method section has been considered “crucial in convincing the audience about the credibility of the results” because it “describes the technical details of how the investigation was conducted” and presents essential information to enable readers to “evaluate the appropriateness of the research design” [1] (p. 283). Nevertheless, in a course on English for Research Purposes introduced to students majoring in the teaching of English as a second language (TESL), which constitutes part of applied linguistics, instructors noticed that students encountered numerous problems in (i) recognising the information elements in the Method section, and (ii) incorporating such Method-related information in writing their short research reports.

The textbook employed in our course on English for Research Purposes [2] appears to offer limited and brief descriptions of the rhetorical strategies and linguistic

mechanisms generally used in the Method section, and the information elements comprise “overview”, “sample”, “location”, “restrictions”, “sampling technique”, “materials”, “procedure”, “variables”, and “statistical treatment” (p. 92). While there is no denying that these nine elements are major information elements in the Method section, some problems have arisen with regard to using these categories as a complete frame of reference for guiding second language writers attempting to comprehend and present the Method section. ‘Overview’ stands out as an element whose status as a communicative move needs to be examined closely. This argument is based on the different findings of past genre-based analyses, some of which do not always consider ‘overview’ as a rhetorical move. For instance, in an investigation into the Method sections of management research articles, “providing an overview of the design” was designated as a rhetorical step within the second move called “delineating procedure/s for measuring variables” [3] (p. 287). Given that cross-disciplinary differences do exist, it might be necessary to conduct an investigation into the possible appearance of ‘overview’ as a separate rhetorical category (i.e., move or step) in the Method sections of research reports in other disciplines, such as applied linguistics.

In terms of linguistic features, ‘overview’ is one particular information element that deserves a more in-depth study, particularly since past research has merely mentioned that it “is characterised by the word ‘design’ and verbs denoting usage (e.g., ‘was used’, ‘was applied’)” [3] (p. 292). More importantly, the functional label “overview” used in research-related literature [2], [4] generally means ‘presenting an overview of the research design’ which differs from ‘presenting an overview of the research context’ which is highlighted in the present study on the Method section. This means that the focus of this study is on how writers set the stage for their research procedures using information which may or may not include a description of the research design. To be precise, this study aims to determine the extent to which ‘providing an overview of the research context’ can be considered as a stable rhetorical move in the Method sections of applied linguistics (AL) research articles. Such a focus is necessary in that Method sections in social science research reports are comparatively more elaborate in comparison to those in (i) pure science disciplines such as biology and physics in which the Method section is often downplayed [5], and (ii) those in certain applied sciences such as medicine and engineering in which the Method section is often shortened [6]. Given that the Method section

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in social sciences, such as applied linguistics, have been found to be relatively long, careful and extensive particularly when it involves “experimental social science using human subjects” [6] (p. 206), it would be interesting to identify the extent to which this particularly move is recurrently employed, and to ascertain the range of linguistic resources needed to present it.

Motivated by the aforementioned need to ascertain the degree of prevalence and the range of linguistic mechanisms needed in ‘providing an overview of the research context’, this study seeks to answer two research questions as follows:

- 1) To what extent do writers incorporate an overview of the research context to set the stage for their research procedures in experimental reports in applied linguistics?
- 2) How do writers use linguistic mechanisms to present an overview of the research context in these research reports?

Answers to these research questions may help us (i) ascertain the extent to which writers present an overview of the research context as a separate rhetorical move in the Method sections of AL research reports, and (ii) enlighten novice writers on how they can possibly provide a lucid overview using pertinent lexico-grammatical structures.

## II. RESEARCH METHOD

The researcher selected a total of 32 experimental research reports related to applied linguistics from eight international refereed journals published from 2004 to 2008. These AL journals comprised *Applied Linguistics*, *TESOL Quarterly*, *Studies in Second Language Acquisition*, *Language Teaching Research*, *Journal of English for Academic Purposes*, *International Review of Applied Linguistics in Language Teaching*, *System*, and *RELC Journal*. Four most recently published experimental research articles (at the beginning of this study) were selected purposively from each of the journals on the basis of the researcher’s “experience and knowledge of the group to be sampled” [7] (p. 134).

Text segments associated with the provision of an overview of research context were studied to determine whether they largely exist as a separate rhetorical move or merely embedded in other moves, such as those associated with sampling descriptions, delineations of materials and instruments, experimental procedure, or data analysis procedure. Based on a framework proposed by Swales’ [8], [9], the researcher first devoted attention to the communicative functions of the segments presented by the writers.

The unit of analysis was a ‘move’ that performed a specific communicative purpose, and it existed as a distinct unit in a hierarchically organised framework, whereby a text was divided into rhetorical moves, each of which was then subdivided into constituent steps (Swales, 1990; 2004). In the categorisation of the moves, textual characteristics that aided the analysis included typographical features, division of sections and subsections, and linguistic features that differentiated the rhetorical moves [10]–[12]. Although a move might occasionally include several paragraphs, it consists minimally of a “T-unit” [13] (p. 79), which may be

an independent clause.

In the process of categorising the moves and steps, the researcher initially encountered some difficulty relating to the differentiation of ‘providing an overview of the research context’ from other rhetorical moves. This had to do with the fact that the same sentence (or independent clause) in the Method section might simultaneously comprise several rhetorical stages [2], [3]. As such, the aforementioned concept of embedment is necessary in helping analysts distinguish moves and steps. A move is merely ‘embedded’ in another move, and it is not considered as the principal rhetorical move if it is only indicated in a dependent clause given that it does not carry the main functional and semantic focus of the entire matrix (main) clause. The frequency of each step was then counted with reference to the number of times it appeared without being interrupted by any other step.

The qualitative component in this analysis was useful in that it could foreground the salient patterns which are pedagogically valuable for second language learners. Repeated attempts were made to search carefully for patterns and details to ascertain that the subsequent claims were substantiated by actual evidence in the form of recurrent linguistic mechanisms that performed the specific communicative functions. In the qualitative analysis, the rhetorical strategies and linguistic choices were also examined to ascertain whether they occurred in different Method sections, thus forming a noticeable and prominent feature in the corpus. The salient linguistic features were analysed with reference to clause elements, categories of phrases, and word classes (in cases where they appeared salient in the rhetorical step concerned). The analysis of salient linguistic mechanisms was conducted using (i) the general linguistic descriptions provided by Greenbaum and Quirk [14], and Quirk, Greenbaum, Leech, and Svartvik [15], and (ii) specific descriptions of academic language as illustrated by Lim [3], [4] for research genres. Semi-structured face-to-face interviews were then conducted with two specialist informants who had published experimental research articles (RAs) in established international refereed journals in applied linguistics. The interviews, conducted in the final phase of the study, were an additional source of spoken data that helped the researcher resolve uncertainties arising from the move-step analysis in the earlier phase.

## III. RESULTS AND DISCUSSION

Overall, the research context may be provided when (i) the research background is described in step 1, or (ii) an overview of the research design is given in step 2. Both steps appear to set the stage for a full presentation of research results. With respect to communicative functions, both specialist informants considered ‘describing the research background’ and ‘presenting an overview of the research design’ as the rhetorical steps that can possibly occur in experimental research. They are of the view that the overall design of a study may also be considered as the conceptualization of the entire research, and on the basis of such an overview, writers proceeded to describe the sample, materials, instruments in their study. Table I shows the

detailed communicative functions of the two constituent steps identified in this study.

TABLE I: COMMUNICATIVE FUNCTIONS OF 'PROVIDING AN OVERVIEW OF THE RESEARCH CONTEXT' IN EXPERIMENTAL RESEARCH REPORTS RELATED TO APPLIED LINGUISTICS

Step no.	Communicative functions
Step 1:	Describing the research background (a) Describing the research setting; (b) Reviewing literature related to the study; (c) Restating the purpose/focus of the research; (d) Indicating general significance of techniques/strategies/skills; (e) Giving terminological definitions (not definitions of variables); (f) Indicating the section structure (not article structure).
Step 2:	Presenting an overview of the research design (a) Describing the overall research design; (b) Providing an outline of the research procedure.
Note: Each of the sub-steps mentioned above may not appear in all the articles, and multiple sub-steps may be occasionally inter-related and overlapping with each other. They are only considered as 'sub-steps' because they often co-occur in some main clauses or text segments.	

At this juncture, we are understandably interested in ascertaining the extent to which these two steps are prevalent in the corpus of research reports. In this regard, Table II shows that step 1 (i.e., 'describing the research background') and step 2 (i.e., 'presenting an overview of the research design') appear respectively in 71.9 percent (23/32) and 31.3 percent (10/32) of the experimental reports. The quantitative data indicate that step 1 occurs in a majority of the RAs while step 2 appears occasionally and is not incorporated in most of the published reports in the corpus. As the average frequencies of occurrences per section are 1.59 (i.e., 51/32) for step 1 and 0.34 (i.e., 11/32) for step 2, it is clear that writers have a tendency to provide an overview of the research context via descriptions of the research background rather than through a specific overview of the research procedures.

TABLE II: FREQUENCIES OF 'DESCRIBING THE SAMPLE/ PARTICIPANTS' AND 'JUSTIFYING THE SAMPLING PROCEDURES' IN EXPERIMENTAL RESEARCH PAPERS IN APPLIED LINGUISTICS.

Article no.	Heading for the method-related section	Step 1	Step 2	Steps 1 & 2
No. of papers containing the step/s		23	10	33
Frequency of step/s in sections with procedure-focused headings		25	7	32
Frequency of step/s in sections with investigation-focused headings		26	4	30
Total frequency of step/s in all Method sections		51	11	62
Mean frequency		1.59	0.34	1.94
SD		1.388	0.545	1.366
Headings with asterisks (*) are investigation-focused while those without asterisks are procedure-focused.				

A Mann-Whitney U-test was conducted to identify the inter-heading differences in the occurrences of each step in the entire corpus of the Method sections. Table III shows the Mann-Whitney U-statistics and asymptotic values for each of the eleven steps. As the asymptotic values for steps 1 and 2 in the Method sections are 0.132 and 0.887 which were above

the cut-off point of 0.05, it is clear that there are no significant differences in the occurrences of all the constituent steps in the Method sections.

TABLE III: ASYMPTOTIC SIGNIFICANCE VALUES (TWO-TAILED P-VALUES) INDICATING INTER-HEADING DIFFERENCES WITH REFERENCE TO OCCURRENCES OF THE PROCEDURAL STEPS (USING MANN-WHITNEY U-TESTS)

Constituent Step	Mann-Whitney U Statistic (U)	Asymptotic Value (2-tailed)
Step 1	85.500	0.132
Step 2	120.500	0.887

A. Step 1: Describing the Research Background

In this step, writers sets the stage of their research procedures by describing the setting of their studies and providing pertinent information associated with their research or the methods used so that readers will be able to comprehend the circumstances under which the procedures were administered. This is a rather indirect way of describing research procedures especially since a detailed description of similar past research procedures would generally signal that it would be unnecessary to repeat the same descriptions in the Method section of the new study being reported. Descriptions of the context in applied linguistics experimental studies often focus on the programmes or courses offered in an instructional session as shown below:

- 1) All of these programs are designed for international students who plan tertiary academic study in the United States, so the curricula and the student populations are very similar...(R6: 278)
- 2) The ALP offers intensive and extensive English language courses for those who wish to speak and write English accurately and fluently. Classes are offered each semester, and each class lasts from 1 hour and 20 minutes to 3 hours each session...(M8: 261)
- 3) Students in the two private language schools receive between three and five hours of English language instruction five days a week depending on whether they are enrolled as full-time or part-time students. Students in the university English Language Department receive between two and four hours of instruction five days a week...(M16: 418)
- 4) Intensive ESL programs are offered in French language schools at either grade 5 or grade 6...In this model, students study English all day, every day for 5 months of the school year. The remaining 5 months are devoted to the regular curriculum subjects ...(M9: 550)
- 5) This module is taught for 2 years (120 and 90 hours respectively). At present we are offering a mixed syllabus focused on developing Business and Language Skills to students with an intermediate or upper-intermediate level of English...(M17: 168)

It is in this step that writers furnish essential information about the setting, such as the intensity, duration, and difficulty levels of the courses, using prepositional phrases denoting frequency or periods (e.g., 'from 1 hour and 20 minutes to 3 hours each session', '5 months', etc.) and noun

phrases indicating levels [e.g., ‘grade 5 or grade 6’, ‘intermediate or upper-intermediate level of English’, etc.]. Such programme descriptions are characterised by nouns denoting programs and courses (e.g., ‘programs’, ‘courses’, ‘modules’, etc.) and dynamic verbs in either the simple present or the present continuous (e.g., ‘are designed’, ‘are offered’, ‘are devoted to’, ‘are offering’, etc.).

Alternatively, established data collection procedures employed in previous studies may be delineated as part of the setting to enlighten readers on how research in the field is generally conducted. These past research procedures may be generally presented at the beginning of the Method section although the authors may cite them after their brief statements concerning their participants or research sites where their study was conducted. Interestingly, previous research procedures are not always delineated in the present tenses, but may often be considered ‘general’ enough to be described in the present tense. In this case, the authors may need to convey the message that the methods have been widely used in the field of applied linguistics as illustrated below:

- 1) This experiment was inspired by a study by Ryan and Meara (1991)...In the Ryan and Meara study, participants saw words presented twice each on a computer screen...(M7: 325)
- 2) The present experiment is an attempt to replicate the Ryan and Meara (1991) findings...M7: 326)
- 3) In a letter detection task, participants are asked to identify all instances of a target letter...This task is commonly used in reading research to investigate the influence of lexical, semantic, and syntactic factors on written letter and word identification (Drewnowski & Healy, 1977; Healy, 1994; Koriat & Greenberg, 1994, 1996). (M7: 331)
- 4) One processing dimension that might be helpful in defining context difficulty in L2 learning is perceived cross-language similarity. Cross-language similarity refers to how perceptually similar the segments in the learner’s L1 and L2 are. There is evidence that the degree of perceived dissimilarity (or similarity) between L1 and L2 segments might determine how L2 segments are perceived and produced (Baker & Trofimovich, 2005; Guion et al., 2000). (M11: 422-423)
- 5) In the situation where the present study took place, Arab students normally find some difficulty in understanding many nominal compounds (Nasr, 1994) ...(M19: 432)

As shown in the aforementioned instances, the procedure taken or the experience acquired by participants in similar past research (e.g., ‘to identify instances of a target letter’, ‘some difficulty in understanding many nominal compounds’, etc.) are generally described. As shown above, some past research is generally reviewed and presented to provide a setting for the current study. The authors generally review some past studies which are pertinent in supporting the validity of the measures used in collecting the data. The simple present tense is used by writers in citing previous researchers’ views, statements, and recommendations on

how a study should be conducted, but the writers appear to avoid the past tense so as to distinguish such descriptions from those related to the data collection procedures of their own research as shown below.

- 1) Research that employs letter detection tasks has found that readers are less likely to detect a target letter in common function words such as *the* or *of* than they are in less-frequent content words such as *golf* or *sing*. This finding is often interpreted as indicating that readers are able to identify high-frequency function words...(Drewnowski & Healy, 1977. (M7: 331)
- 2) As mentioned earlier, aside from Gatbonton’s (1978) study, only two other investigations have applied the dynamic paradigm to describe L2 phonological learning. In a small-scale study of Mexican-American Spanish-English bilinguals’ acquisition of five English vowels, Amastae (1978) reported that seven of nine bilinguals displayed vowel production patterns that fit the implicational order of vowels...(M11: 415)
- 3) The studies on the KWM have looked at results from an immediate post-test, but few extended the post-test past a few days (Wang and Thomas, 1995; McDaniel and Pressley, 1989; and McDaniel and Pressley, 1984). Immediate post-tests provide ease of memory retrieval due to their recent activation in short-term memory (Benjamin *et al.*, 1998)... (M14: 136)
- 4) Such branches of ESP entail new vocabulary and lexical items in new learning contexts: Jakiro (1997), for example, constructs a list of vocabulary essential for people working in technical training in the oil industry. Flowerdew (1990, p. 326) states “from the theoretical point of view, ESP has shown and continues to show itself capable of self-renewal...” (M19: 426)
- 5) Konopak (1988) supports the assumption that using context to acquire word meaning is an effective learning device. In addition, Ateya (1996, p. 74), after carrying out a study amongst Egyptian students at the tertiary level, advocates the necessity of training English language learners...(M19: 429)
- 6) The characteristics of the task such as its difficulty level, students’ familiarity with the task and its procedures all impact the students’ response and engagement in carrying the task. Bygate, Swain and Skehan (2001) and Skehan (1998) suggest five principles for task-based instructions... (M29: 344)

Communicative reporting verbs in this step are generally presented in the simple present tense (e.g., ‘is interpreted’, ‘states’, ‘supports’, ‘advocates’, ‘suggest’, etc.), and in that case, the simple past tense (e.g., ‘reported’, etc.) would be used. Other non-communicative reporting verbs and procedural verbs, however, are generally presented in the present perfect tense (e.g., ‘has found’, ‘have applied’, ‘have looked at’, etc.) and are less frequently written in the simple present tense (e.g., ‘constructs’) or the simple past tense (e.g., ‘displayed’, ‘extended’, etc.).

Background of the research may also be described through

indications that highlight the significance of research techniques, strategies, or tasks employed in previous studies. Writers may highlight the advantages of using the techniques in terms of speed, efficiency, or centrality of related past research procedures as shown below:

- 1) These techniques are of particular importance for engineering trainees who often need to extract specific information from a text. They are necessary for quick and efficient reading, and can only be 'achieved' by practice on longer texts (Nuttall, 1982, p. 23). (M19: 428)
- 2) To develop this skill, it is necessary to be able to infer meaning from context, and for the particular engineering students in the present study, already well drilled in grammatical structures, vocabulary recognition strategies were crucial. (M19: 429)
- 3) To design or select tasks, it is vital to have tasks which focus on the attainment of particular goals...To counter this, it is important to design and select tasks which are of the appropriate levels of difficulty and focused in their aims between fluency, accuracy and complexity. Moreover, it is also important to provide the learners with 'the most effective opportunity available for a focus on form in the context of meaningful language use' (Skehan 1988: 131). Across the different phases of a task, several conditions need to be established. At the initial stage, particular conditions are needed to maximize the chances of noticing the language form of the task...(M29: 344)

TABLE IV: SPA STRUCTURE WITH A TARGET-RELATED HEADNOUN AND A PRESENT TENSE COPULAR VERB IN STEP 1

Subject (noun phrase containing a target-related headnoun)	Predicator (copular verb in the simple present with optional adverbial/s)	Adverbial (Infinitive phrases stating the objective to be achieved by the researchers in instructed learning)
The <u>objective</u> of this analysis	is	to determine the participants' English /ð/ production accuracy and to examine, using implicational scaling, if their production accuracy patterns in a systematic manner, similar to the gradual diffusion documented by Gatbonton (1975, 1978). (M11: 415)
The <u>purpose</u> of the current analysis	is, therefore,	to apply the dynamic paradigm again to L2 phonology, testing the assumptions underlying Gatbonton's original framework with a larger dataset. (M11: 415)
The <u>objective</u> of Analysis 2	is	to identify a processing-based criterion for describing context difficulty and to subject the accuracy data to implicational scaling using this criterion. (M11: 422)
The <u>main purpose</u> of PI in this study	then, is	to push learners to process the past-tense marker that otherwise may not be processed as learners do not need to process it to assign pastness to the meaning of the sentence. (M13: 76)

In this step, authors may opt to (i) highlight the importance of the techniques or skills used in the second language

acquisition of a language, or (ii) emphasize the significance of administering certain learners' tasks by focusing on learners' needs in terms of levels of difficulty, degrees of appropriateness, and availability of opportunities. This step is therefore characterized by lexemes denoting centrality (e.g., 'necessary', 'important', 'vital', etc.) used in *it*-clauses highlighting prominence (e.g., 'it is necessary to', 'it is vital to', 'it is important to', etc.) or complex verb phrases denoting necessity (e.g., 'need to be established', etc.).

Even though there is no denying that the purpose of the research may be mentioned in the preceding introductory section (before the Method section), it is interesting to note that statements of purpose may also be (i) reiterated in the Method section, or (ii) mentioned for the first time in some sections with general non-procedural headings (e.g., 'Experiment 1', etc.). While the sentence-initial subjects are noun phrases containing target-related headnouns, subsequent infinitive clauses are generally used to state the exact objectives of the studies. In the statements comprising target-related headnouns, the subsequent copular verbs are usually used in the simple present tense. Table VI shows that target-related headnouns (e.g., 'objective', 'purpose', etc.) are generally used in sentence-subject position, whereas the adverbials in the subject-predicator-adverbial (SPA) structure are usually infinitive phrases stating the objectives to be achieved by the researchers in instructed learning. When the target-related verb is 'purpose', the predicators in the form of copular verbs may be in the simple present tense (see Table IV) or the simple past tense (see Table V); however, when the target-related verb is 'aim', the copular verb is always in the simple past tense in this corpus.

TABLE V: SPA STRUCTURE WITH A TARGET-RELATED HEADNOUN AND A PAST TENSE COPULAR VERB IN STEP 1

Subject (noun phrase containing a target-related headnoun)	Predicator (copular verb in the simple past tense)	Adverbial (Infinitive phrase/s stating the objective to be achieved by the researchers in instructed learning)
The <u>focus</u> of the study	was	to determine whether type of written exercise had a significant effect on L2 vocabulary retention. (R6: 278)
The <u>general aim</u> of the present study	was	to devise materials that would lead to improvement in these students' reading performance... (M19: 427)
The <u>purpose</u> of Experiment 1	was	to determine whether L2 learners' AOA and LOR in the target country (a country where the learners' L2 is spoken) influence the L2 perception-production relationship. (M22: 234)
One of the central <u>aims</u> of the project	was	to compare the oral proficiency of students in traditionally didactic settings with those in cooperative language learning arrangements in secondary school English classrooms in Hong Kong. (M29: 347)

Even though both instances illustrated in Tables 4 and 5 exhibit an SPA structure, the copular verbs in the simple past tense (see Table V) outnumber those in the simple present tense (see Table IV). Interestingly, the past-tense copular verbs are used in a wider range of AL journals whereas all the sentence-subjects (with the exception of the second instance in Table V) consist of target-related headnouns.

While the aforementioned SPA structure typically begins

with a noun phrase comprising a target-related headnoun, the following passive structure is another common linguistic mechanism used in stating the purpose of a study without employing such a headnoun. The SPA structure shown above is an alternative linguistic mechanism with which writers implicitly convey the message that their experiments have been cautiously planned to attain the desired goals. Such a message is signalled through the use of the predicators in the form of verb phrases denoting research planning, ensued by adverbials comprising infinitive clauses stating research goals (see Table VI). These infinitive clauses include transitive infinitive verb phrases (e.g., ‘to investigate’, ‘to test’, etc.), followed by noun phrases functioning as objects (e.g., ‘the learners’ ability’, ‘the cognitive processes’, etc.). All of these infinitive phrasal combinations signal the authors’ investigative attempts or research inquiries in experimental studies.

TABLE VI: SPA STRUCTURE WITH A PASSIVE VERB AND AN ADVERBIAL INDICATING THE GOAL OF AN EXPERIMENTAL STUDY IN STEP 1

Subject (noun phrase or nominal clause referring to the experiment)	Predicator (verb phrase denoting research planning in the simple past or present perfect)	Adverbials (Infinitive clause stating the goal to be achieved using the experiment)
<u>This format</u>	<u>was developed</u>	<u>to investigate the learners’ ability to revise accurately in three different conditions of written feedback...</u> (M10: 75)
<u>This experiment</u>	<u>has been devised</u>	<u>to gain insights on the role played by some external and internal learning factors within the current Spanish learning situation.</u> (M17: 167)
<u>These experiments</u>	<u>were designed</u>	<u>to test the extent to which second-language learners are inclined to place their trust in top-down rather than bottom-up information.</u> (M26: 369)

While statements of the purpose of a study generally revolve around the target-related expressions mentioned above, descriptions of background information in the Method sections may, though less frequently, involve research hypotheses. A range of research hypotheses (which generally occur in the introductory section) appear in the Method sections more frequently as shown in Table VII.

In the Method sections, interestingly, a hypothesis is expressed as (i) a conditional subordinate clause referring to a prediction and ensued by a matrix clause indicating a predicted outcome, (ii) a main clause containing a hypothesis-related lexeme followed by a nominal *that*-clause indicating a predicted outcome in the present, future or conditional tense (e.g., ‘is’, ‘will be’, ‘would be’, etc.), and (iii) a sentence-subject in a noun phrase denoting a hypothesis and ensued by a verb phrase indicating a research focus (e.g., ‘are concerned with’, ‘are related to’, ‘address’, etc.).

*B. Step 2: Presenting an Overview of the Research Design*

Describing the overall research design is an important step that provides an overview of the research context using a very brief statement on the general research design employed in the applied linguistics experimental research. It most cases, it constitutes just a sentence even though it may occasionally

be ensued by other sentences pertaining to the data collection procedures. The brief statements used in step 2 are illustrated in Table VIII.

TABLE VII: SYNTACTIC CHOICES USED IN PRESENTING HYPOTHESES IN STEP 1

Syntactic choice	Instance of references to hypotheses
Conditional clause referring to a prediction and ensued by a matrix clause indicating a predicted outcome	[If, <u>as hypothesized</u> , native speakers of Arabic exhibit a pattern of attention to vowels and consonants that <u>differs</u> from the native speakers of English and non-Arabic ESL learners], [ <u>it would be observed</u> as differential accuracy rate and response time patterns by native speakers of Arabic relative to the other two groups.] (M7: 328) [If it is], [the KWM <u>should be</u> unable to compensate for the inherent difficulty of remembering abstract concepts. (M14: 135)]
Main clause containing a hypothesis-related lexeme and followed by nominal <i>that</i> -clause indicating a predicted outcome	Our <u>third hypothesis</u> , then, is [ <u>that</u> memory for new vocabulary <u>will be</u> best <u>when</u> imagery and effort <u>are</u> both high and worst <u>when</u> both <u>are</u> low]. (M14: 136) Therefore, we have hypothesized [ <u>that</u> the KWM <u>would be</u> insufficient for boosting memory for low-imagery definitions] (M14: 135)
Sentence-subject in the noun phrase denoting hypotheses and ensued by a verb phrase indicating research focus	<u>As outlined previously</u> , the first set of hypotheses <u>are concerned with</u> the influence of direction of learning on receptive and productive testing. (M12: 461) <u>The second and third sets of hypotheses</u> are related to possible moderating effects of two idiom characteristics: imageability and transparency. (M12: 461) <u>The last two hypotheses</u> address the effect of direction of learning on delayed performance. (M12: 461)

TABLE VIII: SYNTACTIC CHOICES USED FOR STATING THE RESEARCH DESIGN IN STEP 2

Linguistic choice	Instance of segments used in stating the research design
Using an active verb denoting usage preceded by a noun phrase referring to the research	<u>This study used</u> these 18 words in a <u>within-subjects design</u> . (M6: 279) <u>This study used</u> a <u>quasi-experimental research design</u> with a <u>pretest–treatment–posttest–delayed posttest structure</u> , using <u>intact ESL class-rooms</u> . The research also <u>involved</u> a <u>correlational analysis of the relationship between</u> one individual learner variable (i.e., language analytic ability) and <u>criterion test scores</u> in the posttests and delayed posttests with a view to examining the moderating effect... (M8: 261) <u>The study used</u> a <u>quasi-experimental design involving intact classes serving as two experimental groups</u> – focused CF (N = 18), unfocused CF (N = 18) – and a <u>control group</u> (N = 13). (M28: 357)
Using a passive verb denoting usage preceded by a noun phrase referring to the design	<u>A repeated-measures design</u> was used in which the <u>within-learner factor</u> was Task Complexity. (M23: 222) <u>A quasi-experimental non-randomized control group design</u> was used. (M25: 354) For this study, a <u>pre-test/post-test design</u> was employed, to investigate the effects of training in the skill of inferring meaning from context. (M32: 179)
Describing the research design in a prepositional phrase	In this <u>within-subjects design</u> , all 154 participants practiced the same 15 target words. (M6: 278) <u>The experiment was conducted</u> in a <u>2 x 2 x 2 design</u> with two <u>between-subjects factors—direction of learning</u> (L1-L2 vs. L2-L1) and <u>direction of testing</u> (L1-L2 vs. L2-L1)—and one within-subject factor—time of testing. (M12: 461)

To be specific, the heading ‘Research Design’ may be used

to begin a single-sentence paragraph stating the concise name of the design employed in the study, but alternatively it may be used for a paragraph that begins with a one-sentence statement ensued by other statements in the form of brief descriptions of how the data were collected. Writers normally specify the research design in step 2 using (i) an active verb denoting usage preceded by a noun phrase referring to the study being reported (e.g., 'the study'), or (ii) a passive verb denoting usage (e.g., 'was used') preceded by a noun phrase referring to the design. Alternatively, the type of design may be mentioned merely in a prepositional phrase (e.g., 'in this within-subjects design', 'in a 2x2x2 design'). In all these patterns, the word 'design' is always preceded by a premodifier indicating an experimental structure (e.g., 'within-subjects', 'quasi-experimental non-randomized control group', 'repeated measures', or '2x2x2', etc.).

#### IV. CONCLUSIONS AND IMPLICATIONS FOR WRITING INSTRUCTION

This study has identified two important rhetorical steps (i.e., 'describing the research background' and 'presenting an overview of the research design') which collectively function as an overview that sets the stage for research procedures in the Method sections of research reports in applied linguistics. Overall, the researcher has found no significant difference in the frequencies of the steps between sections under investigation-focused headings and those under procedure-focused headings, but the distributions of these two steps do differ markedly from each other given that step 1 is found in most of the research reports but step 2 is used in less than a third of the reports.

The higher distribution of step 1 suggests that writers generally consider the provision of background information as an important means to help readers comprehend the circumstances under which their research methods were employed, and to further enhance the acceptability of the research procedures to be reported subsequently. Interestingly, three information elements in the Method sections (about reviews of past research, definitions of terminology, and indications of research purpose) also constitute the steps which have already been specified by Swales [9] as moves 1 and 3 in research introductions. Although we are aware that move 2 (i.e., 'establishing a niche') is often used in research introductions to highlight gaps in previous research and/or the need to follow an established research trend or research tradition [9], it is clearly non-existent in the AL Method sections. Such a finding has a meaningful pedagogical implication in that instructors and supervisors of research writing may have to advise students to avoid "niche establishments" [16] (p. 229) in the Method-related sections (even though other moves of an introductory section may be found the Method section as well). More interestingly, the low frequency of step 2 suggests that most writers do not consider it necessary to state distinctly the type of the research design when the data collection and analysis procedures are explicitly described in the Method section. These two steps might have contributed to the complexity involved in distinguishing and categorising moves in the Method sections because they do not belong to

the well-established method-related moves reported in literature, comprising descriptions and justifications of research samples, materials/instruments, experimental procedures, and data analysis procedures [2]–[4], [12].

I have also identified the prominent linguistic features which can help novice writers (i) recognise and distinguish the different rhetorical moves involved, and (ii) enable them to use these linguistic mechanisms in writing the segments that set the stage for their research procedures. While the descriptions of general research circumstances are presented with verb phrases in the present tenses, the quotations of previous research procedures are presented not merely in the simple past, but also in the present perfect (for non-communicative verbs) and the simple present (particularly for communicative verbs) to highlight current relevance of well-established procedures. Instructors may first show novice writers how to use *it*-clauses highlighting prominence and complex verb phrases denoting necessity to underscore the speed, efficiency, or centrality of using previous techniques. The tense usage involved in the SPA structure also constitutes a distinct feature that may be introduced to learners who have problems deciding on the right verb forms to use after the target-related noun phrase in the sentence-subject. My findings suggest that when the target-related noun is 'purpose' or 'objective', the subsequent copular verb may be in the present or past tenses; however, when the target-related noun is 'aim', all writers had a greater tendency to use only the past tense.

Unlike descriptions of research backgrounds in step 1 which often engage different tenses depending on the writers' strategic preferences and specific rhetorical intentions, the overviews of the different research designs in step 2 are rendered distinctly only in the simple past tense. In writing instruction, it may be interesting to introduce the different syntactic structures to illustrate how research designs with particular experimental structures may be used in some prevalent prepositional phrases or noun phrases combined with usage-related verbs. In short, novice writers' comprehension of the Method section may be further enhanced if instructional sessions incorporate related explanations of both the rhetorical functions and syntactic structures involved in presenting an overview of the research context.

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