10

Writing a Research Article

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Introduction

As the "principal site for knowledge-making" (Hyland, 2009a, p. 67), the research article has been the focus of numerous discourse studies with two major goals: one, to understand the epistemologies of different disciplines and, the other, to inform the teaching of writing. The prominence granted to the discourse organization of the research article in Swales' (1990) monograph *Genre Analysis: English in Academic and Research Settings* inspired a plethora of studies on the research article, the structure of its main sections in terms of functional moves and constituent steps, and rhetorical and linguistic features characterizing this genre. Comparisons of this genre across disciplines and languages have contributed to our understanding of disciplinary and cultural values in academic discourse. In addition, researchers have also compared parts of the genre to one another (e.g., results, discussions, and conclusions by Yang and Allison (2003), and abstracts and introductions by Samraj (2005) and the research article to other genres such as textbooks (e.g., Kuhi & Behnam, 2011) in an effort to increase our understanding of this prestigious genre.

At the same time, researchers have also noted "the growing dominance of English as the global medium of academic publications" (Lillis & Curry, 2010,

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p. 1) and have pointed out that "the reward systems within which scholars work increasingly … foreground English-medium publications" (Lillis & Curry, 2010, p. 48). The need for scholars to publish in English-medium journals, especially those who might be considered "off-network" (Belcher, 2007, p. 2), makes English for research publication an urgent issue and has been a stated motivation for studies focusing on this prestige genre.

Since another recent handbook chapter has provided an overview of research on research articles in general (see Samraj, 2016, in the *Routledge Handbook of English for Academic Purposes*), the current chapter will limit its attention to studies on research articles from applied linguistics. In this chapter, I will discuss the findings from genre analyses of applied linguistics research articles, first, attending to analyses of the overall organization of the research article. Following a short review of studies on the macro-structure of applied linguistics research articles, I will consider the organization of the conventional main sections, abstracts, introductions, methods, results, discussions, and conclusions. Second, I will discuss studies reporting on the use of rhetorical features, such as metadiscourse and academic criticism that have been analyzed in applied linguistics research articles. As I discuss these findings, I will point to ways students can apply these findings to their own writing of research articles. The final section of this chapter will provide further ways for novice writers to draw on research findings to shape their own writing in applied linguistics as well as implications for EAP instruction.

Macro-structure of Research Articles

Most studies on the organization of research articles have focused on the type and order of functional moves and steps in particular sections, such as the introduction and discussion section. A move is defined as a "discoursal or rhetorical unit that performs a coherent communicative function" in written or spoken discourse (Swales, 2004, pp. 228–229), and moves can be realized by one or more steps. Generally, research articles have been assumed to have an Introduction-Method-Results-Discussion (IMRD) structure, although some studies have questioned this assumption (Lin & Evans, 2012). The most comprehensive study of macro-organization and section headings in applied linguistics articles is one by Ruiying and Allison (2004), where they distinguish between primary and secondary applied linguistics research articles. Their analysis of research articles reporting primary research points to variability in the macro-organization of applied linguistics articles, although all contain the three sections, Introduction, Method, and Results. This variability arises from

the presence of nonconventional headings such as *experimental design* in place of the conventional *method* and the use of content headings such as "L2 reading strategies" when reporting results. Ruiying and Allison (2004) also note the presence of additional sections, such as *theoretical basis* and *literature review* between the conventional introduction and methods sections and the section *pedagogic implications* close to the end of the research article. As shown by a later study discussed below (Lin, 2014), the presence of macro-organizations other than the conventional IMRD structure can have an impact on the structure of a conventional section, such as the introduction. Given this, writers should not immediately assume an IMRD structure when writing a research article but consider possible variations that are used by published writers in applied linguistics articles.

Ruiying and Allison (2004) postulate a macro-structure of *introduction*, *argumentation*, and *conclusion* for secondary research articles, which report critical reviews and syntheses of research. They further distinguish three kinds of organization for the argumentation section of such secondary research articles according to their overall purpose: "theory-oriented, pedagogy-oriented, and (pedagogic) application-oriented" argumentations (Ruiying & Allison, 2004, p. 275). For example, the pedagogy-oriented argumentation has a problem-solution or demand-supply pattern in contrast to a point-by-point pattern in the argumentation of a theory-oriented article. Writers preparing review articles then should consider the purpose of their syntheses and determine the structure of the argumentation based on this purpose. See also Li and Wang (Chap. 6) on traditional literature reviews and research syntheses.

Abstracts

Research article abstracts, long known to be more than an objective summary of the research article, are said to have become more of a stand-alone genre (Gillaerts & Van de Velde, 2010). Santos's (1996) early study of abstracts from applied linguistics articles postulated five moves to account for this part-genre: (1) situating the research, (2) presenting the research, (3) describing the methodology, (4) summarizing the results, and (5) discussing the research, with moves two and three being obligatory. Santos found that moves one and five, where persuasive work is conducted in situating and justifying the research in terms of previous research and in connecting the results to research or the real world, were the least frequent in the abstracts in comparison to other moves. However, Hyland's (2000) cross-disciplinary study using a similar framework found the frequencies of these moves in social

science abstracts (including those from applied linguistics) to be much higher than their frequencies in abstracts from the hard sciences, indicating that these moves that connect the study reported to previous research and generalize the findings are important in the discipline of applied linguistics, even if they are less frequent than the other moves in abstracts.

Pho (2008), in a comparison of abstracts from applied linguistics and educational technology, employing Santos' (1996) framework, also revealed that the first move, situating the research, and last move, discussing the research, although less frequent than the other three abstract moves, were more frequent in applied linguistics than in the educational technology abstracts, providing further support for the importance of these moves in applied linguistics academic writing. Melander, Swales, and Fredrickson (1997) found that linguistics abstracts in English produced by Swedes were more likely to exclude introductions and conclusions (somewhat similar in function to moves one and five in Santos' (1996) framework) than those produced by American English writers.

The analyses of abstracts in applied linguistics research articles discussed here indicate that although contextualizing the study and discussing research results may not be obligatory rhetorical functions of abstracts, they play a more important role in applied linguistics abstracts than abstracts from some other disciplines. Authors of applied linguistics research articles should therefore consider including these functional moves which perform more rhetorical work than some of the other more common moves in abstracts.

Introductions

Introductions in linguistics research articles have been well-studied, also with a focus on cross-disciplinary and cross-linguistic variation. Swales' (1990, 2004) Create A Research Space (CARS) framework is frequently used in these studies. This framework includes three rhetorical moves of establishing a territory, establishing a niche, and presenting the present study. A simple version of the CARS model given in Feak and Swales' (2011, p. 55) volume, *Creating Contexts: Writing Introductions Across Genres*, is given in Table 10.1 below.

An early study of introductions in language studies research articles in Swedish (Fredrickson & Swales, 1994, p. 15) noted the infrequent use of move two, "establish a niche" in the CARS framework. A more recent study (Sheldon, 2011) comparing the structure of introductions in applied linguistics research articles produced in Spanish by native speakers, and in English by native speakers and non-native speakers with Spanish as a first language (L1)

Table 10.1 Moves in empirical research article introductions

Move 1: Establishing a research territory
    (a) showing that the general research area is important, central, interesting, problematic, or relevant in some way (optional)
    (b) introducing and reviewing items of previous research in the area (obligatory)
Move 2: Establishing a niche (citations to previous literature possible)
    (a) indicating a gap in the previous research
    (b) extending previous knowledge in some way
Move 3: Presenting the present work (citations to previous literature possible)
    (a) outlining purposes or stating the nature of the present research (obligatory)
    (b) listing research questions or hypotheses (probable in some fields but rare in others (PISF))
    (c) announcing principal findings (PISF)
    (d) stating the value of the present research (PISF)
    (e) indicating the structure of the research paper (PISF)

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produced some complex results. Spanish speakers writing in their L1 were more likely to include this second move than those writing in English as L2 (second language). This finding seems to contradict earlier studies capturing the absence of this move in research article introductions in languages other than English such as Malay research articles in agriculture (Ahmad, 1997), while at the same time indicating that *establish a niche* might be a difficult rhetorical function to perform in EAL, and that student writers might need more practice and help with producing this important move.

Belcher's (2009) study of the use of explicit gap statements, for example, by stating that research in a particular area has been limited, (in contrast to implicit gap statements where academic criticism is hedged) by writers categorized as speakers of English as an international language (EIL) and those considered native English (EL) speakers resulted in the unexpected finding of EIL authors overwhelmingly preferring an explicit gap statement both at the beginning and end of a ten-year period (1996 to 2006) from which the data were gathered. EIL female writers also showed a greater preference for explicit gap statement over their female EL counterparts. Both male and female EL writers grew in their preference for explicit gap statements over this ten-year period. The increasing pressure to publish in competitive journals with low acceptance rates is presented as a possible reason for EIL writers, especially females, adopting what can be construed as a survival strategy (Belcher, 2009, p. 231). The above studies focusing on the *establish a niche* move in applied linguistics research articles should caution us against simple generalizations about the difficulty that any rhetorical move might pose to EAL (or EIL) writers of research articles. However, the increasing frequency in use of explicit gap statements in applied linguistics research article introductions underscores

the need for novice writers to acquire this rhetorical move for publishing success.

Some studies on the structure of introductions have focused on sub-disciplines within applied linguistics. Two sub-disciplines, second language acquisition and second language writing, are the foci of a study by Ozturk (2007), which revealed the variability inherent in an interdisciplinary field such as linguistics. Research article introductions from the journal *Studies in Second Language Acquisition* display the three-move structure of the CARS model much more frequently than the introductions from the *Journal of Second Language Writing*, where introductions manifested a variety of rhetorical organizations. Another study focusing on these same sub-disciplines (Rodriguez, 2009) noted the more frequent use of centrality claims, that is, statements that assert the importance of the topic being explored, in terms of real-world relevance in introductions from second language writing and a preference for centrality claims foregrounding research vigor and interest in second language acquisition research. Novice writers, then, would benefit from exploring the functional organization of research article introductions and the centrality claims employed in the journals to which they wish to submit their manuscripts because of intra-disciplinary variation.

Variations or innovations in introduction structure in applied linguistics have also been identified in research articles where literature reviews are found as sections between introductions and methods, an increasingly common structure in a variety of disciplines (Lin, 2014). The study by Lin (2014) showed that deviations from the conventional IMRD research article structure can have an impact on the rhetorical organization of other part-genres, such as introductions and methods. Two groups of introductions were identified in articles with a subsequent literature review section. One set included introductions with the regular CARS structure while the other nontraditional or *orientation* introduction included a two-move structure, where the first move identified key issues and the second move presented the study, similar to the third move in the CARS model. Lin (2014) reported that these orientation introductions did not contain substantial niche establishment although they contained a sub-move where the value of the research issue was explicated. Since the structure of the literature review was not analyzed in such research articles, it is not clear if niche establishment was more prevalent in that part-genre. What a writer may consider though is that the presence of a separate literature review might alter the shape of the introduction and its persuasive strength.

Methods

The methods section in research articles remained relatively unexplored after Swales' (1990) first monograph focusing on this genre. However, the last decade has seen an increase in interest in this section following Swales' (2004) discussion of methods as being on a cline with clipped (fast) texts on one end and elaborated (slow) ones on the other, although few studies have been conducted on methods sections in applied linguistics research articles.

In one study, Lim (2011a) reports on analyses of particular steps in the move *delineating sample procedures* found in methods sections of experimental reports from applied linguistics, motivated both by the need to explicate cross-disciplinary variation in organizational structure and his experience with the challenges posed by particular features of methods construction to his L2 writers in Malaysia. Using both qualitative and quantitative analyses, he identified the structure of the steps *describing the sample/participant*s and *justifying the sampling procedures* and the grammatical features that experienced writers frequently use with these steps. Because of the limited research on methods sections in applied linguistics research articles, novice writers might compare the characteristics given by Swales (2004) for clipped and elaborated texts against published research articles from their sub-discipline of applied linguistics.

Results, Discussions, and Conclusions

The most comprehensive analysis of sections that follow methods in research articles is Yang and Allison's (2003) qualitative study that identified the linear and hierarchical structure of these sections while explicating the complex ways in which results, discussions, and conclusions interrelate. The two-level analysis in terms of moves and steps captured differences across these sections that are not just due to the presence of unique moves but also differences in frequencies and development of the same moves in different sections. The primary communicative function of *reporting results* of the results section is seen in the multiple iterations of the move *reporting results* and the relative infrequency of the move *commenting on results*, which is not only obligatory but also more extensively developed in discussion sections. The conclusions section contains three moves, *summarizing the study*, *evaluating the study*, and *deductions from the research*, all of which can also appear in a discussion section. However, the same moves vary in their constituent steps across the two sections. In addition, the value of each move in a section is

impacted by the other moves also present. The focus of the discussion sections is the commentary on specific results while the focus with the conclusion is a more general one on the overall results and an evaluation of the study as a whole (Yang & Allison, 2003).

A number of other studies have focused on just one of these sections that follow the methods section (e.g., Peacock, 2002) or even a move in a particular section such as the *comments on results* move in discussions (Basturkmen, 2009). Following early analyses of the discussion section (e.g., Holmes, 1997; Hopkins & Dudley-Evans, 1988), Peacock (2002) engaged in a multidisciplinary analysis, contrasting native and non-native authors, of what has been identified as a challenging part-genre for novice writers. Language and linguistics was one of the seven disciplines included in this study that identified *finding*, *claim*, and *reference to previous research* as obligatory moves in discussions across disciplines, using a single-level framework of nine moves. Discussion sections from language and linguistics are characterized by more frequent use of the move *reference to previous research*, greater cycling of moves and less frequent use of *recommendations for further research*. In a later study, Dujsik (2013) used Peacock's (2002) framework to analyze discussions from five applied linguistics journals and revealed that most moves in the texts in his corpus occurred with similar frequencies to Peacock's results.

Lim (2010), asserting the need for research on research articles from specific disciplines to prevent overemphasis on some rhetorical features in English for Academic Purposes (EAP) writing instruction, analyzed the move of *commenting on results* in results sections (not discussion sections as in Basturkmen, 2009), where such comment moves are also found. Comparing the structure of the move in education and applied linguistics research articles, Lim (2010) revealed that the steps, *explaining a finding*, *evaluating a finding*, and *comparing a finding with the literature*, were all much more prevalent in the applied linguistics articles in contrast to the education articles, leading him to conclude that education results sections were "comment-stripped" (p. 291).

In another study on the reporting of results, Lim (2011b) again contrasts education and applied linguistics to explore the steps used in the move *paving the way for research findings* (labeled in Yang and Allison's (2003) study as *preparatory information*) as well as the linguistic structures that characterize these steps. Lim's (2011b) study identified four specific steps that pave the way to a report of results: (1) indicating the structure of the result section to be presented, (2) providing background information to the results to be reported, (3) reiterating research questions/purposes, and (4) stating location of data. Interestingly, the first three steps were more common in the applied linguistics articles with mean frequencies at least twice as high as those for the

education articles. The last step of indicating the location of data in tables and graphs had similar frequencies in both sets of data. This study, like others discussed earlier in this chapter, sheds light on the discoursal preferences exhibited in applied linguistics research articles, which Lim (2011b, p. 743) refers to as "unpredictable complexity" found in the real world of discourse that is quite different from the idealized discourses often held out as the standard in language teaching.

In a study comparing discussion sections in student-produced theses and published research articles in applied linguistics (specifically language teaching), Basturkmen (2009) focused on the construction of argument in one move in discussions, *commenting on results*. Her fine-grained analysis provides a helpful picture of the construction of elaborate arguments in this move that is part of a common *results-comment* cycle in discussions. Alternative explanations for results, references to literature in support of explanations, and evaluation of explanations contribute to the complex comments move. Student-produced discussions contained the same steps as experienced writers, but the student writers tended to include many more results and compared their results to those in the literature and, importantly, provided far fewer alternative explanations and were less likely to extend their findings to general theory as were the expert writers.

Conclusions in research articles, although not foregrounded in the traditional IMRD structure, have received some attention, especially after Yang and Allison (2003) identified the main rhetorical moves in conclusions (mentioned earlier) and specified their relationship to those that constitute the discussion section. One such study (Amnuai & Wannaruk, 2013) compared the structure of conclusions in applied linguistics research articles produced in international journals and those produced by Thai writers in English journal publications by high-ranking government universities in Thailand using Yang and Allison's (2003) move framework. This study revealed that 35% of the conclusions in the Thai journals contained just one move. More importantly, only around 20% of the Thai corpus contained the move *evaluating the study* and 45% contained the move *deductions from the research*, significantly lower than the frequencies found in the international corpus. As the authors of this study conclude, non-native and inexperienced writers need to realize the importance of evaluating their studies, contextualizing their findings, and generalizing their research findings in the conclusion.

The results discussed so far in this section point to a number of discoursal preferences seen in applied linguistics research articles that novice writers could adopt to produce successful research articles instead of idealized discourse that might be held up in standard language teaching. They could

provide background information and reiterate research questions before reporting their results. Other useful strategies to adopt would be commenting on results, moving from results to generalizations about results, and providing alternative explanations for the results being discussed. More than one study has also revealed the importance of intertextual links to previous research in different moves in both the results and discussion sections, indicating that novice writers should embed their own work in previous research in these sections. Providing evaluations of their studies and pointing to implications from their research in their conclusions might also help novice writers produce successful research articles.

Conclusion on Macro-structure of Research Articles

The current discussion of the rhetorical organization of applied linguistics research articles has indicated that even articles reporting empirical findings may exhibit structures other than the conventional IMRD structure. Studies of the rhetorical structure of sections have revealed the importance of certain rhetorical moves in applied linguistics research articles. Connecting the study being reported to previous literature in the field has been shown to be important in the abstracts (introduction or situating-the-study move) and introductions (establish a niche move) in addition to the discussion section. Furthermore, generalizing from results was also shown to be important in applied linguistics abstracts (Santos, 1996). The analysis of move structure has also highlighted the role of commentary in both the results and discussion sections of applied linguistics research articles (Basturkmen, 2009; Lim, 2010). In fact, complex argumentation can be built in discussion sections through the use of alternative explanations for results and their evaluation in the commentary of the results reported (Basturkmen, 2009). Novice writers need to be mindful of these general features of research articles from applied linguistics while also considering intra-disciplinary variation in writing norms in applied linguistics.

Rhetorical Features Characterizing Applied Linguistics Research Articles

In seeking to write a successful research article, the author has to demonstrate membership in the target disciplinary community not only by producing a text that follows the generic structure in terms of moves and steps valued by

expert members of the community but also by manifesting the sort of author persona valued in this genre in that target disciplinary community. The sort of author persona constructed in academic writing has been explored in a range of studies that can be broadly construed as studies of metadiscourse (e.g., Hyland, 2005; Lorés Sanz, 2008). As Kuhi and Behnam (2011, p. 98) state, "metadiscourse is a principled way to collect under one heading the diverse range of linguistic devices writers use to explicitly organize texts, engage readers, signal their own presence and signal their attitudes to their material." The findings from the studies discussed below then show novice writers how to manage their authorial presence and their relationships with their readers when writing a research article.

A comparative study of metadiscourse in a number of academic genres in applied linguistics has revealed the nature of metadiscourse that characterizes research articles (Kuhi & Behnam, 2011). Through a detailed and substantive analysis of a range of metadiscourse features, such as evidentials (explicit references to other sources), hedges (e.g., the modal *may*), directives (e.g., *imperatives*), and reader pronouns (e.g., *you*), Kuhi and Behnam (2011, p. 116) show that "language choices reflect the different purposes of writers, the different assumptions they make about their audiences, and the different kinds of interactions they create with their readers." Their findings showed that the use of evidentials and hedges to indicate deference to the academic community was high in research articles while the use of directives and reader pronouns, which convey an imposition on the reader, was rare. In contrast, the latter set was common in introductory textbooks, a low prestige academic genre. Interpersonal resources such as self-mention and explicit references to other texts were also more valued in research articles than the other academic genres analyzed. Hence, acquiring metadiscoursal norms that would allow an author to engage in "a dialogism that is a manifestation of positive politeness and communality" (Kuhi & Behnam, 2011, p. 121) would be essential for novices to be successful in producing research articles.

A subset of the textual realizations of interpersonal meanings has also been examined in sections of linguistics research articles, such as abstracts and discussions. The use of metadiscourse resources in research article abstracts has been the focus of a number of studies. Lorés Sanz (2008) compared author visibility, which conveys authority and originality, in abstracts and other sections of research articles from three areas in linguistics (English for specific purposes, pragmatics, and general linguistics) through an analysis of the use of the first person pronoun. The author's voice is shown not to be very strong in abstracts but strongest in the results sections of research articles where his/her contributions to the field are foregrounded. Interestingly, author presence

was found to be more muted in the discussions and conclusions sections where the use of other linguistic features, such as impersonal active constructions and agentless passive constructions, resulted in the construction of a more objective stance.

Interpersonality in applied linguistics research article abstracts was considered from a diachronic perspective in Gillaerts and Van de Velde's (2010) study that analyzed interactional metadiscourse (Hyland, 2005), specifically hedges, boosters, and attitude markers, in texts from 1982 to 2007. The study revealed a drop in use of interactional metadiscourse, particularly due to a drop in boosters (e.g., *clearly*) and attitude markers (e.g., *is misleading*), prompting the authors to speculate whether this showed the move of applied linguistics as a discipline toward the norms held by the hard sciences. In contrast, the use of hedges remained strong in this period, and the authors, in fact, showed a rise in the use of a combination of hedges, boosters, and attitude markers. The combination of features mitigates author stance in abstracts, which Gillaerts and Van de Velde (2010, p. 137) postulate could be due to the increase in size of the applied linguistics discourse community. The continued relative frequency of hedges in applied linguistics abstracts is in line with Kuhi and Behman's (2011) finding about the importance of hedges in applied linguistics research articles.

Applied linguistics research articles in English form a part of the corpus of a multifaceted cross-disciplinary, cross-linguistic study of academic writing called the KIAP project (Fløttum, 2010). Dahl and Fløttum (2011) examined the construction of criticism as part of the KIAP project and focused on research article introductions from linguistics and economics and considered how these criticisms were constructed as authors made new claims within established disciplinary knowledge. They further analyzed each criticism along three dimensions: whether the author was explicitly visible (writer mediated), whether the criticism was specifically directed at an author (personal/impersonal), and whether the criticism was hedged. The total number of instances of criticism was higher in the linguistics introductions than the economics introductions although criticisms were found in a greater number of economic texts. Most criticisms in both disciplines were unhedged and not writer mediated. The linguistics introductions included a larger proportion of criticisms that were author directed, hence, more pointed, than those in the economics texts. Dahl and Fløttum (2011, pp. 273, 278) argue that the main function of the criticism in both disciplines is "showing the uniqueness and originality of the writer's findings" and that authors' "new claims often take the form of a posited difference between established and new knowledge."

Another study that is also part of the KIAP project explored the influence of language and discipline on the construction of author identity and polyphony (or other voices) in research articles (Fløttum, 2010). This study explored the construction of three common author roles (author as researcher, writer, and arguer) constructed in research articles from three disciplines, linguistics, economics, and medicine, in three languages, English, French, and Norwegian. Based mainly on an analysis of the use of the first person pronoun and accompanying verbs, linguistics authors are said to assume all three author roles and to be most "clearly present of the three discipline profiles, as well as the most explicitly argumentative and polemical authors" (Fløttum, 2010, p. 273). In contrast, economics authors are researchers and writers (text guides) and less explicitly argumentative.

In another study using the corpus from the KIAP project, Dahl (2004) analyzed the use of specific kinds of metadiscourse in research articles from the same three disciplines, economics, linguistics, and medicine, and languages, Norwegian, French, and English. Rhetorical metatext, which marks the rhetorical acts in the argumentation analyzed through use of verbs that refer to discourse acts, such as *discuss* and *argue*, was found to the same extent in the linguistics and economics articles in English. The results point to argumentation being much more a part of the knowledge-construction process in these two disciplines than in medicine, where, according to Dahl (2004, p. 1820), the results are said to "reside outside the texts." Locational metatext, where the author points to the text itself or its component parts, was used more by economics authors than linguistics authors in both English and Norwegian. However, the linguistics texts contained more locational metatext than the medical research articles. Dahl (2004) posits two reasons for the greater use of rhetorical and locational metatext in economics and linguistics: the relative youth of these disciplines and the need for results in these two disciplines to be more subjectively interpreted. A relatively lower use of metadiscourse was found in the French texts for all disciplines and seemed to indicate less author presence and responsibility for argumentation structure and sign posting in research articles no matter the discipline.

These studies on author presence and metadiscourse in research articles in applied linguistics have yielded several key findings. Research articles in applied linguistics on the whole are characterized by the presence of hedges, evidentials, self-mention, and references to other sources, which enable authors to be deferential toward the disciplinary community, and acknowledge the value of previous research while asserting the author's own place in the community (Kuhi & Behnam, 2011). While the use of some interactional metadiscourse might have decreased over time, the use of hedging has

remained relatively strong in applied linguistics research articles (Gillaerts & Van de Velde, 2010). Although an author's presence in a research article varies across different sections, authorial presence and explicit argumentation as knowledge-construction are valued in applied linguistics writing (Dahl, 2004; Fløttum, 2010; Lorés Sanz, 2008). In addition, academic criticism is not uncommon (Dahl & Fløttum, 2011).

These findings from analyses of metadiscourse and author presence in applied linguistics research articles reveal specific ways in which metadiscourse is important in applied linguistics research articles in English and clearly point to the need for novices and non-native speakers to focus their attention on the linguistic features that construct an appropriate author persona and writer-reader relationship. A simple activity that novice writers in an academic writing class could engage in would be a comparison of applied linguistics research articles from which these features have been removed and unmodified research articles containing these elements of metadiscourse, author presence, and argumentation. Such an activity can focus the novice writer's attention on the functions performed by these discoursal features. Junior scholars in applied linguistics could themselves compare sections of the research article such as methods and discussions with those from another discipline for explicit use of criticism, argumentation, hedges, self-mention, and reference to previous research in order to raise their awareness of practices in applied linguistics research articles.

Implications for Writing a Research Article and Conclusions

Several studies have discussed the growing pressure on EAL writers to publish in English-medium research journals and the challenges they may face (Flowerdew, 2014; Hyland, 2009b). Flowerdew's (2014) chapter on "English for research publication purposes" provides a helpful overview of these issues, including the need for EAL writers to appropriately interpret manuscript reviewer comments, the power relationships between writer and supervisor and writer and editor in academic publication and the roles played by literacy brokers, those other than named authors such as editors and translators, in the publication process (Lillis & Curry, 2010).

One of the early stages in the process of being published in English is learning to write a research article in English. Courses in EAP (or English for specific academic purposes (Flowerdew, 2016)) and English for research

publication processes have benefitted from the findings from discourse studies of the research article both of the macro-structure of various sections of the research article and rhetorical features that characterize this genre. The results of cross-disciplinary studies or those that focus on the unique features of the research article from a particular discipline have underscored the need for EAP courses that acknowledge disciplinary variation in genres and conventions of academic communities. Many of these findings have been transformed into excellent teaching materials in volumes, such as those by Swales and Feak (2000, 2004) and Feak and Swales (2009, 2011), used to familiarize students with the discourse and linguistic tools needed to attain success for writing in various essential social contexts, thereby acculturating them into a variety of target disciplinary communities.

The results of analyses of the research article from the sub-discipline of applied linguistics have not merely identified linguistic features but the communicative functions expressed by organizational structures and linguistic choices, such as the use of the first person pronoun. These results can be employed as data in EAP courses for rhetorical consciousness-raising tasks, an important insight from Swales (1990) and a "fundamental feature of his pedagogic approach," where students are made aware of the linguistic features of a genre and their connection to communicative functions (Flowerdew, 2015, p. 104; Flowerdew, 2016). The growing use of corpora and computational techniques in EAP research has also had an impact on the teaching of EAP, especially the teaching of writing of the research article. Lee and Swales (2006) and Charles (2014), among others, report on the use of student-built corpora of research articles in advanced EAP courses with students from multiple disciplines.

While the results of the studies on applied linguistics research articles can be used in the design of EAP materials and tasks, with or without electronic corpora and computational tools, in what has been labeled as a pragmatist approach, it might serve us well to remember that Swales (1997, p. 381) refers to his approach to teaching academic writing to advanced students as liberation theology because in his EAP course he seeks to free his students from "consuming attention to the ritualistic surfaces of their texts, … from dependence on imitation, on formulas, and on cut-and-paste anthologies of other writers' fragments" among other things. Bearing this in mind, practitioners should develop EAP tasks and materials that promote discovery-based analysis of relevant data that raise their students' rhetorical consciousness and lead to the writing of successful research articles while ensuring the maintenance of some rhetorical diversity (Mauranen, 1993).

Applied linguistics students not attending an EAP course can use research articles from a preferred applied linguistics journal to explore the disciplinary features discussed in this chapter. Keeping in mind the advice of scholars such as Swales (1997) and Mauranen (1993), I present here some suggestions for novice writers based on aspects of applied linguistics research articles reviewed in this chapter. Those seeking to write research articles in applied linguistics might benefit from considering certain dimensions of this genre in this discipline. They could analyze research articles from journals they are targeting as a venue for their own work in order to answer the questions given in Table 10.2, which focus on text structures. As discussed earlier, a number of rhetorical features have also been analyzed in applied linguistics research articles. The same set of research articles from the journal selected as a publication venue can be used by novice writers to explore the questions provided in Table 10.3, which can focus the writer's attention on a few select rhetorical functions. Seeking to answer the questions given in these two tables would focus writers' attention on some key dimensions to consider when writing a research article without limiting the students' options to merely adopting language choices from published texts. Instead these questions could help a writer maintain

Table 10.2 Dimensions to consider when constructing a research article

Overall organization:
1. What should be the main sections of the research article?
2. Should I have a separate literature review between the introduction and methods section?

Abstract:
1. Should I have a preliminary move where I connect my research to previous work?
2. Should I end with a move that states the implications of my study?

Introduction:
1. Should I include all the moves in the CARS model?
2. Should I provide a gap? How explicit should the gap be?

Methods:
1. What features of the clipped and elaborated methods should I include?

Results:
1. Should I focus solely on reporting on results?
2. Should I also comment on results by connecting to previous research and by evaluating or explaining a finding?

Discussion:
1. How should I comment on results?
2. Should I provide alternate explanations for results and evaluate them?
3. Should I draw on previous literature?

Conclusion:
1. After providing a summary of the study, should I evaluate it?
2. Should I provide deductions from the study?

Table 10.3 Discovering norms for use of metadiscoursal features

Intertextual links:
1. Where in the research article and how should I refer to previous literature?
2. Should references to other authors be explicit?
Author presence and strength of claims:
1. Should my authorial role be explicit in various sections?
2. What discourse functions warrant use of the first person?
3. How should I criticize author claims explicitly?
4. How much hedges, boosters, and attitude markers should I use in making claims to establish new knowledge?

some rhetorical diversity while adhering to genre convention in his/her sub-discipline.

Applied linguists have performed a number of studies on the research article from their own field, which can inform pedagogy as discussed above. These studies seem timely given the growing number of EAL graduate students in the field. Given the diversity in foci within applied linguistics (Kaplan, 2010), a greater number of intra-disciplinary studies on the research article can enhance our understanding of academic conventions in this field. Further, research articles employing quantitative and qualitative methodologies can also be compared to add to this understanding of discourse norms in applied linguistics.

Resources for Further Reading

Feak, C., & Swales, J. M. (2009). *Telling a research story: Writing a literature review.* Ann Arbor, MI: The University of Michigan Press.

This volume focuses on the literature review and includes valuable information on the use of metadiscourse, taking a stance, and choices in citations in literature reviews.

Feak, C., & Swales, J. M. (2011). *Creating contexts: Writing introductions across genres.* Ann Arbor, MI: The University of Michigan Press.

Introductions from a few academic genres (such as proposals and book reviews) are attended to in this volume, with the most attention paid to research article introductions. The various moves in research article introductions and essential language features are the focus.

Samraj, B. (2016). Research articles. In K. Hyland & P. Shaw (Eds.), *The Routledge handbook of English for academic purposes* (pp. 403–415). New York, NY: Routledge.

This chapter provides a review of studies on research articles from a variety of disciplines, not just applied linguistics. As such, it captures some of the variation in disciplinary norms manifested in the research article.

Swales, J. M. (2004). *Research genres: Explorations and applications*. Cambridge: Cambridge University Press.

This volume discusses the nature of a number of research genres including the Ph.D. defense and research talks. Especially relevant is the chapter on the research article, which provides a comprehensive discussion of the standard research article, the review article, and short communications.

Swales, J. M., & Feak, C. (2009). *Abstracts and the writing of abstracts*. Ann Arbor, MI: The University of Michigan Press.

This volume, like the others listed below, can be used by instructors or independent researcher-users to teach or learn about the structure of a particular academic genre and the linguistic choices that characterize that genre. This volume focuses on different kinds of abstracts (such as conference abstracts) but pays particular attention to the research article abstract. The carefully constructed tasks will develop the user's rhetorical awareness of the genre and provide practice in producing the genre.

Swales, J. M., & Feak, C. (2011). *Navigating academia: Writing supporting genres*. Ann Arbor, MI: The University of Michigan Press.

This fourth volume in this series perhaps is the least focused on the writing of a research article. However, it does contain useful information regarding communication surrounding the publication process such as responding to reviewer comments. It also includes some information on the author biostatement that accompanies the research article.

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