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Knowledge Claims in Academic Research Articles

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一、 中文摘要

知識宣稱(knowledge claims)是指學術論文作者就論文主題提出創新獨特之見解或發現並辯論舉證以支持確認之。學術論文要能夠被接受刊登於國際著名期刊上必須能提出並證明其研究成果對某一領域知識有所推進，但是在提出這樣的宣稱時卻得批判前人或其他人研究成果的不足或不當，以突顯自我研究的必要與對該領域知識的貢獻。因此知識宣稱行為代表了學術英語領域中複雜的語言使用及策略。

許多研究(Bazerman 1988; Myers 1990; Swales 1990; Hunston 1993; Hyland 2000)曾探討知識宣稱論述和研究論文發表間之複雜關係。然而，很少研究以實證之研究方法探討知識宣稱論述之修辭結構或語言呈現。另一方面，如何將研究結果和發現轉化成具有說服力之知識宣稱論述，以符合學術言談社會之標準，對英語非母語之寫作者非常重要。

本研究因此探討已出版之學術研究論文中知識宣稱論述之修辭結構和語言呈現。在修辭結構上，我們將知識宣稱論述分為三類：研究主題重要性之宣稱(centrality claims)、研究目的與特色之宣稱(purpose and feature claims)、及價值與貢獻之宣稱(value and contribution claims)。我們建構了包含四十八篇學術研究論文之語料庫，找出這些論文中每一類宣稱及它的語言呈現。此外，我們也進一步進行質性分析，探討宣稱之強弱(strength)、宣稱之新知價值(news value)、及宣稱中評量語言(language of evaluation)之使用。

文類分析研究讓我們對學術研究論文之訊息架構有更深入的了解，知識宣稱論述則更進一步探討了文類、言談、及學術文化間之關係。

關鍵詞：知識宣稱論述、學術研究論文、學術英文、文類分析

Abstract

Knowledge claims refer to the statements of assertion about new findings supported by arguments and evidence in academic research articles. In order to be accepted and published in internationally renowned journals, research articles must make convincing claims indicating how the research findings contribute to creating a new state of knowledge in the specific academic field in concern. However, making knowledge claims frequently involves academic conflict because the writer must indicate the inadequacy or weakness of other studies in order to justify the writer's own research. Therefore, knowledge claim-making represents sophisticated language use and strategy in English for Academic Purposes (EAP).

Many studies (Bazerman 1988; Myers 1990; Swales 1990; Hunston 1993; Hyland 2000) have investigated the complicated relationship between knowledge claims and the publication of research articles. However, little research has empirically explored the rhetorical structure or linguistic realization of knowledge claims. On the other hand, it is critical for non-native writers to know how to transform research results and findings into persuasive knowledge claims in order to meet the expectation of the academic discourse community.

This study, therefore, investigates the rhetorical structure as well as linguistic realization of knowledge claims in published academic research articles. Rhetorically, knowledge claims are divided into three types: centrality claims, purpose and feature claims, and value and contribution claims. A corpus of forty-eight academic research arti-

cles was then compiled. Each type of knowledge claims as well as its linguistic realizations in these articles was identified. Furthermore, the strength of claims, news value of claims, and language of evaluation were examined qualitatively.

Research findings from many genre analysis studies have brought us a better understanding of the information structuring of academic research articles. The investigation of knowledge claims is a further step to explore the relationship among genre, discourse, and academic culture.

Keywords: knowledge claim, academic research article, EAP, genre analysis

二、前言、研究目的、文獻探討 (Introduction)

Knowledge claims refer to the statements of assertion about new findings supported by arguments and evidence in academic research articles. The major criterion for publication of a research article is the “novelty or news value” of its knowledge claims (Bazerman 1988; Hunston 1993; Berkenkotter and Huckin 1995). In addition, the construction of disciplinary knowledge is reflected in the “highly contingent and tentative epistemological status” of knowledge claims (Berkenkotter and Huckin 1995: 49); in the long process of accumulation and development of academic knowledge, new claims are proposed, negotiated and integrated with existing knowledge.

Research on knowledge claims originated from social studies of science in the 70s and 80s. Studies such as Gilbert (1976), Latour and Woolgar (1979), Mulkay (1979), Knorr-Cetina (1981), Bazerman (1983; 1988), Gilbert and Mulkay (1984), and Myers (1986) have investigated the construction of scientific knowledge and the rhetoric of scientific language. They hold that scientific research articles are not merely “factual recording” of the activities and experimental results in the laboratory, but rather transformation of research results and findings into convincing propositions in the form and style expected

by the academic discourse community. The articles are then submitted to renowned journals for publication in order to gain recognition by the academic community. Therefore, texts are regarded as “the arena in which knowledge is established” and “the requirements of texts shape the practices of scientists long before they come to the writing up” (Myers 1992: 307). Writing and publishing academic research articles, therefore, should be viewed as a social and rhetorical behavior.

Later studies on academic research articles have examined the complicated relationship between the level or strength of knowledge claims and the publication of research articles. For example, Myers (1990) described how two biologists had to alter their principal claims in order to have them accepted by the journals. Swales (1990: 117) indicated that “high-level claims are likely to be important but risky, whilst low-level claims are likely to be trivial but safe.” Making a knowledge claim frequently involves “academic conflict” because the writer must indicate the inadequacy or weakness of other researchers’ work in the same field in order to justify the writer’s own research and to assert value and contribution to the field (Hunston 1993). Such conflict makes knowledge claim-making a complicated rhetorical behavior.

On the other hand, writing research articles has been problematic to non-native researchers. In addition to information structuring and lexico-grammatical features, it is challenging to them to know how to express knowledge claims appropriately, which are often the determining factor of acceptance or rejection of a research article by a journal. Non-native writers must learn and master the rhetorical structure and linguistic representation of knowledge claims in their own specialized fields to meet the challenge of writing research articles and establishing credibility in the academic discourse community.

However, most studies, from sociological or epistemological perspective, have concentrated on the formation and revision of knowledge claims in terms of the nature of knowledge construction or the publication of a research article. Little research has ex-

explored empirically the linguistic aspects of knowledge claims from the perspective of genre analysis and discourse context.

This study, therefore, investigates the rhetorical structure as well as linguistic realization of knowledge claims in published academic research articles. We explore the following research questions:

1. What are the discourse functions of knowledge claims in the specific genre of research articles?

2. What is the nature of knowledge claims in research articles in terms of the use of positive or negative rhetorical strategies?

3. What types of knowledge claims occur in the Introduction and Conclusions sections of research articles?

4. How are the types of claims realized linguistically?

5. What are the occurrences of each type of claim in different sections of research articles and in research articles of different disciplines?

6. How are the strength, news value, and evaluation of claims expressed linguistically, either implicitly or explicitly?

Discourse Functions of Knowledge Claims

Knowledge claims have very important discourse functions in research articles. Swales (1990), from the perspective of genre, explicated that RA writers often point out gaps in existing research in order to find a niche for their own knowledge claims. Hyland (1997) identified six major purposes of scientific claims. Samraj (2002) analyzed introductions of RAs in two disciplines and found that the use of centrality claims can fulfill a promotional function in this section, justifying the present research. Myers (1992), from a collection of fifty RAs in molecular genetics, found a recurrent type of introductory self-referential sentences: *In this paper we report the finding of ...* which marks each article's main knowledge claim, and which, he argued, represents explicitly marked assertive speech acts.

Knowledge claims can occur in the various sections of an RA, performing different discourse functions. For example, in Introduction, claim-making is mainly aimed

to assert the importance of the research topic and to indicate the purpose of research. In Conclusions, as the ending part of an RA, claim-making serves to highlight the value and contribution of research. Across different disciplines, knowledge claims also vary as a result of the different nature of disciplinary knowledge and research. For instance, hedged claims play much less of a role in literary studies than in science (Hyland 1996).

To sum up, knowledge claims, which embody the essence of a research article, can perform the following discourse functions:

1. Constructing new knowledge and winning acceptance and recognition (Hyland 2000);

2. Creating a research space (Swales 1990);

3. Assuring commitment to research propositions;

4. Positioning oneself in an academic field;

5. Asserting value and contribution.

The Nature of Knowledge Claims

Knowledge claims can be positive or negative. Positive claims stress the positive aspects of research such as importance, feature or value that can be attributed to the study. Negative claims, on the other hand, indicate the difficult, challenging nature of a research problem, or the rarity of research on a specific topic. Both positive and negative claims, however, are made for the same goal – purporting significance and winning recognition.

In research articles, positive claims are closely related to the qualities that a valid and promising study should reflect and adhere to the professional conventions for presenting propositions and arguments. With paradoxical counter-claiming, negative claims usually serve to create a research space or justify the purpose. They highlight the value of research by emphasizing its difficulty or rarity.

Moreover, the nature of knowledge claims also involves the strength of claims, news value of claims, and language of evaluation. Studies have explored these issues from various perspectives (Swales 1990;

Myers 1986; Berkenkotter and Huckin 1995; Hunston 1993). In the present study, we attempt to focus on how they are reflected in linguistic realizations and how they are related to specific discourse contexts in different disciplines.

Classification of Knowledge Claims

Rhetorically, knowledge claims can be classified into three types: centrality claims, purpose and feature claims, and value and contribution claims. Centrality claims are appeals to peer readers that “the research about to be reported is part of a lively, significant or well-established research area” (Swales 1990: 144). They tend to occur early in a research article as they not only reveal the specific research topic but position it in a promising or central research area to attract reader interest.

Purpose and feature claims are statements indicating the purpose or feature of research. They substantiate centrality claims by announcing what is accomplished or what characterizes the present study. Generically, purpose and feature claims enable the writers to occupy the niche, i.e., to find a research space for oneself in the academic community.

Value and contribution claims are promotional statements stressing significance and contribution of research in order to win approval and recognition. Hedges are often used for high-level value and contribution claims. As Myers (1985; 1989) argued, marking claims as provisional and toning down one’s language are effective ways to gain acceptance.

In this study, we analyze the occurrences of each type of claims and their linguistic realizations in relation to their discourse contexts and functions.

三、研究方法 (Method)

To explore empirically the rhetorical structure as well as linguistic realization of knowledge claims, a corpus of forty-eight research articles was compiled for data analysis. The research articles were randomly selected from four major journals in

2001-2004, twenty-four from two journals in applied linguistics and the other twenty-four from two journals in computer science. Since most knowledge claims occur in the Introduction and Conclusions sections, we focused the analysis on these two sections.

First, occurrences of centrality claims, purpose and feature claims, and value and contribution claims were identified and counted, respectively. The frequencies of the three types of claims in the two sections were then compared. The frequencies of the claims in the two disciplines were also compared. Next, linguistic realization of each type of knowledge claims was analyzed and recurrent lexico-grammatical features or patterns were recorded. Comparisons were also made among the three types of claims and between the two disciplines in terms of linguistic realization of claims.

To explicate how the forms of claims are related to discourse functions of different sections and to disciplinary values, we further examined the context in which each type of claims occurs. For example, purpose claims may occur in both Introduction and Conclusions, but they may perform different discourse functions in the two sections. Value claims in the research articles of computer science and applied linguistics may reflect different values as a result of the nature of disciplinary knowledge.

On the other hand, since we also sought to interpret the rhetorical behavior of claim-making from a sociological view of the research article as a genre, qualitative analysis was attempted to examine three aspects of claims: strength of claims, news value of claims, and language of evaluation. It was aimed to illustrate the language use of rhetorical strategies academic writers employ in order to communicate effectively with their peers and to construct disciplinary knowledge.

四、結果與討論 (Results and Discussions)

types of claims

The quantitative analysis of occurrences of the various types of knowledge claims yields the data shown in Table 1 and Table 2.

Comparing types of knowledge claims, we can find that, in Introduction, almost all articles contain centrality claims and purpose/feature claims (46 and 47 out of 48 RAs) while only 21 RAs (44%) contain value/contribution claims. If we further compare occurrences in the two fields, the occurrences of the first two types of claims are also similar (24 and 22 for centrality claims and 23 and 24 for purpose/feature claims, respectively); however, the occurrences of the value/contribution claims in applied linguistics (AL) are only half of those in computer science (CS), 7 (29%) and 14 (58%) respectively. Further examining the information content of Introduction, we find that in AL, writers seldom report research findings in this section; hence, it seems inappropriate to make value/contribution claims in Introduction.

The occurrences of the three types of claims in Conclusions demonstrate a different pattern. Value/contribution claims (45, 94%) occur much more frequently than the other two types of claims (4 and 23, 8% and 48%, respectively). Moreover, we can observe that centrality claims rarely occur in Conclusions (only 4 out of 48). This is reasonable since the discourse function of Conclusions is to stress the value and contribution of research results and findings rather than the importance of the research topic, which should have been articulated in the beginning of the research article, that is, in Introduction. Then, comparing the two fields, we observe great difference in the occurrences of purpose/feature claims in this section, 6 and 17 for AL and CS, respectively. We think this may result from the professional conventions of the two disciplines. Research articles in engineering tend to summarize what they have accomplished at the beginning of Conclusions; in other words, there may be a convention to construct Conclusions as a section providing concise but complete information about the study. In contrast, in AL, Conclusions often begins with a discussion of the research results, such as pedagogical implications.

Table 1 Occurrences of Knowledge Claims in Introduction

Journal/ claim	Centrality	Purpose/ feature	Value/ contribution
Journal A	12	12	4
Journal B	12	11	3
Subtotal (AL)	24	23	7
Journal C	11	12	8
Journal D	11	12	6
Subtotal (CS)	22	24	14
Total (N=48)	46	47	21

Table 2 Occurrences of Knowledge Claims in Conclusions

Journal/ claim	Centrality	Purpose/ feature	Value/ contribution
Journal A	1	4	11
Journal B	0	2	10
Subtotal (AL)	1	6	21
Journal C	1	6	12
Journal D	2	11	12
Subtotal (CS)	3	17	24
Total (N=48)	4	23	45

Journal A: *English for Specific Purposes*

Journal B: *TESOL Quarterly*

Journal C: *IEEE Transactions on Pattern Analysis and Machine Intelligence*

Journal D: *IEEE Transactions on Computers*

The results from our quantitative analysis, therefore, suggest possible links between type of claim, discourse functions of different sections of research articles, and disciplinary conventions.

It is also of interest to examine how different discourse functions of sections influence the representation of knowledge claims. Following is an example of different purpose/feature claims in Introduction and Conclusions of the same paper:

(Introduction) In this paper, we propose an al-

ternative register addressing mechanism which can be integrated into existing instruction set architectures with minimal modification while alleviating the register pressure and register naming issues that are inherent in SP.

(Conclusions) In this paper, we have introduced the RQ technique, which limits architected register pressure and code size increases from software pipeline schedules by combining a modification to the architecture and microarchitecture of a processor with a modified register allocation algorithm in the compiler. (COM2001-3)

We can observe that in Conclusions, the claim is more specific and incorporates the method and results of research. In fact, the purpose/feature claim in Conclusions stresses what has been specifically accomplished (Note the use of the present perfect tense), while in Introduction, the claim-making is more geared towards a general introduction of the focus of research (in this example, a mechanism and its possible use and function.) (Note the use of the simple present tense). Centrality claims as well as value/contribution claims in the two sections also show difference linked to their respective discourse functions, as illustrated in the following examples:

Centrality claims:

(Introduction) One of the most critical design objectives for wearable computers is battery lifetime maximization.

(Conclusions) Battery management is a promising approach to extend the lifetime of portable electronic appliances. This is particularly true when the devices are equipped with multibattery power supplies. (COM 2003-3)

Value/contribution claims:

(Introduction) CTEC is an effective solution to the problem.

(Conclusions) CTEC will be very beneficial in reducing message losses when a system experiences a transient overload. (COM2001-4)

Again, in contrast to the short but strong announcement of a “critical” research objective in Introduction, centrality claim in Conclusions reconfirms the importance of the research topic, supported with specifics from research (“This is particularly true when....”). The examples of value/contribution claim also reveal that the claim in Introduction is made in more general terms, while in Con-

clusions specific advantage or benefit is indicated; in other words, it is more specific and data-supported.

knowledge claims in different disciplines

As mentioned previously, we wondered whether knowledge claims reflect disciplinary values. Therefore, we attempted a content analysis of each type of claims in the two disciplines in concern and made a comparison. We found:

Centrality claims

The nature of centrality claims in the two disciplines is similar. The claims can be positive, negative, or combining positive with negative. Correspondingly, there are three types of representation: indicating importance or popularity, indicating difficulty or lack of attention, and indicating importance or popularity followed by indicating a gap:

(Positive-AL) Verbal interaction **has long been seen as important** to second language acquisition (SLA). (TESOL2001-2)

(Positive-CS) Built-in-self-test (BIST) **has been widely adopted** in the industry at the board level and **is gaining increasing acceptance** at the IC level. (COM2003-1)

(Negative-AL) ...the vexed topic of self-mention **has received considerably less attention**. This issue **remains a perennial problem** for students, teachers, and experienced writers alike, (ESP2001-2)

(Negative-CS) ...**relatively little effort** has been put into problems that may arise during (COM2001-4)

(Positive and negative-AL) Literature on the study of the research article ... **is very rich and covers a wide range of topics**, though, to our knowledge, **little attention has been paid** to ... the presence of adjectives in this type of discourse.... (ESP2002-2)

(Positive and negative-CS) **Despite the popularity** in word recognition, the lexicon-driven approach **was not paid much attention** to.... (PAT2002-1)

However, we find slight difference in that in CS, centrality claims are often made by indicating specific merits or uses of the proposed research method, design, etc., while in AL, the claims more often focus on the importance or popularity of the research topic. For example,

(CS) Diagnosing the interconnects on a printed

circuit board is an important procedure in the boundary scan architecture standard. (COM2003-2)

(AL) Corrective feedback has recently gained prominence in studies of ESL and other L2 education contexts,.... (TESOL2002-4)

Purpose/feature claims

Purpose/feature claims in the two disciplines reveal their different research nature. What is presented or proposed in CS is a method, system, framework, mechanism, or scheme, while the focus of research in AL seems more varied; for example, to analyze error treatment process, to identify the moves and strategies of a genre, to apply a moves-based analysis to a genre-specific corpus, to examine how meaning is negotiated in two types of interactions, to name just a few.

Value/contribution claims

Quantitatively, value/contribution claims occur more frequently in CS articles than in AL articles, especially in Introduction, 14 and 7 respectively. With respect to the content of claims, it seems that the claims in CS articles are geared towards the practical merits of the results, emphasizing effectiveness, efficiency, time reduction, performance improvement, and other concrete advantages, and often being realized in such lexical phrases as *significantly reduce, enable more aggressive implementation of, will be very beneficial in, outperform, be more effective than, exhibit markedly better performance, achieve a high (recognition) rate*; in contrast, value/contribution claims in AL articles usually focus on conceptual values such as *offer some insights, raise issues about, have important implications, lend support to theories, provide valuable information*, or demonstrate the importance of the research topic or investigation per se such as *suggest areas where particular attention might be needed, undoubtedly throw new light on the discussion of, call into question, issues worth addressing and exploring*. Moreover, it seems hedges, such as *hopefully, relatively, likely, suggest, seem, might*, are more often used in value/contribution claims in AL articles than in CS articles to show tentativeness and modesty.

linguistic realization of knowledge claims

The linguistic realizations of the three types of knowledge claims were identified and collected. Then we tried to look for recurrent lexico-grammatical features or structural patterns in relation to the nature of each type of claims. We found:

Centrality claims

a. Lexis, particularly adjectives, indicating centrality and usefulness: *important, key, decisive, critical, crucial, beneficial, essential, useful, significant, meaningful, indispensable, promising, pivotal, valuable*, etc.

b. Verbal phrases indicating popularity, influence, or trend: *have strong influence on, have recently gained prominence, have received extensive attention, become the focus of research, have been most studied, (there) have been considerable interest, have flourished, become the center of attention, have been the subject of contemporary research, is gaining increasing acceptance, have been widely adopted*, etc.

c. Lexis or phrases indicating difficulty, problem, or neglect: *challenging, impossible, little effort, hard, less regard, little/less attention, a perennial problem, little research, only a few studies, virtually no published research, apparent neglect, incomplete, under-researched, little described, severe handicap*, etc.

d. Transition words/phrases indicating a gap (This occurs in claims combining positive with negative representation.): however, despite, though, in contrast to, in view of, etc.

Purpose/feature claims

Similar to Myers (1992), it was found purpose claims are most often realized by the following pattern:

In this paper, we present ... for (gerund) / to (verb) / that (clause)....

Five other patterns also occur often in our corpus:

- a. *The purpose of the study is to (verb)....*
- b. *This study is aimed at/proposes/focuses on*
- c. *....is proposed in this study.*
- d. *To (verb) ..., the study proposes....*
- e. *The proposed ... aims at...*

We can observe the use of infinitives to express the purpose or aim of research. In addition, verbs used in these patterns range widely, highlighting the research focus: *present, propose, report, introduce, describe, illustrate, examine, explore, investigate*, etc.

Value/contribution claims

As value or contribution is often represented as the result of comparison with other studies, comparatives and superlatives are very often used in value/contribution claims:

RQ thus enables **more aggressive** implementation of software pipelining. (COM2001-3)

The proposed tracker has proven to be efficient and qualitatively **best**. (PAT2001-4)

In addition, strong, positive verbs, adjectives and nouns, such as *improve, outperform, enable, achieve, facilitate* (verbs), *efficient, novel, satisfactory, successful, superior, valuable, flexible* (adjectives) *advantage, contribution, benefit, value* (nouns) are used for promotional purposes.

strength of claims, news value of claims, and language of evaluation

As indicated earlier, the strength, news value, and language of evaluation reflected or embedded in claims are highly sophisticated rhetoric which has great impact on whether these claims as well as the research articles can be accepted. In the present study, we attempt to focus on their linguistic realizations and the specific discourse contexts they occur.

Strength of claims

Although researchers must make their claims as strongly as they can so as to show the significance of their research and in turn position themselves in an academic field, they must also mitigate the face-threatening effect caused by their strong claims on their peer researchers (Myers 1989). As a result, hedges, by marking claims as provisional, are one of the commonly used politeness strategies to minimize the threat and solicit acceptance (Hyland 1997):

The findings **suggest** that there is indeed significant variation across genres, and in particular, be-

tween the written and spoken genres. (ESP2001-4)

It **potentially** can substantially reduce the number of tests. (COM2003-2)

Stronger claims, however, were also found in the corpus. They are often realized by verbs, adjectives, or adverbs highlighting prestige of the proposed claim, particularly over existing claims:

Experimental results show that RQ method **significantly** reduces both the architected register and the code size requirements of software pipelined loops. (COM2001-3)

The way the proposed algorithm handles detection errors and occlusion turned out to be **effective** and **more accurate than** the other described algorithms. (PAT2001-4)

News value of claims

As Bazerman (1988: 308) argued, “scientific communities are by their nature committed to new formulations, new knowledge.” Berkenkotter and Huckin (1995) also found all seven scientists in their study displayed a scanning and reading pattern dominated by the search for new information. The news value of claims are realized by indicating the creative and novel nature of the research approach and design, or the promising or applicable nature of the results. For example,

This paper describes a combination of **novel approaches** to fingerprint classification using the Henry system. (PAT2001-1)

Battery management is **a promising approach** to extend the lifetime of portable electronic appliances. (COM2003-3)

This study represents **a first attempt** at gathering data pertaining to the question of (TESOL2002-2)

Language of evaluation

Language of evaluation in claims allows the writer to express attitudes towards propositions and disciplinary values. Since academic knowledge is cumulative in nature, the making of claims is aimed at superseding previous or existing knowledge by announcing the news value or better value of the proposed claims. The language of evaluation can range from the explicit to the implicit. Those in the scientific disciplines such as CS are often at the more explicit side, while those in the humanities and social sciences such as AL are generally more implicit. For

example, the differential between the proposed and the existing claims can be clearly noted in a research article in CS below:

(The existing claim) This approach **incurs an excessive runtime overhead** if implemented in software. (COM2001-4)

(The proposed claims) CTEC is **an effective solution to the problem**, while incurring little runtime overhead. (COM2001-4)

Two examples from research articles in AL show the more implicit language of evaluation:

Perhaps surprisingly, the vexed topic of self-mention **has received considerably less attention**. (ESP2001-2)

We hope our **preliminary study will contribute to a better understanding** of the role of adjectives in research articles.... (ESP2002-2)

四、計畫成果自評 (Self-evaluation)

This study explores knowledge claims in published academic research articles in two disciplines. Rhetorically, knowledge claims are divided into three types: centrality claims, purpose and feature claims, and value and contribution claims. Both quantitative and qualitative analysis are employed to examine the frequency, distribution, nature, linguistic realization, strength of claims, news value of claims, and language of evaluation. The three types of claims in Introduction and Conclusions of the research articles as well as in the two disciplines are also compared.

We focus our analysis on the linguistic realizations of each type of claims and the relationship among forms of claims, discourse functions, and disciplinary values. We also examine carefully the discourse contexts of claims so as to explicate claim-making behavior from the sociological perspective.

Results from quantitative analysis show that occurrences of each type of claims are related to the discourse functions of Introduction and Conclusions sections in the research article. The nature as well as realization of each type of claims can also be associated with the discourse contexts. Qualitative analysis reveals considerable subtlety in both similarities and differences between the claims in the two disciplines examined. Re-

current lexico-grammatical features or structural patterns in relation to each type of claims are also identified. Analysis of the strength, news value, and language of evaluation identifies expressions used for both strong and modest claims, new knowledge, and implicit and explicit language of evaluation. These results provide useful information and data for academic writing pedagogy, particularly for non-native writers.

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(As a result of the limitation of space in this report, source texts are not listed here.)

