

Journal of English language
Teaching and Learning
University of Tabriz
Volume 12, Issue 25, (Spring & Summer 2020)

Transforming textual meaning during the revision process of research articles written by Iranian scholars*

Mahmood Maniati**

Assistant professor, Ahvaz Jundishapur University of Medical Sciences.

Alireza Jalilifar***

Professor, Department of English Language and Literature, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Amir Mashhadi** (Corresponding Author)**

Assistant professor, Department of English Language and Literature, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Mahmood Validi*****

Assistant professor, Department of English Language and Literature, Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Abstract

Publishing in English has brought about great difficulties for scholars whose first language is not English. After submitting their manuscripts to English-language journals, they usually receive comments from the reviewers on the quality of their English. One of these challenges is how links and transitions are managed in the flow of discourse. The present study aimed to investigate how the successfully revised text differs from its originally submitted counterpart within the framework of systemic functional linguistics. Based on our examination of the revisions made to our corpus, the increased use of marked theme is believed to contribute significantly to textual cohesion and coherence, and thereby to the achievement of the writer's argument. This would contribute to transforming a relatively immature and unpublishable piece of writing into a well-crafted and mature version. However, this is a necessary but not a sufficient condition for the texts to be published.

Keywords: Manuscripts revision; Scholarly publication; Academic discourse; Textual Meaning; Theme; Systemic Functional Linguistics

*Received date: 2020/01/02

Accepted date: 2020/06/01

**E-mail: maniatim@yahoo.com

***E-mail: ar.jalilifar@gmail.com

****E-mail: Mashhadi.scu@gmail.com

*****E-mail: validym@yahoo.com

Introduction

Scholarly publishing in English scientific journals is a complex enterprise which is neither effortlessly achieved nor visibly transparent. Scholars are required to write in such a way that the claim for their findings has an appeal for their readers while it fits effectively within the existing research of the field. It is the responsibility of the journal editor along with journal reviewers and referees to play a crucial gatekeeping role (McGinty, 1999) to determine which manuscripts eventually occupy space for publication, and what revisions are necessary before they are accepted for publication. As far as science production is concerned, non-native English speaking (NNES) scholars have the potential to make contributions that are especially valuable (Flowerdew, 2000). They may bring knowledge and experience from local contexts, contributing to more inclusive theory building. They may draw on a body of literature not published in English that is otherwise inaccessible to the whole world and their multilingual abilities and geographic location may provide alternate avenues of research. In other words, these scholars can potentially make contributions of special significance to the central field.

More often than not, when NNES scholars submit their manuscripts, they are satisfied with the language use. However, revision is prompted because they are later notified by the journal editors that the language is inadequate or awkward. In particular, when these scholars submit their manuscripts to English-language journals, they usually receive comments from the reviewers on their English-language skills besides the revisions suggested on the discipline-specific context. What often causes these scholars to regard writing for publication in English as onerous and challenging is a variety of linguistic challenges to overcome. One of these challenges is how links and transitions in the flow of discourse are managed and scaffolded, how new phases in the discourse are introduced, and how certain meanings are patterned and foregrounded. Within the framework of systemic functional linguistics (SFL), these are discussed under the textual metafunction. In summary, theme analysis seeks to capture the regularity of information flow and

illustrate the ways in which a speaker or writer has organized and packaged a text into “digestible chunks”. (Martin & Rose, 2003; p. 201)

During the revision process, the texts experience some changes. The present study aimed to investigate how the successfully revised text differs from its originally submitted counterpart in terms of the changes happening to the themes of the text. The questions that stand up in the present study are the following:

1. What changes are made in different sections of the manuscripts (i.e., Introduction, Method, Result and Discussion) regarding the thematic configuration of the texts after they are returned by the journals?
2. How are the manuscripts organized, prior to submission and after publication, in terms of *marked* and *unmarked* themes?
3. How are the manuscripts different, prior to submission and after publication, in terms of *textual*, *interpersonal* and *topical* themes?

Review of literature

Simply put, theme is the point of departure in a clause, and it has a crucial role in identifying what the clause is all about. In English, theme is the element that occupies the initial position in the clause, and this positioning is a means of creating meaning. When we analyze the textual meaning embedded in a given text, it is of paramount importance because it is “the consistency of thematic choices, or disruptions to an established pattern, that creates textual significance” (Ravelli, 2000, p. 57). The main analytical tool for the analysis of theme is the identification of thematic patterns at both clausal and textual levels. Therefore, we will briefly discuss different types of themes in the following section.

Textual, interpersonal and topical themes

According to Martin, Matthiessen and Painter (1997), “the clause can be contextualized in terms of all three of its metafunctional perspectives - textually, interpersonally, and ideationally” (p. 22). Therefore, we can consider three types of theme for a clause, namely *textual* (from a textual perspective), *interpersonal* (from an interpersonal perspective), and *topical* (from an experiential perspective). Textual Themes “give

thematic prominence to textual elements with a linking function” (Martin et al., 1997, p. 25). While textual themes typically appear at the beginning of the theme to provide a clear connection between clauses, interpersonal themes are employed to show the kinds of interaction taking place between the addresser and the addressee, or the positions they occupy relative to one another. Topical Themes are, however, the first element of the experiential information in the clause. To Halliday, “the clause still lacks an anchorage in the realm of experience” (1994, p. 53) if this last constituent does not appear. Experiential elements “are the elements where there is maximum choice as to order” (Eggins, 2004, p. 307). In terms of the transitivity functions (which are concerned with exploring how language construes our experience of the world around us), a topical Theme can be a “participant”, a “circumstance”, or a “process”. As a result, a topical theme can generally be realized as a nominal group, an adverbial group or a prepositional phrase, or a verbal group. Although the typical order of theme elements is textual-interpersonal-topical, in case all three themes appear, the latter theme does not need to be preceded by textual or interpersonal themes since these two types of themes are optional. The following example illustrates the typical order in clause with a multiple theme structure:

<i>However</i>	<i>it is fortunate that</i>	<i><u>studies</u> on X have gained a momentum.</i>
Textual	Interpersonal	Topical

Among these three types of Themes, the topical Theme is the most important and has received extensive research attention (e.g., Hawes & Thomas, 2012; Martin, 1995; Martinez, 2003; Wei, 2016; Whittaker, 1995). In order for writers to organize text information flow, topical Themes need to be carefully selected. In fact, the method of developing topical themes contributes to a successful text. Topical Themes serve to orient the reader to what the text is about. They also signpost where the information has come from and where it is going. In a successful text,

the choice of Theme for each clause generally relates to the writer's plan in developing information as the text unfolds (Hoey, 2009).

Marked vs. unmarked Theme

Themes can be marked or unmarked. Halliday considers unmarked Theme as the default choice in which case the Subject is usually "chosen as Theme unless there is a good reason for choosing something else" (1994, p. 4). He further defines marked Theme as "a Theme that is something other than the Subject". It can be any ideational realization which is not the Subject but is chosen to be in the initial position. Butt, Fahey, Feez, Spinks, and Yallop (2000) define marked Themes as "the resource speakers and writers use to foreground, for example, manner, condition or cause." (p. 153). By contrast, a Theme is unmarked when meaning is structured in a predictable way. For example, it is a predictable pattern to begin a declarative clause with Subject. In other words, when there is a conflation of the topical Theme with Subject in a declarative clause, the Theme choice receives no special prominence. Therefore, "unmarked topical Themes are the subject in declarative clauses, the finite in questions, the predicator in imperatives, and the Wh- element in Wh-interrogative clauses." (Martinez, 2003, p. 106) When the pattern counters expectations, however, the meaning is marked: certain elements of a clause stand out, calling attention to themselves. For example, when the topical Theme of a declarative clause is a circumstantial element (such as of place or time) or a participant that is not mapped onto the Subject, "it gains a greater textual prominence" (Martin et al., 1997, p. 24).

As language is a tool for meaning making, the writer may also choose to use marked themes to serve a particular purpose. In everyday texts, a marked Theme can be used to signal discontinuity as the writer shifts from one move in an activity sequence to the next (Martin & Rose 2007, p. 35). Marked themes can also be employed to "signal new phases in a discourse: a new setting in time, or a shift in major participants; that is, they function to scaffold discontinuity" (Martin & Rose 2007, p.192). However, in highly valued expository texts, such

discontinuity occurs in the way that “the text’s register, genre, and consequently its theme” are established (Couture, 1985, p.81).

In certain situations, choosing a marked theme with a clear direct reference proves effective. For instance, after explaining a concept, the whole concept can be packed as a nominal element and made thematic to explicitly foreground it.

Studies on thematic choice in academic writing

Studies have illustrated the effectiveness of theme analysis as a tool to decide whether a piece of writing is coherent or not (Bloor & Bloor, 1992; Christie & Dreyfus, 2007; Schleppegrell, 2004, 2009; Vande Kopple, 1991; Wang, 2007; Wei, 2016). The importance of thematic choice in academic writing in general and research articles in particular has been acknowledged since the past three decades. (e.g., Hawes & Thomas, 2012; Martin, 1995; Martinez, 2003; Wei, 2016; Whittaker, 1995). Ventola and Mauranen (1991), for example, studied Finnish EFL researchers’ academic articles from different fields. They noticed that the texts of Finnish writers differed from those whose native language was English with respect to thematic patterns: The English texts in the former group showed less thematic pattern variation compared to the texts produced by the latter group. Additionally, Finnish writers were found to have employed fewer textual themes and have provided less lexical cohesion between themes. The researchers, however, pointed to the fact that it was difficult to know whether the perceived differences were to be attributed to L1 transfer or cultural differences.

In the context of Iran, Jalilifar (2010) used Halliday’s (1985) categorization of themes as well as the revised model of TP patterns proposed by McCabe (1999) to compare different thematic choices and TP patterns employed in the four rhetorical sections of *Introduction, Methods, Results, and Discussion* (IMRD) in *ELT*, an international journal, and *Roshd*, a local, peer-reviewed journal. The study revealed that different types of Theme and TP patterns were employed similarly in both journals, which could be attributed to the shared genre. The author, however, found that the two journals were significantly different in the number and the context of the usage of various TP

patterns in the introduction and the results and discussion sections. This finding served to indicate the descriptive nature of *Roshd* and the argumentative nature of *ELT*. The results also highlighted the fact that the writers of *ELT* articles needed to be informed of the crucial role of thematic organization when contributing to this journal.

In another study, Ebrahimi and Khedri (2011) explored the ways thematic structures were utilized in research article abstracts by writers from different disciplines in different academic discourse communities when they were contributing their new knowledge in this section of their articles. The researchers applied Halliday's (1994) model of thematic organization and McCabe's (1999) revised model of thematic progression patterns to their corpus consisting of ten abstracts from the two disciplines of Chemical Engineering and Applied Linguistics (five from each) with the aim of identifying the possible similarities and differences between these two disciplines in terms of thematic selection. Based on their findings, academic research article abstracts were found to be shaped by their disciplinary background.

These studies suggest that NNES scholars publishing in English may have acquired how to use themes to produce coherent discourse. However, they tell us nothing about whether these thematic choices are made first-hand by the writers themselves prior to submitting their manuscripts to journals or they are shaped and generated by the revision process during which changes are made to the language of the manuscript in addition to those made to the content. In fact, the published paper cannot be seen merely as "a multilayered hybrid co-produced by the authors and by members of the audience to which it is directed" as admitted by Knorr-Cetina (1981, p. 106). Rather, there are a number of individuals collectively termed *shapers* (Burrough-Boenisch, 2003) of the research article which have a decisive role, one way or another, in bringing the texts into line with the linguistic and genre conventions of the discourse communities in which the NNES scholars seek publication. Therefore, the present study is concerned with the changes made to the manuscripts from the standpoint of thematic choice. It is both descriptive and diagnostic. As a descriptive

research, it is concerned with describing the characteristics of the textual alterations as far as thematic structure is concerned. Meanwhile, relying on its diagnostic research design, it determines the frequency with which thematic changes occur during the revision process.

Methodology

Design

We collected two types of texts, namely those manuscripts which were written by Iranian scholars and sent to international English journals but needed major revisions in terms of their English and their revised finally-published versions of their research articles. We call the former *prior to submission* (PS) texts and the latter *after publication* (AP) texts. Two types of analysis were performed on these texts: a quantitative and a qualitative analysis. In the former, we looked for the percentages and frequencies of textual, interpersonal, topical and multiple themes on the one hand, and marked vs. unmarked themes on the other across the four rhetorical sections of *Introduction, Methods, Results, and Discussion* (i.e., IMRD) in the PS and AP texts. A comparison and contrast of these frequencies was conducted in the next stage, to find out what types of thematic changes are more common and whether or not the differences between the frequencies of different types of themes in the PS and AP texts are significant. The researchers also kept in mind Ravelli's (2000, p. 29) caution that: "There is nothing intrinsically valuable in being able to identify a constituent [of the lexicogrammar] for its own sake". Therefore, our qualitative analysis, which aimed at complementing the quantitative analysis, was performed on one-third of the whole corpus (i.e., 20 articles). During this analysis, the revised clauses in AP texts with their unrevised counterparts (PS texts) were compared to reveal the nature of the transformations the themes underwent in different rhetorical sections of the RAs. The texts were compared again to see what is achieved during the revision that makes the text publishable. In short, while the quantitative analysis aimed at answering questions regarding *what* and *how much* of the thematic changes, the qualitative analysis was concerned with *how* and *why* of these changes.

Pilot study

To see whether the methodology was appropriate with regard to the employed analytical tools, the disciplines in which the articles were published, the number of manuscripts to be finally analyzed, the number of scholars to be interviewed, and the time limits, a pilot study was conducted on 5 manuscripts in this phase of the study. The results of the pilot study, which lasted three months, were very illuminating and helped us on making decisions regarding the following issues:

1. Disciplines: the general disciplines in which Iranian scholars are actively publishing in English were found to be Sciences and Medical Sciences. This is confirmed by studies dealing with Iran's international scientific publication. (see Kharabaf & Abdollahi, 2012)
2. The number of manuscripts and time limits: since this study was part of a PhD dissertation, one major setback was the time needed to allocate for data collection and analysis; therefore, deciding on the number of manuscripts to be collected and analyzed was tremendously critical. Due to the very incommensurable nature of data collection in this study (the only way you can have access to the manuscripts is through finding their authors and convincing them for cooperation) and the large number of data to be analyzed (unlike typical studies conducted on research article which usually deal with the Introduction and Discussion sections, our study involved the entire article), the researchers decided to collect 60 manuscripts. (30 from each general discipline)
3. Analytical tools: our analysis of the pilot data showed that the frameworks adopted (i.e., SFL) provided robust tools for the certain lines of inquiry we aimed to focus on.
4. Focus of analysis: since analyzing all elements of the three metafunctions was neither practical nor constructive, we limited the elements only to those which had an acceptable frequency of occurrence in the revised texts.

It should be noted that the collection of the manuscripts followed purposive sampling in order to select an equal number of texts from the two general disciplines. Purposive sampling was based on our knowledge of the manuscripts and the purpose of the study. According to Maxwell (1996), purposeful sampling is used when particular settings and persons are selected deliberately to provide important information that cannot be gathered as efficiently from other sources. This purposeful sampling accomplishes two goals. First, it allows for a case-oriented approach where each case is examined, then “configurations *within* each case [are teased out] . . . Case-oriented analysis is good at finding specific, concrete, historically grounded patterns common to a small set of cases” (Huberman & Miles, 1998, p. 195). Second, purposeful sampling of cases allows for “particular comparisons to illuminate the reasons for differences” (Maxwell, 1996, p. 72).

Data collection

Since the rate and number of English publications of Iranian scholars in the fields of Social Sciences, Arts, and Humanities are proportionally less than those of Iranian scholars in medical sciences, we decided to narrow the scope of our study to only manuscripts from the fields of Sciences and Medical Sciences. In this regard, the following text samples were collected to help the researchers find out what linguistic changes Iranian scholars make to their initially rejected manuscripts:

1. The manuscript originally submitted to an ISI journal with a fairly accepted Impact Factor¹ in the discipline in which the scholar practices
2. The published article
3. Correspondence from the journal editor pointing to the problematic language used in the originally submitted manuscript (This may require the writers to have the manuscript reviewed by a native speaker or, more simply, ask them to improve the language usage, indicating that it was not written in compliance with the standards of the journal editor.)

Due to the fact that access to the original manuscripts and the scholars' correspondence was not possible (Swales calls them *occluded* genres, 1996, p. 45), these were collected through different ways explained below.

- **Archives of editing associations**

To collect the data required for the very purpose of the study, the researchers initially considered editing associations as the best places from which prospective authors of manuscripts tend to receive editing and revising services. A quick browse on the websites active in providing such services dawned on us that offering services for publishing in English in Iran has become a thriving business for many associations claiming to offer services such as editing, paraphrasing (to get plagiarism around!), submitting manuscripts and even guaranteeing their publication in an ISI journal at competitive prices. Yet, no helping hand was lent upon our emails and snail mail letters. Although the researchers plainly informed the associations that no part of the manuscripts whatsoever would be published and that any references made to the manuscripts would be made in complete anonymity, they refused to play a part, reminding us of the very basic principle in academic codes of conduct, namely ethical concerns! Their decline, which could possibly be attributed to the fact that the results of studies such as ours would run counter to their benefits and cause their business to slack off, left us no choice but to seek help from the authors themselves in order to rule out the lame excuse of violating ethical concerns. However, by informing us about the fields of studies they received the largest number of submissions (i.e., Sciences and Medical Sciences), they helped us in determining the fields of studies to be examined in the current study.

- **Cell phones and emails**

In an attempt to access the manuscripts written by Iranian scholars initially rejected by English journals, we looked into the directories of prestigious and comprehensive online scientific databases such as ScienceDirect, ProQuest, etc. In so doing, some typical Iranian last names such as Ahmadi, Akbari, and Mohammadi, to name a few, with

their latest publications in any of the disciplines were searched. Of course, the researchers discarded away both the articles which had a non-Iranian co-author and the ones in which the affiliation of even one author was to a non-Iranian university. The cell phone and/or the email address of the contributors were thus obtained via searching the databases. After collecting a fairly enough number of phone numbers and email addresses, phone calls or email contacts were made and the authors were requested for their cooperation if their article met our criteria. Even though a great number of phone calls were made and a lot of emails were sent out, and despite the fact that they made promises of cooperation, a vast majority of the contacted authors did not cooperate as they had promised on their phones or in their email messages. Resultantly, the number of manuscripts collected in this way was far from our expectation, persuading us to resort to the traditional, yet more effective, technique of making personal contacts.

- **Personal contacts**

Opting for this last choice, and for one thing, invitation letters were sent to different departments of Shahid Chamran University and Ahvaz Jundishapur University of Medical Sciences, informing them of the significance of the study. Alternatively, the researchers went to the authors' offices, informed them of the purposes and the probable outcomes of the study, and requested their participation. This method proved to be the most fruitful in spite of the painstaking nature of such endeavors and the occasional cold shoulders given by the participants.

Finally, 60 manuscripts totaling 271320 words (discarding the appendices and reference) published in 41 journals from January 2011 to March 2014 were collected. Our analysis of the transitivity system of the texts involved counting the number and type of themes across the different rhetorical sections of the PS and AP RAs. The PS and AP texts included 15375 and 12243 T-units respectively, and there is no wonder that such difference was found between the number of T-units since manuscripts undergoing the revision process are usually to additions and omissions. These transformations are due to either the content of the text or its lexicogrammatical features. Understandably, we tracked

only those changes that were related to the lexicogrammatical features, and since the number of T-units in the two text sets were different, we normalized them by multiplying the quantities of PS texts into 0.79.

Data analysis

- **Quantitative analysis**

Although the Introduction and Discussion sections have been said to be potentially more significant for linguistic analysis and more difficult to write (Bahrami & Riazi, 2009; Feldman, 2004; Flowerdew, 1999a; Gosden, 1995; St. John, 1987; Swales & Feak, 1994), we analyzed all the four sections of research articles, namely Introduction, Methods, Results and Discussion in order to obtain a more comprehensive picture of the writing problems of the scholars as well as to test the possibility of challenging the speculations raised by these authors.

Our analysis involved observing the reshuffling of technical details and the rhetorical machining of discourse structure, principally by means of thematic (theme-rheme) and information (given-new) structures, and cohesive relations. The clause constituents that we identified included the *topical* or *experiential* element (which is obligatory), and the *interpersonal* and *textual* elements (which are optional). We also looked for clauses that might have a *multiple* theme structure, containing a sequence of themes. Finally, the texts were analyzed in terms of marked or unmarked themes. We relied on Butt *et al.*'s (2000) definition of marked themes which are "the resource speakers and writers use to foreground, for example, manner, condition or cause." (p. 153). Contrary to this, a theme is unmarked when meaning is structured in a predictable way.

It should be noted that in our analysis of the textual metafunction, our unit of analysis was no longer the clause since the majority of functionalists analyze Theme at the level of the T-unit which is "an independent conjoinable clause complex". (Fries, 1995, p. 49). The method of theme identification for T-units is explained here:

In analysis based on the independent conjoinable clause complex, paratactically related clauses are each analyzed for an ideational

Theme, while in the case of hypotaxis, only one Theme is analyzed for the whole of the clause complex. If the/a dependent clause comes first, this is taken to be the Theme of the entire clause complex. If the independent clause comes first, then the first ideational element of that clause is understood to be the Theme, with the rest of that clause and any other subsequent dependent clauses forming the Rheme. (McCabe, 1999, pp. 70-71)

The systemic-functional network of textual revisions as mentioned above was applied to our corpus. However, to deal with the subjectivity issue, the Introduction and Discussion sections of 20 percent of the corpus were randomly selected and analyzed by one of the researchers of the study. The analysis of the same sub-part was conducted again with an interval of more than one month. Regarding the inter-rater reliability issue, two PhD students of TEFL with several years of experience in revising English articles written by Iranian scholars were asked to analyze the same article sections and categorize the errors based on the definitions given above. A further step to enhance the validity of the data was the recoding of the process types of 20 percent of the sample after some one-month interval. A Kappa coefficient (k) of 0.905 showed the agreement between the initial coding and second coding of the corpus.

Both descriptive and inferential statistics were employed to analyze the data (via frequency tables) and to show the significance of any possible differences based on the frequency tables, respectively. This stage involved using the Chi-square test to see whether there were any possible significant differences among the variables.

- **Qualitative textual analysis**

The purpose of the qualitative analysis was to better illustrate the nature of the thematic changes to the texts from PS to AP. This data analysis comprised four actual sample sections of the RAs -IMRD- focusing on different types of themes change in clauses of PS texts as compared with their AP counterparts. The comparison for this phase of the study was again T-unit by T-unit.

Results

Revisions made at the stratum of the textual metafunction were such that the use of unmarked themes was significantly reduced in the AP texts. Furthermore, multiple themes were more common in AP texts as compared with their counterparts in PS texts. This allowed the authors to make use of the thematic potential of the clause for means other than topic maintenance— typically via the use of a conjunctive (e.g. *therefore*) followed by a marked element.

Marked vs. unmarked

In analyzing the textual metafunction of the two texts, the changes from PS texts to AP texts can be observed principally in the light of markedness of themes. “Unmarked topical Themes are the subject in declarative clauses, the finite in questions, the predicator in imperatives and the Wh- element in Wh-interrogative clauses.” (Martinez, 2003, p. 106) When the pattern is counter to expectations, however, the meaning is marked: certain elements of a clause stand out, calling attention to themselves.

Our results showed that PS texts had more unmarked themes than did AP texts. The percentage of the unmarked themes was about a third (36.74%) in AP texts while that of the marked themes is practically two-thirds (63.26%) in the same AP texts. However, in PS texts, the gap between the marked vs. unmarked themes was not so wide (47.52% unmarked vs. 52.48% marked)

Table 1. The distribution of (un)marked themes in different sections of the PS RAs

	Introducti on	Meth od	Resul ts	Discussi on	Total	(%)
Unmark ed	1492.31	1139.1 8	1217. 39	1922.07	5770.	47.5 2
Marked	1190.53	1789.3 5	1276. 64	2117.99	6374.	52.4 8

Table 2. The distribution of (un)marked themes in different sections of the AP RAs

	Introducti on	Metho d	Resul ts	Discussi on	Tot al	(%)
Unmark ed	1197	888	1056	1553	449	36.7
Marked	1864	1518	1900	2462	774	63.2
					4	6

In fact, AP texts were dominated by revisions made to include more marked themes. In scientific RA discourse, the marked themes are believed to frequently indicate notions such as validation of internal evidence, (e.g., *as far as the results are concerned*); location in discourse time/space (e.g., *in sum, in Table 4*) and writer viewpoint (e.g., *surprisingly*) to mention only a few (Davies, 1989).

- **Changes to (un)marked themes across IMRD**

The marked themes had a different distribution throughout the revised RAs. For example, marked themes of purpose and time distinguished the Method section from the rest. These themes involved non-finite clauses initiated by “(in order) to + verb, *for the purpose of* + v + ing, or *for* + v + ing. Throughout this study, the extracts presented first (i.e., those whose number is accompanied by letter a) are taken from AP texts followed by those extracted from PS texts (whose number is accompanied by letter b):

(1a) *For the relief of solving the equations, the magnetization curve shown in Fig. 2 is considered.*

(1b) *For the relief of solving the equations; To solve the equations easily, the magnetization curve shown in Fig. 2 is considered.*

Also, the marked thematic structure in the Methods section was used to describe methodological instruments yielding a particular set of results, or a statistical procedure applied to a particular set of data, or the location of tables or graphs where results are displayed.

However, in the Discussion the marked themes in the revised submission included conjunctive adjuncts (e.g., *briefly, however, moreover, therefore, likewise*), modal adjuncts (e.g., *certainly, evidently, unfortunately*) and coordinating conjunctions (e.g., *but, for, and, yet, nor, so*). Consider the following example,

(2a) *While in the case of MV's, C/C_0 decreased from 0.307 to 0.07 (Fig 10).*

(2b) *~~While-However, in the case of MV's,~~ C/C_0 decreased from 0.307 to 0.07 ~~in the case of MV's,~~ (Fig 10).*

This is one common change in the textual themes wherein one coordinating conjunction like *so, and, and but* is replaced with its equivalent conjunctive adverbs.

The changes in thematic choice in terms of markedness in the Introduction and Results sections mainly involved the changes in citation or the circumstances of angle (e.g., *according to Johnson, in her classic critique of*), simple prepositional phrases with optional modification (e.g., *in this paper, among these techniques, from these results, after a two-month period*) and complex prepositional and adverbial phrases (e.g., *because of the consequences, in the case of $M = 23.3$, in light of these results*).

(3a) *In this paper, at first, a new model for investigating the ultra-saturation phenomenon during the unload power transformer energization with additional line/ load from the supplying side is presented and its effect on the differential protection of the power transformer is considered.*

(3b) *~~In this-~~ This paper presents, at first, a new model for investigating the ultra-saturation phenomenon during the unload power transformer energization with additional line/ load from the supplying side ~~is presented and considers~~ its effect on the differential protection of the power transformer ~~is considered.~~*

In summary, while changes to the text were minimal, where they do occur, the number of subordinate and phrasal elements is reduced, as is the unmarkedness of the clauses.

Topical, interpersonal and textual themes

There were statistically significant differences in the distribution of the changes made in different types of themes in different sections of the RA. Table 3 depicts in percentage the frequencies of different themes in different sections of PS and AP RAs.

Table 3. The distribution of the multiple themes in different sections of the PS RAs

	Introduction	Method	Results	Discussion	Total
Topical	1152.61	1546.03	1354.06	1656.63	4355.27
Interpersonal + Topical	294.67	63.99	92.43	79.79	530.88
Textual + Topical	1163.67	1320.09	1045.96	2208.05	5737.77
Textual + Interpersonal + Topical	71.10	0.0: 0.0	0.0: 0.0	96.38	167.48

Table 4. The distribution of the multiple themes in different sections of the AP RAs

	Introduction	Method	Results	Discussion	Total	(%)
Topical	768	742	902	1251	3661	29.91
Interpersonal + Topical	350	50	234	263	897	7.33
Textual + Topical	1733	1561	1717	2326	7337	59.94
Textual + Interpersonal + Topical	155	0.0	63	126	344	2.82

As can be observed from these two tables, from PS to AP texts, there is a reduction of topical themes across all sections of the RA while the number of textual + topical themes has increased noticeably. Textual + interpersonal + topical themes had the lowest frequencies in both PS and AP texts with the ones revised in the AP texts outnumbering those in the PS texts. The frequency of interpersonal + topical themes was more than that of textual + interpersonal + topical themes in both PS and AP texts, but the frequency of these types of themes was far from that of the topical and textual + topical themes again in both PS and AP texts.

- **Changes to topical, interpersonal and textual themes across IMRD**

The Introduction section was the locus of most changes made in the topical and textual + topical themes. For example, one of the common revisions made to the thematic choice in the Introduction section was when the authors intend to establish the context or importance of their topic. For example,

(4a) *One of the false trips of the power transformer differential protection during the unload transformer energization with additional line/ load from the supplying side is Ultra-saturation phenomenon.*

(4b) *Ultra-saturation phenomenon is ~~One~~ of the false trips of the power transformer differential protection during the unload transformer ~~energization with additional line/ load from the supplying side~~ is Ultra saturation phenomenon.*

The topic of this RA which is *ultra-saturation* is immaturely put in the rheme position in the PS text, but it is moved to the beginning of the clause to acquire a topical theme position.

As far as interpersonal + topical themes were concerned, the revisions usually involved adding the conjunctive adverb *however* whenever the gap in the literature was about to be stated or the addition

of the conjunctive adverb *therefore* when the authors intended to indicate the purpose of their study:

(5a) *It has been reported that carbapenem susceptible isolates may have highly similar or different REP pattern from the carbapenem resistant isolates (32).*

(5b) *However, ~~it~~ has been reported that carbapenem susceptible isolates may have highly similar or different REP patterns ~~from compared with~~ the carbapenem resistant isolates (32).*

(6a) *The appropriate diagnosis and healing of these disorders are most important to getting well result in restoring fertility of women.*

(6b) *Therefore, ~~The~~ appropriate diagnosis and healing of these disorders ~~are most important to getting well result~~ ~~can contribute to~~ restoring fertility of women.*

In addition to topical themes, the revisions made to the thematic structure of the Introduction section involved the addition of interpersonal themes such as *to the best of our knowledge, it is unfortunate that, few if any study*, etc. These were used when the authors intended to establish the niche which “is done to provide a context where a particular piece of research makes particularly good sense” (Swales & Feak, 2004, p. 244).

(7a) *There is a paucity of studies regarding the accuracy of ultrasound in detecting inguinal hernia in patients with equivocal features.*

(7b) *It is unfortunate that, ~~There~~ there is a paucity of studies regarding the accuracy of ultrasound in detecting inguinal hernia in patients with equivocal features.*

Also, in those parts of the Introduction where authors intended to establish the territory for their study, one common revision was the addition of comment, or attitude adjuncts. The most frequent mood structures found were *indeed*, *definitely*, *interestingly*, *(un)fortunately*, *significantly*.

(8a) *The promotion of this level of NYRs is becoming more recognized.*

(8b) *Fortunately. The promotion of this level of NYRs is becoming more recognized.*

Time sequence and chronology was the most distinguishing factor of the revisions made in the Methods section, and it is not unusual to find temporal themes here used as external organizers of sequences (Swales, 1990). In fact, the frequent changes made to the thematic structure of the Methods section were either the modification of textual themes that were predominantly external temporal or the movement of a predicated theme.

(9a) *The anomalies were separate from background values and then the mineralized areas were delineated.*

(9b) *In our approach, we used the fractal which is one of the non-linear mathematical methods.*

In the first sentence, the conjunctive adverb *then* was later added while in the second sentence the phrase *in our approach* was moved from the end of the sentence to the beginning.

Another less common revision involved addition of contrast markers (e.g., *although*, *however*, *despite*) whenever there was an unexpected change in this section. This could be the number of subjects, the time period, the materials used, etc.

(10a) *There were subjects of severe ovarian hyper stimulation syndrome (OHSS) in 3 patients in both groups and there was no significant difference (Table 3).*

(10b) *However, ~~There~~ there were subjects of severe ovarian hyper stimulation syndrome (OHSS) in 3 patients in both groups and there was no significant difference (Table 3).*

Unlike the Methods section, the few changes in terms of thematic choice in the Results section involved the topical themes. Topical themes of the Results section mainly included either noun groups related to results (e.g., our results, our data, etc.) or integral pointers (e.g., Fig. 5 graphically represents this). When results contrary to the expectations of the authors were obtained, interpersonal theme (e.g., surprisingly) in form of a comment adjunct were used to signal the unexpectedness of the results.

(11a) *Table 4 illustrates that there is a significant difference ($t = -2.15, p = 0.03$) between the two groups.*

(11b) *Table 4 illustrates that ~~As illustrated in Table 4,~~ there is a significant difference ($t = -2.15, p = 0.03$) between the two groups.*

(12a) *The most striking result to emerge from the data is that in these measures no effect was found on gender.*

(12b) *Surprisingly The most striking result to emerge from the data is that in these measures no effect was found on gender.*

The Discussion section was dominated by changes made to the textual themes which were mostly adversative (e.g., however) or causal (e.g., therefore) themes.

(13a) ...the beneficial effects of X on cardiac hemodynamic were previously reported (14) but, concurrent with these beneficial effects, we demonstrated that X also determines a significant myocardial integrity and function by the simultaneous treatment with the vitamin E by effect on NO levels.

(13b) ...the beneficial effects of X on cardiac hemodynamic were previously reported (14) ~~but,~~ however, ~~concurrent~~ along with these beneficial effects, we demonstrated that X also determines a significant myocardial integrity and function by the simultaneous treatment with the vitamin E by ~~effect~~ affecting on NO levels.

(14a) So, hypothesis 1, which says that faults play an important role in the discrimination of geochemical anomalies and element distributions, was confirmed.

(14b) ~~So~~ Therefore, hypothesis 1, which says that faults play an important role in the discrimination of geochemical anomalies and element distributions, was confirmed.

Finally, the topical themes usually modified in the Discussions included words such as *cause, reason, question, example, way, factor, result*, etc. which Schmid (2000, p. 37) calls “shell” nouns. These nouns tend to sum up a chunk of information by conceptualizing and characterizing its function in the discourse. (Schmid, 2000, p. 14). The function of nominal groups with a shell noun is one of reporting by which the authors present an argument. It is worth noting that the occurrences of these shell nouns do not necessarily report the writer’s arguments, but at times introduce those of other scholars. In fact, they may function as a kind of distancing device through which the writer counter-argues, again revealing the dialogic nature of the Discussion section.

(15a) *Cholesterol, triglyceride, LDL and VLDL in the fructose group significantly increased; however, these effects significantly decreased in the recipient extract groups.*

(15b) *Cholesterol, triglyceride, LDL and VLDL in the fructose group receiving fructose significantly increased; however, these effects significantly decreased in the recipient of extract.*

Discussion

In SFL, language is regarded as a powerful tool for meaning making, and one stratum of this process involves the management of links and transitions in the flow of discourse and the introduction of new phases in the discourse. In scientific writing, this becomes capturing the regularity of information flow in order to organize and package a text into “digestible chunks”. Therefore, writers need to master a range of thematic options and employ them in proportions appropriate to the rhetorical structure of an RA.

The results related to the revisions made to the textual metafunction of the manuscripts give an indication of how a writer rhetorically frames information. It was observed that in terms of (un)markedness, the revisions tended to favor marked themes. This greater use of marked Themes in AP texts reflects the information packaging patterns in scientific writing which typically involves a shared paradigm within which the text moves forward by building on what has come before, which is represented by the greater density of textual/marked Themes that are indicative of its more complex rhetorical structure (Whittaker, 1995, p. 125). The low portion of the marked themes in PS texts shows that Iranian scholars’ writing is less argumentative in nature since choosing a particular degree of markedness not only allows the author to highlight a particular feature, but can also be an important device in constructing a text that is easy to follow.

As earlier stated in the Results section, in scientific RA discourse, the marked themes are employed to fulfill a number of rhetorical functions which are believed to frequently indicate notions such as

validation of internal evidence, (e.g., *as far as the results are concerned*); location in discourse time/space (e.g., *in sum, in Table 4*) and writer viewpoint (e.g., *surprisingly*) to mention only a few (Davies, 1989). The revisions made often at sentence boundaries, usually contributed to the textual organization of the manuscripts, signaling changes and turns in real world and discourse circumstances. Abiding by these internal signals smoothes the information flow of the propositions made in the text and highlights the rhetorical moves as outlined by Swales (1990).

According to Gosden (1992, p. 210), “local thematic choices are very much determined and constrained by the global within-text structuring of the RA genre, and hence are part of a predictable dynamic progression.” This was true with the results of our study. There were statistically significant differences in the distribution of the changes made in different types of themes in different sections of the RA, and this depended on the degree to which one section of RA discourse is more rhetorically multifunctional in nature than another. This appears to be the case with three out of four sections above (i.e. Introduction, Methods and Discussion) wherein a larger usage of marked themes may indicate a writer’s attempts to overtly create a more cohesive text. On the other hand, the lowest percentage of marked themes in the Results section indicates the more reporting nature of the statements made about research findings. As a consequence, considering the rhetorical objectives of the Results section, there are generally fewer topic shifts to indicate and hence fewer examples of marked theme.

As with the distribution of topical, interpersonal and textual themes across different sections of the RA, again it was observed that as discourse proceeds with changing rhetorical goals, the balance between these types of themes varies progressively. For example, in the Introduction section, the presence of interpersonal themes highlights the establishment of the interactivity between the author(s) and the academic community, emphasizing the “dialogic nature of scientific discourse” (Tarantino, 1991, p. 51). In addition, contrast/concession is an important method of development of the Introduction, and therefore

helps create the polarizing tension necessary for writers to set up and achieve certain rhetorical aims (Chafe, 1976; Fries, 1983). In the Introduction section, the marked textual adversative themes were also used as indication of gaps in previous research and implicitly criticizing other poor studies. The Iranian scholars' failure to attend to this rhetorical act could be culturally motivated. The authors may be unwilling to find fault with others' works due to cultural considerations. However, this would diminish an opportunity for them to have an academic social interaction because "knowledge is gained in the process of dialogue not so much between the scientist and nature as between the contending views of one scientist and others". (Taylor & Chen, 1991, p. 331)

The Discussion section was also largely manipulated during the revision process in terms of thematic choice. This section had the highest number of multiple themes which signal a rhetorical effort to persuade the readers (interpersonal themes) and to enhance the logical organization of the text (textual themes). Furthermore, during the revision, there is a move toward more abstract nominalizations, where the function was increased reasoning (reflecting its argumentative nature). Textual themes were used more than interpersonal theme. This could be attributable to the large use of conjunctions, contributions, coordinators and subordinators in the Discussion section functioning as textual theme. Using textual theme makes the text to be argumentative. (Ghadessy, 1999)

The similarity of the Introduction and Discussion section in terms of the thematic choices made therein could be related to their role in the hourglass symmetry of RA discourse. Hill, Soppelsa and West (1982) likened the overall structure of an RA to an hourglass. In the Introduction section, the flow of information is from the presentation of general to specific information while in the Discussion section it is vice versa. Therefore, in both we have a move which involves specificity of information, which is not the case in the Methods or the Results sections. On the other hand, the greater use of interpersonal themes in the Introduction as opposed to the textual themes in the Discussion

reflects the different effect the writers intend to exert upon their readers. In the former, establishing a rapport and common ground with the reader is vital for the later claims to be made while in the latter persuasion of the reader assumes an equal importance.

Conclusion

Findings clearly showed dynamic packaging of information which can be predicted on the basis of the rhetorical goals inherent in each section of RA discourse. Based on our examination of the revisions made to our corpus, the increased use of marked theme is evidently perceived to contribute significantly to textual cohesion and coherence, and thereby to the achievement of a RA writer's argument.

It should also be noted that the alterations made to the texts at the ideational, interpersonal and textual strata are clearly important. They are all done to achieve a voice which is both personal and disciplinary. In fact, RA is a site for knowledge construction which is achieved through the medium of writing, and this process does not occur in a social vacuum and outside particular communities of practice. (Hyland, 2005) The binding factor that brings cohesion to these communities of practice are "a shared set of assumptions and routines about how to collectively deal with and represent their experiences." (p. 191) However, this does not mean that the community in which you are practicing always offers you the ways in which linguistic sources are to be exploited. The disciplinary voice that novice writers should achieve is not granted to them by a set of shared assumptions. It is achieved only through participating in the activities of that community supervised by some powerful old members. Practicing the act of revision is a typical example of practicing in the community of practice through which the NNES scholars, surrounded by the reviewers' comments, acquire a voice that is both personal and disciplinary.

Being a member of a certain disciplinary community requires familiarity with these resources of academic discourse. The scholars' knowledge of these rhetorical devices provides them with the opportunity to meet the needs of their audience. Therefore, the conclusion seems warranted that special attention should be devoted to

the teaching of these resources in the research and ESP courses. No doubt that all these would contribute to transforming a relatively immature unpublishable piece of writing into a well-crafted mature version. Nonetheless, this is a necessary but not a sufficient condition for the texts to be published.

Notes

1. This was confirmed by asking the experts from the different fields of study from which the articles were obtained. In one discipline, for example, 0.7 was fairly acceptable while in another 2 was a modest IF.



References

- Bahrami, A., & Riazi, A. M. (2009). Iranian scholars and scientific publication in English: Attitudes, problems, and strategies. *Teaching English Language and Literature Society of Iran, 11 & 12*, 33-60.
- Burrough-Boenisch, J. (2003). Shapers of published NNS research articles. *Journal of Second Language Writing, 12*, 223-243.
- Butt, D., Fahey, R., Feez, S. Spinks S., & Yallop, C. (2000). *Using functional grammar: An explorer's guide* 2nd edition, National Centre for English Language Teaching and Research, Macquarie University, Sydney.
- Chafe, W. (1976). Givenness, contrastiveness, definiteness, subjects, topics and point of view. In L. Charles (Ed.), *Subject and topic*, (pp. 26-56) New York: Academic.
- Couture, B. (1985). A systemic network for analyzing writing quality. In J. Benson & W. Greaves (Eds) *Systemic perspectives on discourse*, (pp. 67–87). Norwood, NJ: Albex.
- Davies, F. (1989). Developing competence in academic discourse: The role of language awareness (ELU Working Paper No. 1). Liverpool, England: University of Liverpool, English Language Unit.
- Ebrahimi, S.F., and M. Khedri. (2011). Thematicity in research article abstracts: A cross-disciplinary study. *Educational Quest, 2(3)*, 287–292.
- Eggs, S. (1994/2004). *An introduction to systemic functional linguistics*. London: Continuum.
- Feldman, D. C. (2004). The devil is in the details: Converting good research into publishable articles. *Journal of Management, 30*, 1-6.
- Flowerdew, J. (1999a). Writing for scholarly publication in English: The case of Hong Kong. *Journal of Second Language Writing, 8*, 123-145.
- Flowerdew, J. (2000). Discourse community, legitimate peripheral participation and the nonnative English speaking scholar. *TESOL Quarterly, 34*, 27-150.
- Fries, P. H. (1983). On the status of theme in English: Arguments from discourse. In J. S. Petöfi, & E. Sözer (Eds.) *Micro and macro connexity of texts*, (pp. 116-52). Hamburg: Buske.

- Fries, P. H. (1995). Patterns of information in initial position in English. In P. H. Fries & M. Gregory, (Eds.) *Discourse in society: Systemic functional perspectives*, (pp. 47-66). Norwood, New Jersey: Ablex Publishing Corporation.
- Ghadessy, M. (1999). Thematic organization in academic article abstract. *Estudios Lingüísticos de la Universidad Complutense*, 7, 141-161.
- Gosden, H. (1992) Research writing and NNSs: From the editors. *Journal of Second Language Writing*, 1, 123-139.
- Gosden, H. (1995). Success in research article writing and revision: A social-constructionist perspective. *English for Special Purposes*, 14, 37-57.
- Halliday, M. A. K. (1985, 1994). *An introduction to functional grammar* (1st and 2nd eds.) London: Edward Arnold.
- Hawes, T., & Thomas, S. (2012). Theme choice in EAP and media language. *Journal of English for Academic Purposes*, 11(3), 5-183
- Hoey, M. (2009). What can linguistics tell us about writing skills? In G. Forey & G. Thompson (eds), *Text type and texture*, (pp. 175-190). London: Equinox Publishing Ltd.
- Hyland, K. (2005). *Metadiscourse: Exploring interaction in writing*. London: Continuum.
- Jalilifar, A.R. 2010. The status of Theme in applied linguistics articles. *Asian ESP Journal* 2,7-39.
- Kharabaf, S., & Abdollahi, M. (2012). Science growth in Iran over the past 35 years. *Journal of Research in Medical Sciences*, 17(3), 275-279.
- Knorr-Cetina, K. (1981). *The manufacture of knowledge: An essay on the constructivist and contextual nature of science*. Oxford: Pergamon.
- Maniati, M., Jalilifar, A. R., & Hayati, A. M. (2015). Iranian scholars' revision of their submitted manuscripts: Signaling impersonality in text. *Journal of Research in Applied Linguistics*, 6(1), 118-140.
- Martin, J. R. (1995). More than what message is about: English Theme. In M. Ghadessy (ed.) (pp. 223-258).
- Martin, J. R., Matthiessen, C., & Painter, C. (1997). *Working with functional grammar*. Arnold, London.

- Martin, J. R., & Rose, D. (2003, 2007). *Working with discourse: Meaning beyond the clause*. (1st and 2nd eds.) London: Continuum.
- Martínez, I. A. (2001). Impersonality in the research article as revealed by analysis of the transitivity structure. *English for Specific Purposes*, 20, 227-247.
- Martínez, I. A. (2003). Aspects of theme in the Method and Discussion sections of Biology journal articles in English. *Journal of English for Academic Purpose*, 2, 103-123.
- McCabe, A. (1999). *Theme and thematic patterns in Spanish and English history texts*. Unpublished Ph.D. dissertation, Aston University, Birmingham, England. Retrieved December 2, 2010, from <http://www.wagsoft.com/systemics/archieve/McCabe.phd>
- McGinty, S. (1999). *Gatekeepers of knowledge: Journal editors in the sciences and the social sciences*. Westport, CN: Bergin & Garvey.
- Ravelli, L. J. (2000). Getting started with functional analysis of texts. In L. Unsworth (Ed.), *Researching language in schools and communities*, (pp. 27-64). London: Cassell.
- Schmid, H. (2000). *English abstract nouns as conceptual shells: From corpus to cognition*. Berlin: Walter de Gruyter
- Soppelsa, B., & West, G. (1982). Teaching ESL students to read and write experimental research papers. *TESOL Quarterly*, 16, 333-347.
- St. John, M. J. (1987). Writing processes of Spanish scientists publishing in English. *English for Specific Purposes*, 6, 113-120.
- Swales, J. M. (1990). *Genre analysis: English in academic and research settings*. Cambridge: Cambridge University Press.
- Swales, J. M., & Feak, C. B. (2004). *Academic writing for graduate students: A course for nonnative speakers of English*. Ann Arbor, MI: University of Michigan Press.
- Tarantino, M. (1991). English for science and technology: a quest for legitimacy. *English for Specific Purposes*, 10, 47-60.
- Taylor, G., & Chen, T. (1991). Linguistic, cultural, and subcultural issues in contrastive discourse analysis: Anglo-American and Chinese scientific texts. *Applied Linguistics*, 12(3), 319-336.

Wei, J. (2016). Thematic choice in Chinese college students' English essays. *English for Specific Purposes*, 41, 50-67

Whittaker, R. (1995). Theme, processes and the realization of meanings in academic articles. In M. Ghadessy (ed.), (pp. 105-128).

