

TYPES AND FUNCTIONS OF CITATIONS IN MASTER'S THESES ACROSS DISCIPLINES AND LANGUAGES

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Abstract

Citation is an essential and common feature of academic writing and is used by academic writers to achieve different purposes. This study investigated disciplinary variations in terms of citation practices in the genre of Master's theses with a specific focus on discussions. To this end, sixty discussions produced by MA/MS students of two key universities in Iran from both hard and soft disciplines were analyzed in terms of citation types and functions. The medium of writing whether English or Persian was also taken into account for its probable influence on the employed citation practices. The results revealed that integral citations were used more frequently by writers in soft knowledge fields, allowing them to make evaluations, whereas non-integral citations were mostly used by hard discipline writers. As for rhetorical functions, *Support* and *Comparison* were the dominant functions in these text types. However, there existed subtle differences both in the degree and the way these writers draw intertextual links to their disciplines. The findings can be of considerable help to EAP instructors and thesis supervisors to raise their students' awareness and refine their understanding of citation strategies in thesis writing.

Keywords

citation strategies, disciplinary variation, discourse community, discussion, Master's thesis

1 Introduction

Citation is defined as a rhetorical feature which involves a reference "to something external to the citing text" (Pecorari 2006: 6). Besides, its increasing significance as well as its vital role in different ways of construction of facts by writers via their communication practices is further evidence for the importance of citations (Hyland 1999). Academic writers can use citations for different purposes among which are evaluating relevant sources, supporting an author's claim, and providing those who are on the threshold of joining their research community with a longer list of readings (Smith 1981).

Citation has been of much interest to English for Academic Purposes (EAP) researchers (e.g. Harwood 2009, Hyland 2000, Swales 1986, 1990), information scientists (White 2004), and sociologists of knowledge (Petrić 2007), who have conducted many studies on its role in scientific discourse using various methods and instruments. Some of these scholars have investigated cultural differences in

citation use (Pennycook 1996, Mur Dueñas 2009, Hu & Wang 2014), diachronic development of citation (Bazerman 1988), patterns of the use of linguistic elements accompanying citation (e.g. Charles 2006a, 2006b, Hawes & Thomas 1997, Hyland 2002), and different types of citation, in particular (e.g. Hyland 1999, 2002, Swales 1990). Swales (1990) has classified citations into integral and non-integral citations according to their linguistic environment. Further sub-types have been introduced by other scholars considering both linguistic and rhetorical analysis of citations (Thompson & Tribble 2001, Thompson, P. 2005).

In recent years, the patterns of citation use have been explored in written academic discourse, specifically in the genre of Research Articles (RAs) (e.g. Hyland 1999, 2000, Harwood 2009, Hewings et al. 2010, Shoostari & Jalilifar 2010). Hyland (1999) carried out a study on RAs; the corpus consisted of one article from each of ten leading journals across eight disciplines. The analysis revealed that softer disciplines used more citations in the construction of their texts and the use of integral citations was more dominant in these text types. However, writers in hard disciplines used more non-integral citations. Harwood (2009) explored citation functions employed by sociologists and computer scientists in an interview-based study and identified eleven functions based on the informants' words. While the sociologists used citations more for engaging the reader, the computer scientists employed them more for signposting. In a more recent study, Mansourizadeh and Ahmad (2011) conducted a case study on citation practices in research articles produced by non-native experts and papers written by novice writers from the same discipline (chemical engineering) and with the same language background. They found that the writers mostly used non-integral citations in their text and that novice writers used citations to a lesser degree compared to the expert ones. Besides, novices mainly used citations with the function of *Attribution* which is used to indicate the knowledge of the literature, while experts used more complex citation functions such as *Support* and *Establishing links between sources* in the construction of their texts.

Citation strategies have also been examined in texts produced by students across disciplines (e.g. Dong 1996, Thompson, C. 2005). Dong (1996) reported on the use of citations by three non-native PhD students in producing drafts of thesis introduction sections with the help from English speaking advisors. The study revealed what difficulties students run into in the production of these text types while highlighting the prominent role played by the advisors in construction of new knowledge claims. In another study, Petrić (2007) identified rhetorical citation functions in high- and low-graded Master's theses in gender studies. The findings showed that both sets of theses used citations mainly for attribution or "knowledge display" – one of the functions of citations in students' writing and

the percentage of this citation function was higher in low-rated theses, whereas the percentages of other more complex citation functions, such as showing a good knowledge of the literature and demonstrating analytic ability, were higher in the high-rated theses.

Most of these studies have focused on doctoral dissertations. Few have investigated the nature of theses in MA/MS programs. For instance, Samraj (2008) examined the use of citations and first person pronoun in introduction sections of Master's theses from three disciplines. Her study revealed varying degrees of relation to previous research with philosophy theses being the strongest in foregrounding the student's voice. On the other hand, biology students formed a stronger connection to previous work and linguistics had a central position in this regard.

We decided to explore citation strategies in discussion sections (DSs) of theses since they appear to be one of the most significant parts of the RAs in which the authors bring out the plus points of the result in a more convincing way. Despite their significant role in shaping a good research, the use of citation strategies in DSs of theses has received scant attention in the literature. If Results, according to Swales and Feak (1994: 195), "deal with *facts*, Discussions deal with *points*; facts are *descriptive*, while points are *interpretive*". Yet in another study, Samraj (2013) analyzed citation practices in discussion sections in Master's thesis as well as published research articles from one discipline with a view to facilitating L2 learners' knowledge construction in thesis writing. The findings showed various rhetorical functions in these sections both in theses and research articles. Petrić and Harwood (2013) also reported on L2 student's citation practices in different types of writing tasks; however, not much is known on disciplinary variation in writing produced by non-native postgraduate students, hence the impetus behind the present study.

Moreover, a substantial rate of comments journal reviewers and viva examiners provide deal with citations. This, in turn, provides further impetus to explore citation practices of non-native graduate students across disciplines and, in this case, with different mediums of writing. This study, therefore, intends to identify types of citations in Master's thesis across four disciplines: two disciplines from hard knowledge fields and the other two from soft knowledge fields. The aim is to discover citation functions within DSs. Moreover, in this study, the language of writing a thesis, namely English or Persian, was also taken into account due to its probable relationship with the employed citation practices.

2 Corpus

Thesis/dissertation writing is the most daunting and toughest task for many students (Sadeghi & Shirzad 2015). This can be due to the size of the thesis or the high level of quality to which the dissertation or the thesis is held. The demanding part of thesis writing is not only the indication of knowledge related to the topic under analysis, but also the use of this knowledge to present arguments and claims convincingly along with the ability to interpret the findings of the study (Dong 1998). A thesis consists of several sections, the classification of which differs across disciplines. As Sadeghi and Shirzad (2015) point out, theses in hard disciplines are mostly written in three chapters (Introduction, Method, Results & Discussion), while dissertations in soft knowledge fields consist of five chapters (Introduction, Literature Review, Method, Results & Discussion, Conclusion). This format of dissertations is suggested by universities and students are required to follow the procedures closely.

In the present study, the focus was on DSs with the aim of discovering citation types and functions used by the authors. Thus, Introduction, Literature Review and Method sections were excluded from the corpus. According to Swales (1990: 170), Results and Discussion sections are merged at times and refer fleetingly to “additional or substituted sections labeled as conclusions, implications or applications and so on”. Given this, in this research, discussions refer to the sections of theses under these headings: Results, Results and Discussion, Conclusion, Discussion and Conclusion.

In considering the scope of citations and the quantification of discrete occurrences of citations in so called discussion sections of the theses, we adhered to Swale’s *micro-structure perspective* in which the citations are considered within a limited scope of the section referred to as Description. In contrast, in *macro-structure view*, citation strategies would be considered as scattered throughout the thesis as a whole or projected into various sections of the theses (Swales 1990). We admit the fact that the umbrella term of Thesis Discussion Sections could take a broad range of configurations and disciplinary variations so that the obtained figures are, in fact, rough estimations of citation strategies in ‘fused sections’ of theses, as it was nicely put by one of the anonymous reviewers. This is inevitable as, for example, in psychology theses the density of citations is achieved from a different configuration of sections in which Discussion configures with Conclusion, while, in the case of TEFL theses, the figures are based on Results and Discussion sections.

Accordingly, in the present study, the corpus consisted of 60 MA thesis discussions sections produced by postgraduate students from two Iranian state

universities. The theses were selected through stratified random sampling to obtain a proportionate number of thesis discussions randomly taken from each respective hard and soft science disciplines including chemistry (Chem.) and agriculture (Agri.) from hard knowledge fields plus TEFL and psychology (Psych.) from soft disciplines. Each discipline was represented by 15 thesis discussions from Urmia University and the University of Tabriz. All of the theses were written in Persian by Iranian postgraduate students except those produced by TEFL students who are required to compose their theses in English. The theses were submitted between the years 2007 and 2012, and were completed under the guidance of one supervisor and one advisor except for some rare cases of theses which had just one or two supervisor(s) to direct the process. Table 1 describes the characteristics of the corpus used in this study. It is noteworthy that text length in our corpus does not include titles, tables, and figures.

	Disciplines	Length (words)	No. of citations
Hard disciplines	Agriculture	54,915	231
	Chemistry	58,199	96
Soft disciplines	Psychology	49,818	641
	TEFL	16,503	294
Total		179,435	1,262

Table 1: Description of the corpus

3 Citation typology

The present study is descriptive and exploratory in that there is an attempt to collect information on the topic and describe the phenomenon being studied as it is and with no manipulations. The data was gathered in order to explore and gain a better understanding of citing strategies of writers across hard and soft disciplines.

In this study citation refers to “the explicit citing of another’s text within one’s own” that includes “referencing and reporting” the cited information (Buckingham & Neville 1997: 96).

Based on formal criteria, Swales (1990) has categorized citations into two major types: integral and non-integral citations. In integral citations, the name of the researcher appears in the sentence with an explicit grammatical role that foregrounds the researcher, while in non-integral citations, the name of the cited

author appears outside of the text in brackets, parentheses, or there may be a number referring to the name, which is placed somewhere else. Thompson and Tribble (2001) expanded this typology. In this latter categorization, integral citations are classified into the following sub-types based on the formal criteria. The examples for each citation are taken from our corpus. The English translations of Persian extracts are also provided below:

- a) *Verb-controlling* where citation includes an active or passive verb
Hyland (2003) argued that the study level of the students is among the factors which are related to learning preferences. (TEFL)
 قیطرزا یلیصحت یراک لامه ایسررب اب (۱۹۸۴) مولبثار و نومولوس
 دندرک نییعت ار نایوجشناد یراک لامه لیلادل موع لیلیحت
Solomon and Rothblum (1984) have identified the reasons behind the academic procrastination of students through the analysis of the causes. (Psych.)
- b) *Naming* where citation is used as a noun phrase or part of a noun phrase
Yet, despite its popularity, there is rarely any consensus on meaning and the concept, according to Borg (2001). (TEFL)
 هدلگ هلجرم رد یتبوتر شننت لامع | (۱۳۷۸) ناراکمه و نایشناد قیقحت ساسا رب
 دوش یم ایوس رد (۸۰٪) درکلمع شه اک نیرتشیب ثعاب
According to Daneshian et. al (1378), water deficit at the stage of germination results in the lowest soybean yield. (Agri.)
- c) *Non-citation* where the year of publication does not follow the name of the cited person
Thus, according to Swales, discourse communities use specific genres by which they are recognized and they include speech events as well as written text types. (TEFL)

Based on the contextual functions of citations, the two major citation types, integral and non-integral, are further divided into different subtypes. Thompson and Tribble (2001) and Celia Thompson (2005) categorized non-integral citation into four subtypes:

- a) *Source*, or attribution citations, is used to attribute an idea, information or a research finding to an author with a view to showing the knowledge of the field.
Learners understand the message only by comprehensible input, and the most important factor that makes input comprehensible is an environment without anxiety (Krashen, 1985). (TEFL)
 ییوراد صاوخ هک دنتسه امنوتکمال هداوناخ زا ییوراد تابی کرت امنیتاتس
 دنوش یم هزیلوباتم دبک طسوت یگمه و دنراد یتوافتم
 .[۳]

Statins are pharmaceutical compounds which belong to the family of lactones with different medicinal properties and all are metabolized by the liver. (Chem.)

- b) *Origin* is used to indicate “the origin of a theory, technique or product” (Thompson, P. 2005).
The software package used was Wordsmith Tools (Scott 1996). (TEFL)
- c) *Reference* is used to point to sources for further information and it usually includes the directive ‘see’ as in:
DFID has recently changed its policy with regard to ELT (see DFID, 1998). (TEFL)
- d) *Identification* is used to identify particular texts or research projects mentioned in the sentence. An example of this type is:
Some studies reported that students obtained higher scores when interviewed by a male interviewer (Locke, 1984; Porter, 1991a; 1991b) *while some others found that students got higher scores when interviewed by a female interviewer* (Porter & Shen 1991, O’Sullivan 2000). (TEFL)

This study investigated types of citations based on the syntactic positions of the name of the cited author in line with Swales (1990) and the functions of citations based on the writer’s intention behind using citations. Thus, Thompson and Tribble’s (2001) typology was mainly adopted; however, non-citation was not applicable in the case of the two groups of theses from hard disciplines since the used citation format was numbered and based on Vancouver referencing style or the author–number system. In this style, citations to others throughout the text are marked by the use of a number in brackets. At the end of the document, a sequentially numbered reference list provides complete information of the respective in-text references. This typology was then combined with two categories from Petrić’s study which were applicable to DSs named as *Comparison of one’s own findings with other sources* and *Establishing links between sources*, similar to the method used in Mansourizadeh and Ahmad’s (2011) study. The category *source* was named as *attribution*, following Petrić (2007), in order to avoid confusion with the meaning of source that refers to the work by other authors which are used as source texts in one’s writing.

After collecting the corpora, word count was carried out in order to determine the quantity and the length of the corpus. The types of citations in terms of integral or non-integral in each sub-corpus were identified and were classified into appropriate subtypes. Furthermore, the citation functions in each set of DSs were examined to account for the purposes for which citations were used by the writers and to see if there were any differences in the applications. It should be

noted that, following Thompson and Ye (1991), in this study the citing person is referred to as the ‘writer’ and the cited person as the ‘author’.

The overall density of citations and their density in different sections of the theses were measured. The occurrence of each function in discussion sections was calculated using the chi-square value to see if there was statically significant difference between the sets of discussions in terms of citation practices. To ensure reliability of the analysis in the process of data categorization, one third of the data (i.e. five theses from each discipline) was rechecked and reanalyzed independently for citation types and functions by a second researcher (an MA graduate of TEFL from Tabriz University), who was briefed on the purpose of the study by the researchers. She was well informed on the categorization of types and functions of citations in order for her to be able to analyze the data. The obtained correlation coefficient (inter-rater reliability = 0.97) between the two ratings was high enough to make the analysis reliable.

4 Results and discussion

4.1 Citations in thesis sub-sections

In this part, the density of citations (per 1,000 words) in different sections of the theses is presented. Figure 1 shows citation density in different parts of the theses written by MS students from hard knowledge fields, namely agriculture and chemistry.

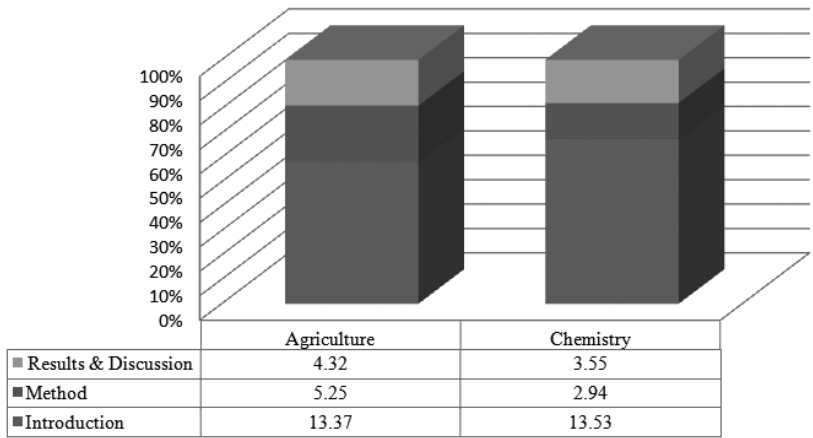


Figure 1: Citation density in different sections of hard knowledge fields

As Figure 1 shows, in both agriculture and chemistry theses, citations were densely used in the Introduction section the extent of which was roughly the same for all writers (Introduction in agriculture =13.37; Introduction in chemistry =13.53). This finding confirms the results of the study by Celia Thompson (2005), in which she found that writers employed citations more often in the Introductions in order to put their study in a bigger and appropriate context, to recapitulate the related literature, and to identify a gap for their own research. Contrary to what has been discovered in Thompson’s research, the findings of the present study showed that the second sections in which citations were heavily used in agriculture and chemistry were the Method and Results-discussion sections respectively.

As far as the theses from soft knowledge fields (psychology and TEFL) are concerned, they consist of five chapters; however, citation density in different sections of these texts is presented separately in separate tables. Thus, Tables 2 and 3 present the density of citation in different chapters of the theses produced by Master’s students in psychology and TEFL.

Sections	Density
Introduction	17.74
Literature Review	10
Method	5.72
Results	0.9
Discussion & Conclusion	16.92

Table 2: Citation density in different sections of psychology theses

Sections	Density
Introduction	18.8
Literature Review	24.21
Method	3.49
Results & Discussion	2.77
Conclusion	2.12

Table 3: Citation density in different sections of TEFL theses

As can be concluded from the tables, citations were densely used in Introduction sections of the theses written by psychology students, whereas they were mostly used in the Literature Review sections of TEFL theses followed by Introduction. In psychology theses, the second-highest citation density belonged to Discussion and Conclusion followed by Literature Review and then Method section. Citations were seldom, if ever, used in Results. In the theses produced by TEFL students, see Table 3, after Literature Review and Introduction, the Method section had the highest citation density. Results, Discussion, and Conclusion sections occupied the next ranks in terms of citation density.

The quantitative analysis revealed disciplinary variation in the extent to which the writers of different disciplines referred to other authors while putting forward their arguments. Table 4 presents this disciplinary variation across disciplines in terms of citation use.

Rank	Discipline	Density	Total citations
1	TEFL	17.81	294
2	Psychology	12.86	641
3	Agriculture	4.2	231
4	Chemistry	1.64	96

Table 4: Rank order of citations by discipline

As illustrated in Table 4, soft knowledge fields tend to use citations more than hard disciplines in the discussion section with TEFL having the highest rank among other fields and chemistry the lowest. As Hyland (1999) points out, softer disciplines tend to use more citations.

4.2 Differences in types of citation

In addition to the density of occurrences of citations in each section of the theses, the types of citations characterizing the discussion sections written by the students in each sub-corpus were also identified. Table 5 shows the frequency of citation types, integral and non-integral, in the texts created by MS students from two fields of agriculture and chemistry.

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Types of citations	Hard disciplines	
	Agriculture	Chemistry
Non-integral	107 (46.32%)	96 (100%)
Integral	124 (53.68%)	0 (0%)
Integral-verb controlling	52 (22.51%)	0 (0%)
Integral-naming	72 (31.17%)	0 (0%)
Non-citation	0 (0%)	0 (0%)
Total	231	96

Table 5: Type of citation in MA discussion sections for hard disciplines

The findings shown in Table 5 revealed that in the field of agriculture, integral citations were used dominantly while in discussions written by chemistry students only non-integral citations were used, to the exclusion of other types. According to Hyland (1999, 2000), non-integral citations are expected to be dominantly used by writers in hard sciences, whereas writers in soft disciplines prefer integral ones in order to foreground the role of writers from source text; however, agriculture discussions did not fit into this general picture. This result may be explained referring to Hyland (1999), who views disciplines as a continuum along which there are softer and harder disciplines.

In order to examine the differences of the types of citation in the two disciplines of agriculture and chemistry, chi-square test was employed. The results indicated a statistically significant difference, $\chi^2=80.74$ ($1df$, $p<.05$). Yates' chi-square is reported for 1- df tests. Chi-square test revealed that the difference in the use of citation types in hard texts was significant. Similarly, Table 6 presents the frequency of citation types in the discussions produced by Master's students in soft knowledge fields.

Types of citations	Soft disciplines	
	Psychology	TEFL
Non-integral	169 (26.37%)	77 (26.19%)
Integral	472 (73.63%)	217 (73.81%)
Integral-verb controlling	129 (20.12%)	84 (28.57%)
Integral-naming	313 (48.83%)	130 (44.22%)
Non-citation	30 (4.68%)	3 (1.02%)
Total	641	294

Table 6: Types of citations in MA discussion sections for soft disciplines

As can be seen from Table 6, integral citations were mostly used by the writers in psychology and TEFL. The data analysis revealed that naming citations were dominant in the discussions produced by both psychology and TEFL students and non-citation was rarely used in these text types (psychology=4.68%; TEFL=1.02%). In order to find out whether there was a significant difference in the types of citation used by Iranian MA students in the discussion sections of theses across two disciplines of psychology and TEFL, another chi-square test was used assuming significance level of 0.05. The results showed no significant differences in citation types, integral and non-integral, in discussions written by these two groups of writers $\chi^2=0.001$ ($df, p>.05$). Non-integral citations, as Charles (2006a) states, are prevalent in hard disciplines in order to foreground the research and give less prominence to the researchers, while the use of integral citations in soft disciplines provides the writer with a pronounced role, allowing evaluations on their part.

4.3 Differences in functions of citation

Functions of citation were also examined in the present study. The aim was to discover the intention with which citations were employed by the writers across disciplines. Table 7 presents the total number of functions identified in different sets of discussions as well as the dominant citation function in each sub-corpus.

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Citation functions	Hard disciplines	
	Agriculture	Chemistry
Attribution	85 (34%)	24 (25%)
Support	110 (44%)	63 (65.63%)
Comparison	40 (16%)	9 (9.37%)
Establishing links	15 (6%)	0 (0%)
Identification	0 (0%)	0 (0%)
Reference	0 (0%)	0 (0%)
Total	250	96

Table 7: Functions of citations in MA discussion sections for hard disciplines

The findings indicated that *Support* was the most frequent function in both of the hard disciplines with a frequency of 110 in agriculture ($f=110$), accounting for 44 per cent of the functions identified in the discussions, and a frequency of 63 ($f=63$) in chemistry. As Table 7 shows, the second and third most frequent functions were *Attribution* and *Comparison* respectively. The least frequent function was *Establishing links* ($f=15$) including six per cent of 250 functions identified in agriculture texts, whereas no instance of this type was observed in chemistry discussions. Besides, no citations with the function of *Identification* and *Reference* were detected in discussions written by these two groups of writers.

Chi-square test showed a significant difference between the citation functions employed by Iranian MS students in the discussion sections of theses across two disciplines of TEFL and psychology, $\chi^2=13.73$ ($3df, p<.05$).

Table 8 illustrates the total number of functions identified in psychology and TEFL discussions as well as the frequency of each function.

Citation functions	Soft disciplines	
	Psychology	TEFL
Attribution	50 (7.3%)	0 (0%)
Support	115 (16.79%)	224 (67.47%)
Comparison	435 (63.5%)	92 (27.71%)
Establishing links	85 (12.4%)	16 (4.82%)
Identification	0 (0%)	0 (0%)
Reference	0 (0%)	0 (0%)
Total	685	332

Table 8: Functions of citations in MA discussion sections for soft disciplines

In total, 685 citation functions were identified in psychology discussions and 332 in TEFL discussions with *Comparison* being the most frequent citation function in psychology ($f=435$). The results of chi-square test showed a great difference, $\chi^2=260.38$ ($3df, p<.05$) in the use of citation functions by these writers, meaning that these two groups of writers employ citations in thesis discussions with different purposes.

The function of *Comparison* was mainly used to call the readers' attention to the similarities of the results with previous studies. Alternatively, in the case of soft knowledge fields, it was mostly used to bring the dissimilarities to their attention. Yet, the question remains as to why writers construct something in order to overtly attack it later through reference to previous research. By means of this citation strategy, according to Swales and Feak (1994: 57), students "position themselves as being informed". They can be very effective in their presentation of themselves via both clever emphasis on the strong points of their work and clever stress on its weaknesses. This citation function, that is, when the writers compare their own findings with previous ones, can result in higher acceptability as well as greater credibility of the results. This can be due to the fact that employing a plenty of sources in writing may contribute to its factual status (Latour & Woolgar 1979). As the analysis of the corpus indicated, the writers could employ this citation function frequently in discussions due to its less demanding nature.

In TEFL discussions, however, *Support* has the highest frequency ($f=224$) accounting for 67.47 per cent of the functions observed in this sub-corpus, whereas it is the second most frequent function in psychology texts with

Establishing links ($f=85$) being next, which allows the writer to demonstrate his knowledge of the field thereby increasing the acceptability of his claims and arguments by the members of that discourse community to which he belongs.

It should be noted that *Support* is a complex citation function and it needs disciplinary knowledge on the part of the writer and it can be used for the justification of findings, arguments and claims, and the topic of the research. Mansourizadeh and Ahmad (2011) found that *Support* was mainly used by experts and novices rarely employed this function. Thus, this function can indicate the writer's ability and experience of conducting research. It was used densely in the corpus of this study by students in Master's program who are not considered as experts in their fields. This finding was also reported in Samraj's (2013) study. She found that students can also employ more complex citation functions in thesis discussions as expert writers do in published articles. However, in the use of such citation functions as *Support*, 'how and to what effect' is what should be taken into account. The writers mostly used it to 'announce' the similar or different findings reported by others without actually comparing their own findings with those of others, while they should be cognizant of the fact that discussion means something beyond mere report of other results (Hyland 1998), either similar or different. The way in which they establish links between sources on the one hand, and their own study on the other is what matters so that they could come up with convincing and effective pieces of text.

Moreover, this study tried to find out whether there was any significant difference between citation types used in the discussion sections of theses by Iranian postgraduate students from hard disciplines and soft disciplines. Chi-square test showed a meaningful difference in the citation types used by writers in hard knowledge fields and soft disciplines, $\chi^2=135.2$ ($1df, p<.05$). Likewise, in terms of citation functions, we again found a significant difference between hard and soft disciplines, $\chi^2=271.6$ ($3df, p<.05$).

Petrić's (2007) study showed that *Attribution* was the main one in low graded Master's students' theses compared to high graded ones. In our study, this citation function was used in discussion sections written by agriculture, chemistry, and psychology students and to a degree that could not go unnoticed (agriculture = 34%; chemistry = 24%; psychology = 7.3%). In hard disciplines, it was the second mostly used function, but TEFL students did not make use of *Attribution* in their discussions. In addition, no instances of Identification and Reference were found in texts written by TEFL and psychology students.

Attribution is a basic citation function through which writers show their knowledge of the field and the related literature and it is "rhetorically the simplest citation function" (Petrić 2007: 247) which does not require advanced skills to

use. As such, it is not an appropriate function for discussion sections since, as Celia Thompson (2005) argues, it is of overriding importance for writers to use their own voice, power, and ability in their writing and they ought to present themselves as authors. In the corpus, TEFL writers did not employ this function in discussion sections and this might have something to do with the medium of writing. Since they are supposed to write in English, they are more engaged with articles and academic texts written in this very language and they are more familiar with these text types. As observed in the corpus, they could use citations more effectively compared to the other groups of writers in support of their findings as well as their claims. Of course, it should be added that they need to be instructed on effective ways to present their ideas and justify their contributions to the field through strategic use of citations, that is, to polish their citing skills. However, in general, they were more skillful in presenting their arguments and creating links between sources which was not the case with writers in the other disciplines.

5 Concluding remarks

Although this research highlights a number of interesting issues, some limitations must be acknowledged. One problem is related to identifying citation functions and the writer's intention of using references that are not easily extractable from the context. This issue can be approached by supplementing context analysis and interviews to discover the rhetorical purposes behind citation patterns.

Besides, citations in more than one discipline were examined in this research. In such cases, lack of specialized knowledge might make the analysis more difficult for the researcher. It may be argued that students learn to produce scientific texts by having access to the published articles or completed theses; however, several different writing features such as citation practices, among others, may remain uncovered for novice writers. In addition, scholars and students write for different types of audience and work toward different writing goals in different genres, all of which could influence their citation practices.

Seasoned researchers usually cite their peers, while students make references to the studies carried out by those with a superior status, where, as Petrić (2007) notes, issues of power are not similar and this might affect their evaluations of others and the confidence with which they do so. Furthermore, non-integral citations, as Hewings et al. (2010) note, aid the writer in keeping the flow of the argument uninterrupted. It would be a seamless presentation of points. The same holds true for all the disciplines in the present study except agriculture, which differed from this general picture.

A good number of implications would arise from this study. For one thing, there is providing researchers, teachers and syllabus designers with more well-fashioned insights into the nature of texts produced by MA/MS students when discussing their points toward the achievement of certain goals on their part. Besides, further research into the citation practices could be facilitated and induced via this study, either within the genre of Master's theses or other genres, not to mention the suggested implications for non-native postgraduate students to improve the text type in their proposals or theses. The findings, therefore, could offer opportunities for teaching academic writing to novices who are trying to produce a thesis or a research article "to join the research community as an insider" (Akiko 2007: 69). This study also carries wider implications in terms of generic awareness on the issue; the findings can be of considerable help to EAP instructors, thesis supervising bodies, and advanced writing course instructors in order to raise their students' awareness and refine their understanding of sound types and functions of citation practices in thesis writing.

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