

Genre-Based Analysis of Arabic Research Article Abstracts across Four Disciplines

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Abstract

Analysis of abstracts has seldom been involved in disciplines and journals where Arabic is used. Hence, this study examined the rhetorical structures of abstracts across four unrelated disciplines in Arabic: law, linguistics, medicine and police. The corpus consisted of 40 Arabic abstracts, with 10 abstracts from each discipline. The data was analyzed qualitatively and quantitatively using two move models: Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure. The results showed that these four disciplines greatly varied in their adherence to these models. However, abstracts in medicine strictly adhered to either Bhatia's or Hyland's model. Abstracts in law, linguistics and police had no conventional move structure. This disciplinary variation could be attributed to the Arabic journals' publication policy which leaves the writing of abstracts at the researchers' disposal. As for the preferred verb tense, researchers used the present tense in the introduction, purpose and conclusion moves, and the past tense in the method and result moves. The findings have important implications for Arabic for Academic Purposes. Arab postgraduate students and novice researchers need to understand and apply the rhetorical structures commonly used in their writing of abstracts, so that they can successfully join their discourse community. Arabic journals also need to amend their policy for accepting and publishing articles, including abstracts.

Keywords: abstract, Arabic, genre analysis, moves

1. Introduction

Given their important roles and functions in research communities, research article (hereafter RA) abstracts have received considerable attention and have been investigated from different perspectives in recent years. With the abundance of papers published online in today's world, most readers limit their initial research looking at titles and abstracts before choosing what RA abstracts to purchase and read. Consequently, many potentially good research articles are overlooked because their abstracts have been written carelessly (Piqué-Noguera, 2012). Hartley and Betts (2009, p. 2015) were right when they said "it is possible that more papers might be read in detail if the abstracts were more informative."

Unlike Swales and Feak (2007) who viewed RA abstracts as part-genre and the research article as a genre because the latter is intended to accomplish a set of communicative purposes, Bhatia (1993) and Lorés (2004) recognized RA abstracts as an independent genre in its own right. Bhatia (1993) argued that RA abstracts appeared as a result of "a well-defined and mutually understood communicative purpose that most abstracts fulfill, irrespective of the subject discipline they serve" (p. 77-78). According to Bhatia (1993, p. 78), an abstract should include four moves: "introducing the purpose", "describing the method", "summarizing the results" and "presenting the conclusions."

Consistent with Santos' (1996) and Swales and Feak's (2004) five-move models (i.e., background-aim-method-results-conclusion), Hyland (2000) proposed another model consisting of five moves: introduction, purpose, method, product and conclusion. Hyland's model was based on his rigorous analysis of 800 RA abstracts taken from eight unrelated disciplines.

According to Swales (2004, p. 228-9), a move is a "discoursal or rhetorical unit that performs a coherent communicative function in a written or spoken discourse." That is, each move has its own communicative purpose in a text (Pho, 2009). Swales (1990) argued that moves may be used differently across disciplines, and that moves may also range in their degree of frequency within a single text from optional to obligatory. They also might be different across-culturally as some previous studies suggested (e.g., Li, 2011; Martin-Martin, 2003).

The goal of this study is to examine RA abstracts written in Arabic across four dissimilar disciplines; namely, law, linguistics, medicine and police in an attempt to identify the similarities and differences between them as regards to

moves and verb tenses. A review of some of the cross-disciplinary studies in the literature is given below.

2. Literature Review

2.1 Cross-disciplinary move analysis of RA abstracts

In the past two decades, a few studies have examined the move structures of RA abstracts across disciplines. For example, Melander et al. (1997) examined English and Swedish RA abstracts in biology, medicine and linguistics. The results showed that discipline as well as culture affected the way RA abstracts were written. However, this influence varied across the three disciplines. That is, culture affected the structure of RA abstracts in linguistics, but this was not found in biology texts which were consistent across the two languages. With regard to medicine, neither discipline nor culture influenced RA abstracts writing.

Ge and Yang (2005) analyzed 150 English RA abstracts in electrical and electronics engineering, surgery and finance. The researchers found that these disciplines employed the same move structure, but differed significantly in the frequency of moves. That is, the surgery RA abstracts included a method move as an obligatory one, but only a few of the finance RA abstracts had this move, making it optional in finance.

Following Santos' (1996) five-move model which he developed to examine abstracts and introductions in RAs, Pho (2008) examined the move structures of 20 abstracts in applied linguistics and 10 abstracts in educational technology. He found that Santos's three moves: 'presenting the research', 'summarizing the findings' and 'describing the methodology' occurred almost in all the RA abstracts in the two disciplines. But, the other two moves 'situating the research' and 'discussing the results' occurred less frequently in these RA abstracts, suggesting that they were optional in these two disciplines.

More recently, Li (2011) investigated 40 RA abstracts from two unrelated disciplines, chemistry and linguistics in English and Chinese. Relevant to the cross-disciplinary focus of this present study is Li's adaptation of Hyland's (2000) five-move structure to analyze her data. She found that linguistics RA abstracts follow a four-move structure (purpose, method, product, conclusion), but such a structure was not identified in chemistry RA abstracts. Instead, chemistry RA abstracts in English included two moves (purpose, method) while chemistry RA abstracts in Chinese included three moves (method, product, conclusion). The method was found to be the only obligatory move in both disciplines.

2.2 Analysis of verb tense in moves

Little research has investigated the verb tense of the moves in RA abstracts (Tseng, 2011). This might be due to the complexity of the tense usage in these RA abstracts (Swales & Feak, 2004). For instance, Salager-Meyer (1992) found that medical researchers used different verb tenses to present move structures of their 84 RA abstracts. That is, they used the past tense in three moves: purpose, method and results. However, they used the present tense to introduce the conclusion move.

Pezzini (2000) investigated the preferred verb tense used in 18 RA abstracts in linguistics and translation journals. He found that the present simple was the most frequently tense used in the RA abstracts, followed by the past simple and present perfect, which was used in very few RA abstracts.

From a cross-disciplinary perspective, Li (2011) found that the active voice is more common than the passive voice in the purpose move in linguistics RA abstracts. Chemistry RA abstracts used the present tense but in the passive voice.

2.3 Conclusion

To summarize, the studies reviewed above focused on RA abstracts in English and in a few languages other than Arabic. In addition, scant research has examined the usage of verb tense in abstracts per se. To the best of my knowledge, Arabic has not been involved in cross-disciplinary analysis of move structures and verb tenses used in RA abstracts. Hence, this study was carried out to investigate the move structures of RA abstracts and the verb tense of moves as a realization element in four Arabic different disciplines; namely, law, linguistics, medicine and police.

3. Purpose of the study

This study analyzed and compared the moves structure of RA abstracts in Arabic across disciplines. This investigation (a) identified the move structures of Arabic RA abstracts in law, linguistics, medicine and police; (b) compared the consistency of these cross-disciplinary RA abstracts with Bhatia's (1993) four-move structure, and Hyland's (2000) five-move structure; (c) identified the preferred verb tense of each move in the RA abstracts; and (d) suggested general implications and recommendations for writing and publishing RA abstracts in Arabic.

4. Research Questions

The study addressed the following three questions.

1. To what extent is the move structure of the Arabic RA abstracts in law, linguistics, medicine, police consistent with Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure model?
2. What are the similarities and differences between the cross-disciplinary RA abstracts in terms of the genre structures of moves?
3. What is the preferred verb tense of each move in the Arabic RA abstracts in the four disciplines?

5. Method

5.1 Corpus

The corpus consisted of 40 Arabic RA abstracts drawn from four different disciplines: law, linguistics, medicine and police, with 10 RA abstracts taken from each discipline. Law RA abstracts were taken from two journals: *Law and Political Sciences Journal of King Saud University* in Saudi Arabia and *Alhqoq (Law) Journal* of the University of Kuwait. They were published during the period of 2008-2012. Linguistics RA abstracts were taken from three journals: *King Faisal Journal of Humanities and Administration*, *Jordanian Journal of Arabic and Literature*, and *Um Alqura Journal of Languages and Literatures*. These abstracts were published during the period of 2006-2012. Medical RA abstracts were taken from *Damascus University Journal of Health Sciences* in Syria. All the selected abstracts in this journal were published in 2010. Police RA abstracts were drawn from *Al-Fikr Al-Shurti*, a police journal published in the United Arab Emirates. They were published during the period of 2008-2011. Except the RA abstracts in *Alhqoq (Law) Journal of the University of Kuwait*, all the RA abstracts are accompanied with English translations in the journals. All the abstracts were accessible online.

5.2 Data analysis procedures

5.2.1 The analytical framework of analysis of move structures

Both Bhatia's (1993) four-move model and Hyland's (2000) five-move model were adopted as the framework for move analysis of the RA abstracts in the present study. These two models are similar in using four moves (purpose-method-results-conclusion), but differ in the introduction move which is only found in Hyland's model. For Hyland, RA abstracts writers use the introduction move to justify their study and establish the appropriate context. Furthermore, they capture the contribution of previous genre analysts who concluded that the number of moves in RA abstracts range from four (e.g., Swales, 1990) to five (e.g., Santos, 1996; Swales & Feak, 2004) moves. For the purpose of this study, the frequency of occurrence of each move was statistically tallied and summed. Following previous studies (e.g., Kanoksilapatham, 2005), a move is considered obligatory if its frequency is no less than 60% of the corpus in each discipline. Conversely, if a move occurs less than 60% of the corpus, it is considered optional. Each abstract in the corpus was coded and analyzed by the researcher using the criteria provided by the above two models as shown in Table 1.

Table 1. The framework for RA abstracts Analysis

Bhatia's (1993, p 78-79) four-structure move	Function	Hyland's (2000, p. 67) five-structure move	Function
		Introduction	Establishes context of the paper and motivates the research or discussion.
Introducing the purpose	What the researcher did.	Purpose	In Indicates purpose, thesis or hypothesis, outlines the intention behind the paper.
Describing the methodology	How the researcher did it.	Method	Pr Provides information on design, procedures, assumptions, approach, data, etc.
Summarizing the results	What the researcher found.	Product	States main findings or results, the argument, or what was accomplished
Presenting the conclusions	What the author concluded.	Conclusion	or Interprets or extends results beyond scope of paper, draws inferences, points to applications or wider implications.

For the sake of clarity and since they have the same moves except for the introduction, the moves in the two models were categorized throughout the paper as introduction, purpose, method, results/product, and conclusion. The introduction move was referred to as Hyland's move in the analysis and discussion of the results.

5.2.2 Analysis of the verb tense of the moves

The study focused on three verb tenses in Arabic, namely the present, past and future. The purpose of this analysis was to identify the preferred tense used in each move in the abstracts across the four disciplines. Following Tesng (2011), the analysis procedures of the verb tenses in the moves in each abstract were as follows. First, when a single sentence introduces a move, the verb tense of that sentence is the tense of the move as in example 1 below. Second, when several sentences introduce a single move, then all tenses in that move are included in the data analysis as in example 2 below. Third, when no verb tense is used to introduce a move because the tense is realized in a clause or a phrase, then no verb tense is included in data as in example 3 below.

1.

هدفت هذه الدراسة المستقبلية المجرة إلى معرفة مقدار فائدة هذا الإجراء . . .

This study **aimed** at knowing the safety and the efficacy of this (purpose) → past tense. (Kudsi, 2010)

2.

يتناول هذا البحث مفهوم الإحالة عند سيبويه، و يحاول أن يحدد أبعاد هذا المفهوم، و أن يستخلص الضوابط والمعايير . . .

The research **deals** with the concept of the "crooked speech" in Sibawayh's. It **attempts** to specify the dimensions of this concept, and to **conclude** the semantic and syntactical standards . . . (purpose) → present tense (Al-Najjar, 2006)

3.

دراسة وبائيات حالات داء اللايشمانيا الحشوي المقبولة في مستشفى أطفال جامعة دمشق. . .

The study of the epidemiology of Visceral Leishmaniasis cases . . . (purpose) → no tense being used to indicate the purpose. (Anjak, 2010)

6. Results and Discussion

6.1 Genre structures of moves across disciplines

In this section, a cross-disciplinary analysis is conducted in order to identify the variations of RA abstracts in terms of move structure across the four disciplines. Table 2 shows the frequency and percentages of different moves in each of the four disciplines according to Bhatia's (1993) and Hyland's (2000) move structure models.

Table 2. Distribution of Bhatia's (1993) and Hyland's (2000) moves across the four disciplines

Move	Law		Linguistics		Medicine		Police		Total	
	N	%	N	%	N	%	N	%	N	%
Introduction*	8	80	3	30	6	60	6	60	23	57.5
Purpose	8	80	10	100	9	90	9	90	35	87.5
Method	3	30	7	70	10	100	5	50	25	62.5
Results/Product	0	0	6	60	10	100	6	60	22	55
Occlusion	0	0	1	10	10	100	4	40	15	37.5

*Only for Hyland's (2000) move structure

Hyland's (2000) introduction move is obligatory in the fields of law (80%), medicine (60%) and police (60%). It is optional in linguistics (30%). The purpose move is obligatory in all disciplines (law 80%, linguistics 100%, medicine 90% and police 90%). The four disciplines showed variations in the use of the method move. Writers in both law (30%) and police (50%) used this move optionally. In contrast, writers in linguistics (70%) and medicine (100%) use the method move obligatorily. The result/product move is absent in the law RA abstracts (0%). It is obligatory in linguistics (60%), medicine (100%) and police (70%). The conclusion move is absent in law (0%) and optional in linguistics (10%) and police (40%). For medical RA abstracts, the conclusion move is obligatory. Taking into account the four disciplines together, the purpose is found to be the only obligatory move that these disciplines share, and hence confirming previous studies (e.g., Li, 2011) which asserted the obligatory of this move across disciplines and languages.

As shown in Table 3 below, the most frequent move structure in law is I-P (40%) and

I-P-M-R-C (50%) and P-M-R-C (40%) in medical RA abstracts. No conventional move structure could be identified in the linguistics and police RA abstracts. It is therefore obvious from the move structures in Table 3 that the medical RA abstracts are the only abstracts that show consistency with Bhatia's (1993) four-move structure and Hyland's (2000) five-move structure.

Table 3. Move structure in RA abstracts across the four disciplines

RA abstracts No.	Law	Linguistics	Medicine	Police
1	P-M	P-R	I-M-R-C	I-P-M-R-C
2	I-P-M	P-I-M-I	I-P-M-R-C	P-M-C
3	I-P	P	P-M-R-C	I-P-M-R
4	I-P	P-R	P-M-R-C	P-R
5	I	P-M-R-C	I-P-M-R-C	P-M
6	I-P	I-P-M-C	P-M-R-C	I
7	I	P-M-R	I-P-M-R-C	I-P-R-C
8	I-P	P-M	I-P-M-R-C	I-P-R-C
9	P	I+P-M	I-P-M-R-C	P-M-R
10	I-P-M	P-M-R	P-M-R-C	I-P

*I=introduction, P=purpose, M=method, R=results/product, C=conclusion

Writing abstracts is relatively a new practice in the Arabic journals (Alharbi & Swales, 2011). In the past, Arabic journals did not require the submission of abstracts along with articles. In addition, some of these journals from which the RA abstracts were selected have less than 20 years in the field. This may account for the variation and absence of well-defined RA abstracts in the fields of law, linguistics and police. As Hyland (2000, p. 63) commented, an abstract is "critical to disciplinary knowledge-making and therefore to the work of academics." However, the Arabic journals rarely provide guidelines to writers as to how an abstract should be written, what information should be included therein, and what its structure should look like. Additionally, the journals say nothing about the research writing style (e.g., APA, MLA) that researchers should follow when writing the whole research article or the abstract.

As indicated by Swales and Feak (2004), RA abstracts should be informative rather than indicative. The former type of abstracts contain the necessary moves such as introduction, purpose, methodology results, and conclusion. The latter only presents an introduction and a purpose, but either the methodology, or the results, or both, are normally omitted. The law RA abstracts are indicative abstract which seems to be a common practice in law since almost all the RA abstracts in two journals followed the pattern I-P. The following example illustrates this tendency (moves are shown

in bold in parentheses for emphasis).

4. لقد أضحى الحق في محاكمة عادلة يعد من أهم الحقوق التي ينعم بها الإنسان على الإطلاق وهو ما يظهر من حقيقة إقرار الكثير من موثائق حقوق الإنسان الدولية والإقليمية و الدساتير و فوانين الإجراءات الوطنية لهذا الحق. . . . ، (مقدمة) فإن هذه الدراسة تسعى إلى التعرف على إذا ما كانت نصوص تلك الأنظمة تلبى مقتضيات الحق . . . (الغرض من الدراسة)

The right to a fair trial has become one of the most important rights that individuals enjoy. This is evident from the fact that many international and regional treaties, as well as national constitutions and procedural laws guarantee this right . . . (Introduction Move) this study seeks to examine the provisions of these statutes to determine the extent to which, . . . (Purpose Move) (Al-Hargan, 2010)

Unlike the other disciplines (law, linguistics, police), the medical RA abstracts followed a strict and consistent move structures which seems to be emphasized by the journal's publication requirements. This is inconsistent with previous studies (e.g., Melander et al., 1997) which reported that medical RA abstracts had illogical order of moves. Arabic medical researchers highlight each move by labeling it. The following medical abstract illustrates this practice. (moves are shown in bold by the researcher for emphasis)

5.

خلفية البحث: تعد الليشمانية الجلدية من أكثر أشكال الليشمانية شيوعا . . .
هدف الدراسة: الهدف الرئيسي لهذا البحث هو دراسة العلاقة بين التعدد الشكلي الوظيفي . . .
طرائق البحث: . . . شملت الدراسة 54 مريضاً مصاباً بالليشمانية الجلدية المزمنة، و 70 شاهداً من مناطق مختلفة في سورية . . .
النتائج: وجدنا أن التعدد الشكلي من الأدنين إلى التامين كان أقل في مرضى الليشمانية المزمنة بالمقارنة مع الشواهد . . .
الاستنتاج: تقترح أن التعدد الشكلي في الانترون الأول من جينة الانترفيرون غاما قد يؤثر في تطور مرض الليشمانية الجلدية . . .

Background: Cutaneous Leishmaniasis (CL) is one of the most prevalent clinical forms of leishmaniasis . . .

Objective: The main purpose of this research was to study the relationship between the polymorphism in . . .

Methods: . . . A total of 54 patients with chronic cutaneous leishmaniasis, and 70 healthy controls . . .

Results: We found that . . . polymorphism was less common in patients with chronic cutaneous leishmaniasis. . .

Conclusion: Our results suggest that the polymorphism . . . might influence the progression of disease. . . (Assaf & Harfoush, 2010)

The findings also showed support for previous studies (e.g., Hyland, 2000; Promsin, 2006) which have indicated that the conclusion move was an optional one. Except for medicine in which the conclusion move was used obligatorily in all the RA abstracts, researchers in law completely omitted the conclusion move, and researchers in linguistics used it once and researchers in police used it four times.

6.2 Cross-disciplinary analysis of verb tense in moves

Table 4 below shows The frequency of the verb tense in each move in the four disciplines

Table 4. Verb tense frequency in each move in RA abstracts across disciplines.

Tense of moves		Law N %	Linguistics N %	Medicine N %	Police N %	Total N %
Introduction	Present	2 20	3 30	4 40	4 40	13 32.5
	Past	5 50	0 0	1 10	1 10	6 17.5
Purpose	Present	5 50	10 100	7 70	7 70	29 72.5
	Past	3 30	0 0	2 20	2 20	7 17.5
Method	Present	0 0	6 60	0 0	0 0	6 15
	Past	3 30	1 10	10 100	5 50	19 47.5
Results	Present	0 0	3 30	0 0	0 0	3 7.5
	Past	0 0	2 20	10 100	6 60	18 45
Conclusion	Present	0 0	0 0	7 70	0 0	7 17.5
	Past	0 0	1 10	3 30	4 40	8 20

The data showed that the present tense was used 32.5% in the introduction move in the total RA abstracts across disciplines. In contrast, the past tense was used 17.5% in all RA abstracts. Both medicine and police authors used the present tense in the introduction move four times. Linguistics authors used it three times and the law authors used it twice. The past tense was only used in five of the law abstracts and once in medicine and police RA abstracts. Table 5

illustrates the uses of verb tenses in the introduction move across the four disciplines.

Table 5. Verb tense use in the introduction move across disciplines.

Discipline	Present Tense	Past Tense
Law	6.a . . . يسعى الإنسان في سبيل اشباع احتياجاته . . . The human being attempts to fulfill his needs . . . (Gourari, 2009)	6.b . . . زادت في الأونة الأخيرة هجرة بعض الأفراد للعمل . . . The immigration of some individuals for work increased (Aldeaj, 2009)
Linguistics	7 . . . يركز المنهج التأويلي للترجمة بين اللغات الطبيعية . . . The hermeneutic approach to natural language translation concentrates on . . . (Sheikh Al-Shabab, 2010)	None
Medicine	8 a . . . يعد مرضى القصور الكلوي النهائي . . . Patients with end stage renal disease . . . are often considered (AL-Anzaoui, 2010)	8.b . . . عرفت منظمة الصحة العالمية موت الفجاءة . . . (Al-Jabouri, 2010)
Police	9. a. . . تعد جرائم للاحتيال . . . fraud crimes are considered . . . (Abdrrahman, 2011)	9.b. . . ساعت في ظهور أنماط جديدة من الجرائم . . . Security changes . . . helped in the occurrence of new crime patterns . . . (Al Samahi, 2012)

In the purpose move, the present tense was more frequently used in the RA abstracts across discipline (72.5%) compared with the past tense which was only used 17.5%. All medical authors used the present tense to introduce the purpose. Linguistics and police authors used the present tense seven times, whereas the law authors used it five times. Table 6 illustrates how verb tenses are used in the purpose move across the four disciplines.

Table 6. Verb tense use in the purpose move across disciplines.

Discipline	Present Tense	Past Tense
Law	10.a . . . يتناول هذا البحث جرائم الاحتيال . . . This research deals with fraud crimes . . . (Alobady, 2010)	10.b هذا البحث انتقال المخاطر في عقود البيع الدولية . . . This researcher dealt with the transfer of risks in the international sale contracts . . (Makhlouf, 2012)
Linguistics	11.a . . . يحاول هذا البحث دراسة التغيرات . . . This research attempts to study the changes . . . (Al-Ma'aitah, 2010)	None
Medicine	12.a . . . تقيم هذه الدراسة هو ردود الفعل . . . The aim of this study was to evaluate the effect of PRP . . . (Zenati, 2010)	12.b . . . هدف هذا البحث إلى تقييم الامتصاص العظمي . . . This research aimed to evaluate the mesial and distal bone . . . (Zenati, 2010)
Police	13.a . . . تهدف هذه الدراسة إلى تناول ظاهرة الانتحار في السجون . . . This study attempts to investigate the suicide phenomenon in prison. (Hilal, 2009)	13.b . . . استعرض هذا البحث فاعلية وإيجابية الشرطة في مكافحة الجريمة . . . This research discussed the efficiency and costiveness of police in combating crime . . . (Shapsq, 2008)

With regard to the method move, 47.5% of the abstracts across disciplines used the past tense and 15% of the corpus used the present tense. Only the linguistics authors used the present tense to present their methodology in six abstracts. All the ten medical authors used the past tense when describing their methodology, followed by five police authors, three law authors and one linguistics author. Table 7 demonstrates the uses of verb tenses in the method move across the four disciplines.

Table 7. Verb tense use in the method move across disciplines.

Discipline	Present Tense	Past Tense
Law	None	14. تناولنا هذا الموضوع بطريقة تحليلية من خلال ثلاث محاور أساسية . . . We addressed this topic analytically through three major axes . . .
Linguistics	15.a ويستخدم . . . أمثلة من ترجمة القرآن الكريم إلى اللغات الأوروبية وترجمة الشعر الإنجليزي إلى اللغة العربية . . . and employs examples from the Holy Quran translation in European languages and the translation of English poetry into Arabic . . . (Sheikh Al-Shabab, 2010)	15.b وقد درس البحث نماذج من التّصغير الواردة في كتاب سيوييه، وصنّفها وفق أسس صوتيّة . . . , and the research examined examples of phonemic reduction in Seibaweihi's book, and classified them according to phonological rules. . . (Al-Ma'aitah, 2010)
Medicine	None	نهائي . . . كلوي قصور حالة 17 ل تحليلية دراسة أجريت 16. Analytic study of 17 patients with (ESRD) was conducted (AL-Anzaoui, 2010)
Police	None	وتمت معالجة الموضوع من خلال عدة نقاط رئيسية . . . تمثلت في تحديد حجم المشكلة المرورية . . . The topic was dealt with through several major points represented in specifying the traffic problem size . . . (Altiraif, 2010)

To present the results, the authors used the past tense (45.5%) more than the present tense (7.5%). Six police authors used the past tense to present their results. Three linguistics authors used the present tense to present their results. Two other linguistics authors used the past tense to present their results. All the medical authors used the past tense to present the results followed by six police authors. Table 5 illustrates how verb tenses are used in the introduction move across the four disciplines. Table 8 below shows how verb tenses are used in the results move in linguistics, medicine and police.

Table 8. Verb tense use in the results move across disciplines.

Discipline	Present Tense	Past Tense
Linguistics	18.a يبين أنّ سيوييه كان ينظر إلى الظاهرة اللغوية . . . It shows that Sibawayh viewed linguistic phenomenon . . . (Al-Najjar, 2006)	18.b وقد كشفت الدراسة أن أكثر القوانين الصوتية . . . The study found that most phonological rules . . . (Maree, A. , Al-Mahasena, 2006)
Medicine	None	19 عمودي عظمي امتصاص حدوث النتائج أظهرت The results showed vertical bone restoration . . . (Dayoub, 2010)
Police	None	20. و توصلت الدراسة إلى عدم تأثير استراتيجية الشرطة المجتمعية . . . The study found that police community strategy was ineffective . . . (Abdelmottelp, 2009)

In the conclusion move, 20% of the RA abstracts across disciplines used the past tense and 17.5% used the present tense. Seven medical authors used the present tense to summarize the conclusions. Four police authors used the past tense to introduce, three medical authors used it and one linguistics author used it. Table 9 illustrates how verb tenses are used in the conclusion move in linguistics, medicine and police.

Table 9. Verb tense use in the conclusion move across disciplines.

Discipline	Present Tense	Past Tense
Linguistics	None	21الضرورية . . . من التوصيات عدد إلى انتهى (The research) concluded with some necessary recommendations . . . (Al-Anati, 2009)
Medicine	22a بيضاء . . . فموية أفات القات يسبب Khat chewing causes oral white . . . (Abdulhak, 2010)	22b الكظر . . . كتل استئصال الممكن من أصبح It became possible to resect the adrenal masses . . . (Alchalabi, 2010)
Police	None	23 انتهت الدراسة إلى جملة من الاستنتاجات الهامة . . . The study concluded with some important conclusions . . . (Hilal, 2009)

When comparing the results of this study with previous studies in terms of the use of verb tenses in moves, similarities and differences can be found. For example, findings in previous studies (e.g., Selager-Meyer, 1992, Tesng, 2011) are consistent with the findings of this study in that the method and results moves are realized in the past tense. Similar to Tesng (2011), the introduction and purpose moves are realized in the present tense. However, this study differ slightly from these previous studies in that the conclusion move was more realized in the past tense not in the present tense. These similarities and differences should be taken with caution since these previous studies dealt with abstracts in single disciplines while this study focused on abstracts across disciplines.

7. Conclusion and implications

Although a few studies have examined RA abstracts across disciplines in the past decade, none of them have addressed this genre in its Arabic perspective, which is what prompted this research. The current study investigated 40 RA abstracts across four disciplines: law, linguistics, police, and medicine from two perspectives: the move structure features and the verb tense of each move. The rhetorical structure of the RA abstracts and linguistic features of the moves in the RA abstracts were analyzed and compared using Bhatia's (1993) four moves (i.e., introducing the purpose, describing the method, summarizing the results and presenting the conclusions) and Hyland's (2000) five moves (i.e., introduction, purpose, method, product, conclusion). The major findings can be summarized as follows. First, with regard to move structures, the four disciplines greatly varied in the number of moves used in the RA abstracts. Medical RA abstracts were found to be consistent with either Bhatia's (1993) or Hyland's (2000) models. The other disciplines (i.e., law, linguistics, police) had no conventional move structure to follow. As a matter of fact, each of these disciplines had various move structures ranging from one move to four or five moves. The purpose move was found to be obligatory across all the four disciplines. This variation in the use of moves across disciplines could be attributed to the Arabic journals' publication policy which leaves the writing of abstracts at the researchers' disposal. Second, concerning the preferred verb tense of each move, the researchers in these disciplines used the present tense in the introduction, purpose and conclusion moves, and the past tense in the method and result moves.

The results have two important implications. First, Arab postgraduate students and novice researchers need to realize the importance of applying either Bhatia's (1993) four-move structure or Hyland's (2000) five-move structure in their abstract writing since these two models capture the important information that should be available in the abstract. To achieve this, they could be taught the prototypical rhetorical structures of research abstracts to help them recognize the specific features of each move and how moves are used in academic abstract writing (Swales & Feak, 2009). Second, Arabic journals should have clear and consistent publication standards. The strong variation in the abstracts within some disciplines points to the Arabic journals' failure to adhere to the universal common practices of abstract writing, hence they should amend their policy of accepting abstracts in order to advance the dissemination of knowledge in these disciplines. It is not acceptable to publish abstracts lacking important moves such as the method and the results. These journals should adopt a certain research style that researchers should abide by in the writing of abstracts.

Finally, this study emphasizes the need for more genre research in Arabic. Future research should be conducted on other Arabic disciplines. This study only investigated the RA abstracts in four Arabic disciplines; namely, law, linguistics, medicine and police. Other disciplines can also be included in genre analysis of Arabic. For example, there is a need to investigate other Arabic disciplines such as chemistry, biology, finance, politics, business, etc. Furthermore, this study examined a specific genre; that is, research article abstracts. Other genres of research articles across discipline in Arabic such as the introduction and results need to be investigated to show whether they are consistent with

current models of genre analysis, and how they are different from or similar to other languages such as English. Another important point that arose from the analysis of the abstracts in this study was the variation between the English translations of the abstracts and their original Arabic texts. For example, certain features such as tenses did not match in both forms of texts. There is a need to examine the extent to which the English translation versions match the actual Arabic texts. Finally, the current study focused on a single journal from police and medicine and two journals from law and three journals from linguistics. There is a need to include more journals from different Arab countries in order to understand how Arab writers use move structures and verb tense in their abstracts across borders.

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Appendix

Sources of data: Abstracts by disciplines in Arabic

Law

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