

CHAPTER 4

Results and Discussion 1

4.1 Introduction

In this chapter, I will present the results of the analysis of the 90 abstracts focusing first on the overall move structure of the abstracts and then on the internal structure that make up each of these moves.

4.2 Rhetorical Moves in Abstracts across the three disciplines

The three sets of abstracts vary in length. The EdP abstracts are written in a minimum of 114 words and a maximum of 166 words, averaging at 138 words. The minimum number of sentences is 4 and the maximum, 10. The EnP abstracts are written in a minimum of 116 words and a maximum of 298 words, averaging at 182 words. The minimum number of sentences is 4 and the maximum 10. The EcP abstracts are written in a minimum of 72 words and a maximum of 224 words, averaging at 149 words. The minimum number of sentences is 3 and the maximum 10. Therefore, in terms of textual space, there appears to be not much difference across the three disciplines.

Four moves were found in the EdP abstracts; Introduction (I), Methods (M), Results (R) and Conclusions (C). The Introduction and Methods Moves appears in 29 (97%), the Results Move in 30 (100%) while the Conclusion move is used in 22 (73%) abstracts. Similarly, four moves were also found in the EnP abstracts. The Introduction and the Methods moves appear in all the abstracts. The Results move appears in 29 (97%) abstracts while the Conclusion move is used in 18 (60%) abstracts. The same four moves were also used in the EcP abstracts. The Introduction and Methods move appears

in 28 (93%) abstracts. The Results move appears in 30 (100%) abstracts while the Conclusion move is used in 16 (53%) abstracts. Table 4.1 presents the results of the analysis of moves in the abstracts and indicates that abstracts from the three disciplines generally contain the introduction, method, results, and conclusion moves. Of these, the introduction, methods, and results move appear to be used more than the conclusion move.

Table 4.1: Rhetorical Moves in abstracts across three disciplines

	EdP	EnP	EcP
Introduction	29	30	28
Methods	29	30	28
Results	30	29	30
Conclusions	19	18	17

The introduction move appears in 29 (97%) abstracts in EdP; in 30 (100%) EnP abstracts and 28 (93%) abstracts in EcP. It appears that writers of RAs across the three disciplines, a soft knowledge domain, see a need to situate their discourse with an Introduction. Another finding is that methods moves are frequently found as the other traditional moves in the three sets of abstracts, unlike abstracts in Conservation Biology and Wildlife Behaviour where they only appear in half the abstracts (Samraj 2002). The inclusion of the methods move, therefore, appears to be an important aspect of research article abstracts in these disciplines. Bhatia (1993, p. 82) arguing for the distinction between the communicative purposes of RA introductions and abstracts, maintains that discussion of methodology and experimental procedures is “crucial in research abstracts.” This appears to be true for the abstracts in these disciplines.

The results move is also an important part of the abstracts, similar to abstracts in Conservation Biology and Wildlife Behaviour (Samraj, 2002), where it appeared

prominently. Though there is a difference in the constituency of the conclusion move in the three disciplines, this move is almost equally important in the texts from the three disciplines, as it appears in more than 50% of the abstracts in each discipline. It does not appear to be an optional extra as in Hyland (2000) where it was used in only 21% of the abstracts analysed.

Slager-Mayer (1990) opines that a well structured abstract should consist of four components which are fundamental and obligatory in the process of scientific inquiry and patterns of thought in a logical order; that is the linear sequence I+M+R+C and also that if an abstract is made up of more than one paragraph, no conceptual overlapping should be present from one paragraph to another.

All the abstracts in the EdP corpus were written in one paragraph. The linear structure: I+M+R+C had the highest percentage of representation in the corpus, meaning, the linear sequence which these structural elements follow is the same in 20 abstracts (66.6%). One sample with this structure is shown below.

I The present study explores stages..... // M We studied nine different levels of expertise: from// R The results demonstrate the..... // C In general, this study indicates that... (EdP 1)

All the abstracts in the EnP corpus were also written in one paragraph. The linear structure: I+M+R+C had the highest percentage of representation in this corpus too, with 14 (46.6 %) abstracts having this sequence. One sample with this structure is shown below.

I Ecological sanitation has been shown to ...// M members of households, key informants and women and men's focus groups// R All respondents were strongly opposed to// C The study underlines the importance of.....

(EnP 5)

In contrast to the EdP and EnP abstract structure, the linear structure: I+M+R had the highest percentage of representation in the EcP corpus. Eleven abstracts (36.6%) were found to follow this sequence. Following below is one sample.

I Economic decisions depend on both actual outcomes// M We report the results of ultimatum games with children,// R We find that children and teens react.....

(EcP 1)

Although, the I+M+R+C structure had the highest percentage of representation in the entire corpus, meaning, the linear sequence which these structural elements follow is the same in 20 (67%) abstracts in EdP, 14 (47%) abstracts in EnP and in 9 (30%) abstracts in EcP, writers in EdP show a considerable variation in move structuring and appear to conform to the notion of ideal structuring of abstracts (Salager-Meyer, 1990), containing all the four moves in sequence, more than writers in EnP and EcP. Martin (2003) had observed that writers in experimental phonetics and experimental psychology also use the four moves at the same time.

The I + M + R sequence had the second highest representation in the corpus, used in 7 (23%) abstracts in EdP, in 9 (30%) abstracts in EnP and in 11 (37%) abstracts in EcP. Other variations in the ordering of move sequences were also observed. Hyland (2002) had similarly observed deviations from the dominant sequences in his analysis. These variations from the dominant I+M+R+C sequence, such as, the M+R+C sequence (where writers do not provide the background, presupposing readers as informed audiences), Purpose following Method, recycling of moves and two move abstracts, show that “writers are aware of the linguistic resources that the functional structures of

abstracts offer them and exploit these possibilities rhetorically in many ways”(Hyland, 2000:70), thus reiterating yet again the observation that the abstract is not merely a summary of the content of the RA that is to follow.

The remaining structural sequences that were discovered in the EdP corpus are:

The I +R+C sequence used in one abstract and this is shown below.

***I** The purpose of this study was to examine// **R** For the full sample, mastery experience, vicarious experience, social persuasions, and physiological state independently predicted..... // **C** Findings support and refine the...*

(EdP 9)

The M+R+C sequence used in one abstract and this is shown below.

***M** College students learned about..... // **R** A significant interaction between choice and ethnic..... // **C** Results support an interference hypothesis for.....*

(EdP 11)

The I+M+R+M+R sequence used in one abstract. This is an abstract for an article which reports two studies and this is shown below.

***I** Two dimensions of students' beliefs about meaning construction in reading processes, transaction and transaction beliefs, were studied.// **M** Students' beliefs were ascertained by means//**R** showed that transaction beliefs positively affected ...//**M** Study 2, involving 202 students in grades 7 and 11, // **R** revealed the influence of transaction beliefs on text comprehension, thematic, and personal interpretative responses, and overall meaning construction. It also showed*

(EdP 2)

The following are other structural sequences discovered in the EnP abstracts.

The I+R+C sequence used in 2 abstracts and one is shown below.

***I** This paper examines...// **R** In line with predictions, environmental preservation and environmental utilization were weakly...// **C** The findings support the expanded social dilemma framework in which.....*

(EnP 18)

The I+M+C sequence used in one abstract and this is shown below.

***I** One important aspect of the urban environment is its sound environment,..... // **M** In this research, we employed methods of subjective..... // **C** The methods presented by this research can help us.....*

(EnP 24)

The I+M+R+M+R sequence used in one abstract and this is shown below.

***I** Measurement issues and structure of environmental concerns (ECs) were assessed in two studies.. // **M** Study 1 compared two different scales..... // **R** The ECs scale was shown to be more reliable ...// **M** In Study 2, the structure of ECs was tested, using structural equation modelling. // **R** The three-factor structure, of the value-belief-norm theory, fitted the data...*

(EnP 6)

The M+I+M+R sequence used in one abstract.

***M** Socio-acoustic studies were conducted in residential areas in Sweden exposed to different levels of road traffic noise. // **I** The objectives were to evaluate// **M** The main study involved interviews// **R** For parents the results demonstrate a significant.....*

(EnP 8)

The I+M+R+M+R+C sequence used in one abstract.

***I** Desires to stay in Pittsburgh or leave the region after graduation were assessed // **M** in a sample of 1805 undergraduates.// **R** Overall, about equal percentages// **M** Regression analysis indicated that // **R** being high in family centrality was the most important// **C** These data suggest that...*

(EnP 13)

The I+M+R+I+R sequence used in one abstract. This is an abstract for an article which reports two studies and this is shown below.

***I** This article describes two studies that// **M** In Study 1, participants from The Netherlands were asked// **R** We identified four broad categories of fear-relevant situations, named Close Encounters, Forceful Situations,// **R** High sensation seekers and men, as compared to low sensation seekers and women,.....*

(EnP 26)

In the EcP abstracts the following structures were also observed.

The I+M+R+M+R+C sequence used in two abstracts and one is shown below.

***I** The study investigated.....// **M** A 42-item questionnaire was developed..... // **R** A speculative orientation and a low level// **M** Structural equation modeling was used to ...// **R** We found that information// **C** Suggestions were made...*

(EcP 2)

The I+R sequence used in one abstract and this is shown below.

***I** This article introduces the idea..... // **R** The findings support the influence.....*

(EcP 15)

The I+R+C sequence used in one abstract and this is shown below.

***I** This study explores.....// **R** The results suggest that..... // **C** These findings suggest that.....*

(EcP 16)

The R+M+C sequence used in one abstract and this is shown below.

***R** In the United States happiness rises slightly, on average, from ages 18 to midlife, and declines slowly thereafter. // **M** These findings come from an analysis of the United States General Social Surveys, using the demographer's synthetic panel technique. // **C** They support neither the.....*

(EcP 7)

The M+I+R+C sequence used in one abstract and this is shown below.

***M** Five hundred and thirty nine psychology and economics majors took part in a tax compliance study // **I** investigating the influence. // **R** Respondents systematically declared more// **C** The research method employed is discussed and suggestions are made.....*

(EcP 25)

The I+M+R+M+R sequence used in one abstract

***I** The purpose of the present research // **M** The economic problems children face in real life were used as the basis to design a game.*

Children played this game in two studies://R Results suggest that// M For the second study, the game was altered//R with both age groups being equally successful but using different strategies to cope with high or low fluctuations in income during the game.

(EcP 28)

The I+R+M+R+C sequence used in one abstract

I The different impact of primary and secondary product attributes on customer satisfaction has received little attention..// R Both hypotheses were supported // M by the results of a survey of perceived quality and satisfaction with local public transport. // R Exploratory analyses indicate that //C The results are discussed.....

(EcP 21)

The I+M+R+M+R+M+R sequence used in one abstract. This is an abstract for an article which reports three studies and this is shown below.

I Previous research has demonstrated a “euro illusion...//M in Experiment 1 different groups of undergraduates. // R Since only a weak effect was observed, //M in Experiment 2 a budget constraint was added to the disposable income to increase its salience. //R However, a clear effect was only obtained in Experiment 3 //M when participants, with knowledge of a disposable income, rated whether they would afford to purchase the consumer products. // R In this experiment the euro illusion prevailed for low-priced products but tended to be reversed for high-priced products.

(EcP 11)

The M+R+M+R+M+R+C sequence used in one abstract and this is shown below.

M In two experiments// R Adverse effects of fairness on preserving the resource were found. //M In Experiment 2 another 48 undergraduates performed a similar task. Self-interest was now operationalized as a financial motive. //R The results showed that//M A regression analysis //R demonstrated consistent adverse effects of fairness on resource use controlling for efficient resource use and total group payoff. //C It was concluded that

(EcP 5)

The variety of patterns within each discipline suggests that ‘how writers use such practices is not determined by editorial prescription or genre constraints, rather, it represents a choice of how best to convince others of their work, given the particular

circumstances of their research, their individual goals and considerations of discipline membership”(Hyland, 2000:75)

4.2.1 Description of the Introduction move in abstracts across the three disciplines

The introduction section of the abstracts was also analysed using Swales (2004) model for RA Introductions. The Introduction section of the abstracts is realized through the three moves and the rhetorical steps related to each move as described in the model and are shown in Table 4.2 below. In other words, no Introductions in the abstracts containing moves outside the parameters as prescribed in this model were found in the abstracts.

Table 4.2: Frequency and distribution of moves in the Introduction section of the abstracts across the disciplines

Moves	Steps	EdP	EnP	EcP
Move 1	Establishing a Territory Via Topic generalization of increasing specificity	12	14	14
Move 2	Establishing a Niche <i>Step 1A</i> Indicating a gap <i>Step 1B</i> Adding to what is known	5 5	6 6	8 6 2
Move 3	Presenting the Present Work <i>Step1</i> Announcing present research descriptively and/or purposively <i>Step2</i> Presenting RQs or hypotheses <i>Step3</i> Definitional clarifications <i>Step4</i> Summarizing Methods <i>Step5</i> Announcing principal outcomes <i>Step6</i> Stating the value of the present research <i>Step7</i> Outlining the structure of the paper	28 5 1 1	28 6 1 1 2	25 10 1

The most fundamental and obligatory category of the Introduction Move appears to be Move 3 which is found in 28 abstracts (93.3%) in EdP and EnP, and 25 (83%) abstracts in EcP and this move is realised predominantly through Step 1 (Announcing present research descriptively and/or purposively). The statement stating the purpose of the research appears to be important in spite of the editorial guidelines not explicitly

mentioning the importance of including the purpose of the RA. The guideline reads, “The abstract must be a single paragraph that summarizes the main findings of the paper in less than 150 words” (<http://www.elsevier.com/wps/find/journaldescription>). Three examples of this move follow below.

The present study examined characteristics of students.....
(EdP 7)

This research investigates sound symbolism as....
(EdP14)

In this experiment, we investigated.....
(EnP 3)

The objectives were to evaluate
(EnP 8)

The study investigated the psychological mechanisms of....
(EcP 2)

In this research we focus on both cognitive and emotional modifications of...
(EcP 10)

Another step used in realizing Move 3 is Step 2 (Presenting RQs or hypotheses) in which writers describe the more specific features of the study, occurs in 5 (17%) EdP, 6 (20%) EnP and 10 (33%) EcP abstracts. It occurs as a stand alone independent step as in the following examples.

Relationships were hypothesized between exacerbation and amelioration of dissonance, middle school mastery and performance goal practices, and students' perceptions thereof.
(EdP 4)

More specifically, it studied to what extent.....
(EnP 21)

We suggest that there is a relationship between individual differences in preferred decision mode (intuition vs. deliberation) and the curvature of the individual utility function.
(EcP 18)

Move 3 S2 is also embedded in Move 3 S1 as in the following examples.

In this study, we investigated the....., // and whether there was any significant interaction effect between teaching approach and students' epistemological beliefs. (EdP 26)

From studying the structurewe tried to find out if farmers' commitment to pro-environmental steps is related to their increased environmental awareness. (EnP 4)

In this paper, we analyze data on participation and amounts held in ESSPs for employees who have access to the asset, investigating the relationship with background characteristics and other forms of savings. (EcP 8)

In EdP, within Move 3 (Presenting the Present Work) Step 7 (Outlining the structure of the paper) occurs once in EdP as in the following example:

We first provide a narrative review synthesizing past research,.....
(EdP 27)

In EnP there were other steps within Move 3 which were found. Specifically, Step 3 (definitional clarifications) in one abstract, Step 5 (announcing principal outcomes) in one abstract and Step 6 (stating the value of the present research) in 2 abstracts, and these are shown below respectively.

We treated preference as an attitude, constituted of beliefs about the likelihood of restoration during a walk in a given environment and the evaluation of restoration given different restoration needs.
(EnP 3)

Interviews of 91 children living in a large high-rise, high-density planned neighborhood of 5277 families reveal that..... They are aware of differences in They choose the places becauseDue to these attributes, behaviors in places are differentThis can be confirmed in a follow-up behavioral analysis of three pairs of most popular places and their counterpart settings.
(EnP 17)

The findings have theoretical and practical implications for research into ECs, and for applications of the value–belief–norm (extended norm activation) theory.

(EnP 6)

Another communicative category observed in the Introductions of these abstracts is Move 1 (Establishing a territory), occurring in 12 (40%) EdP, 14 (47%) EnP and EcP abstracts respectively where, authors provide a statement of the current knowledge in the field or showing their knowledge of the research topic by making reference to previous research. This move occurs as the first move in 9 (30%) EdP, 12 (40%) EnP and 13 (43%) EcP abstracts. It was also noted that this statement concerns the research world leading to a discussion of a theoretical issue. Three examples of this move as the first move are given below.

Troubleshooting in a practice situation requires two types of information, namely for reasoning about the problem-cause and for finding an adequate solution (declarative information) and for manipulating the environment (procedural information).

(EdP 11)

Conflicts over timber harvesting and clearcutting versus wildlife conservation have instigated.....

(EnP 7)

Monetary transactions in which consumption is temporally separated from purchase naturally lend themselves to

(EcP 6)

Move 1 occurs as the second move, following the purpose statement, in 3 (10%) EdP, 2 (7%) EnP and 1 (3%) EcP abstracts. Given below are examples of Move 1 as the second move.

*Two dimensions of students' beliefs aboutwere studied. **According to transmission beliefs, the reader's task is to understand the author's intended meaning, while transaction beliefs assign to the reader the role of active meaning constructor.***

(EdP 2)

This paper tries to reconcile two sets of apparently contradictory results. One is the positive link, postulated in literature, between place attachment and civic activity, the other is the.....

(EnP 19)

I examine the influence of the framing of investment portfolios on the risk-taking behavior of individual investors. *Investment portfolios can be presented either in aggregated or segregated framing, meaning that either the overall distribution or the single investments of portfolios are displayed. Previous studies have found that...*

(EcP 13)

Also observed is communicative category Move 2 (Establishing a niche) occurring in 5 (17%) EdP, and 6 (20%) EnP and 8 EcP abstracts which is realized solely through Step1A (Indicating a gap) where authors highlight the current lack of knowledge, statements of gaps in the research world and topics or areas that still need research in relation to previous work in this particular area of investigation. The following are three statements indicating gaps in previous research derived from the corpus.

Information processing theory suggests that*but there are few supportive data.*

(EdP 6)

When research has considered the explanatory power of person variables, it has focused on traits or demographic characteristics. Little research has considered how environmental.....

(EnP 3)

Although regret is a relevant emotion in the life of investors, research studying the regrets of real investors and how these are influenced by multiple reference points is lacking.

(EcP 3)

Only one (3%) abstract in EdP and 4 (13%) in EnP and EcP respectively are presented with a clear linear structure containing all the three moves in the introduction section and these are highlighted below.

I (M1) *The inability to develop, strengthen, and access associations in memory that allow for*//**M2S1A** *The empirical support for this theory has been limited. // M3s1* *In this study the basic addition performance of five adolescent students still reliant on counting was examined.*

(EdP 13)

I M1 *Studies of human reactions to noise have often also studied possible impacts of*// **M2s1** *However, the socio-acoustic research analyses usually employ regression models where the noise each person is exposed to is regarded as exogenous, i.e given. This precludes the analysis of indirect effects, such as wealthy people buying themselves out of noisy neighbourhoods. // M3s1* *To explore this type of indirect effects,..*

(EnP 16)

I (M1) *Consumers' willingness to pay (WTP) can be higher for items that are objectively worse than others when it is difficult to evaluate them comparatively on the relevant dimensions. (M2S1A)* *However, it is unclear how the ease of evaluation affects WTP. (M3S1)* *In order to investigate the antecedents of WTP,.....*

(EcP 17)

4.2.2 Analysis and discussion of the Introduction move in abstracts across the three disciplines

The introduction section of the abstracts across the three disciplines is realized through the three moves and the rhetorical steps related to each move as described in the Swales (2004) model. The most fundamental and obligatory category of the Introduction Move across the three disciplines appears to be Move 3 where writers present their work. This move is realised predominantly through Step 1- announcing present research descriptively and/or purposively. The move stating the purpose or the goal of the research appears to be very important in abstracts across the three disciplines. The purpose statement was found to be highly prevalent in abstracts in Physics and Engineering (Hyland, 2000) and in experimental phonetics and experimental psychology (Martin, 2003). Purpose statements were also found to be widely used in abstracts in Conservation Biology but not abstracts in Wildlife Behaviour (Samraj, 2002).

A point to note here is Hyland's (2000) observation that the purpose of papers in science and engineering report the fact of acts of research and their outcomes. In the soft sciences, however, writers frequently seek to define an issue rather than establish empirical truths. Therefore, purpose statements in the soft sciences do not signal an explicit research claim. In the abstracts across the three disciplines it was found that all the purpose statements do indeed report acts of research and their outcomes and not define an issue. It is therefore safe to conclude that writers in EdP, EnP and EcP do not seek to define and discuss an issue but establish empirical truths as opposed to the writers in the softer fields examined by Hyland.

Another step used in realizing Move 3 across these disciplines is Step 2 (presenting research questions or hypotheses) in which writers describe the more specific features of the study, which occurs in 5 (17%) abstracts in EdP, in 6 (20%) EnP abstracts, and in 10 (33%) EcP abstracts. This feature appears to be used more in EcP abstracts compared to the EdP and EnP abstracts. It occurs as either a stand alone independent step or is incorporated as a step within step M3S1 across the three disciplines.

There were other steps within Move 3 which were found in the abstracts, specifically, Step 7 (outlining the structure of the paper) in 1 (3%) EdP abstract, Step 3 (definitional clarifications) in 1 (3%) EnP abstract, Step 5 (announcing principal outcomes) in 1 (3%) EnP abstract and Step 6 (stating the value of the present research) in 2 (7%) EnP abstracts. The presence of these steps in EnP and not in EdP and EcP requires further examination with a larger corpus to determine if such usage has any discipline specific significance.

Another communicative category observed in the Introductions of these abstracts is Move 1 (establishing a territory), occurring in 12 (40%) EdP abstracts, in 14 EnP and

EcP (47%) EcP abstracts. There is a very minimal degree of divergence in the frequency and distribution of this move across the three disciplines. This move occurs as the first move in 9 (30%) EdP abstracts, 12 (40%) EnP abstracts and in 12 (40%) EcP abstracts. It is used as the second move following the purpose statement, in 3 (10%) EdP abstracts, 2 (7%) EnP abstracts and 1 (3%) EcP abstract.

This move which is similar to the Introduction, which establishes the context of the paper and motivates the research or discussion, or setting the scene, proposed in Hyland (2000) and important in abstracts in the soft knowledge domain, especially philosophy, that he analysed, due to the “relative absence of well-defined sets of problems and a definite direction in which to follow them” (p.71) compared to the hard sciences, which require more rhetorical work in familiarizing the reader with the study and its importance appears not to be highly prevalent in abstracts across these three disciplines. It can therefore be assumed that abstracts in these disciplines are more akin to the hard sciences where writers often “draw on a reservoir of understandings, presupposing much of the background required to contextualise their studies” (p.71).

This Move, is also similar, to the “situating the research move” (where authors provide a statement of the current knowledge in the field or show their knowledge of the research topic) proposed in Samraj (2002) and found to be present in more than 90% of the Conservation Biology abstracts compared to fewer than half the Wildlife Behaviour abstracts that were analysed. This Move was also present in abstracts in experimental phonetics and experimental psychology (Martin 2003). Therefore, these abstracts show more similarity to the abstracts in Wildlife Behaviour, experimental phonetics and experimental psychology than to abstracts in Conservation Biology. The present finding

also suggests that there are similarities in the usage of this Move across the three disciplines.

Also observed is communicative category Move 2 (Establishing a niche) occurring in 5 (17%) EdP abstracts and 6 (20%) EnP and 6 (20%) EcP abstracts. This Move is realized solely through Step1A (Indicating a gap) where authors highlight the current lack of knowledge, statements of gaps in the research world and topics or areas that still need research in relation to previous work in this particular area of investigation. The findings indicate that there are no significant differences in the usage of this Move and the constituent step in realizing it across the three disciplines. It is noted that very little is done to persuade readers about the significance of the research that is being documented in the introduction moves in abstracts within these disciplines unlike abstracts in Conservation Biology (Samraj, 2002). This is quite contrary to Hyland (2000: 76) where “the principal means of establishing importance was to identify a problem convincingly enough to encourage further reading into the article.” The intention to persuade further reading in these disciplines appears to be more profound with the inclusion of the results and concluding moves. It can be assumed that the abstracts exhibit the ‘tacitness’ and ‘taciturnity’ that Melander et al. (1997) posit as characteristic in mature research areas. The insignificant usage of this step is also consistent with the abstracts in Wildlife Behaviour (Samraj, 2002) and experimental phonetics and experimental psychology (Martin, 2003). It was also noted that this step is used mostly to situate the research within theoretical considerations, meaning, these problems merely sought to establish a disciplinary relevance, thus dealing with problems inherent in the research community.

Lores (2004) distinguishes three types of abstracts; the IMRD structure of the informative type of abstracts, the CARS structure of the indicative type of abstract and the combinatory structure which starts with a CARS structure in which the IMRD model is embedded corresponding to the informative-indicative abstracts. On the whole the majority of the abstracts display the IMRC structure which fulfill the informative function One (3%) abstract in EdP, 4 (13%) abstracts each in EnP and EcP display a combinatory structure which corresponds to the mixed type of informative-indicative abstracts; starting with a CARS type of structure in which the IMRC model is embedded. There were no abstracts in the corpus which had the CARS structure as the core rhetorical make up of the abstracts.

4.3 Description of the Methods Move in Abstracts across the three disciplines

The Methods move appears consistently in the abstracts across the three disciplines and this move is obviously obligatory for this genre in these disciplines. It is not surprising given that the abstracts analysed report research studies employing empirical research methods. This move discussing the methods employed in the study is found in all the abstracts although no mention is made with regard to placing the discussion on methods in the abstract in the guide to authors.

In terms of the internal structure of this section in these abstracts, the description of the sample appears to be a distinctive feature occurring in 27 (90%) EdP, 20 (67%) EnP and 17 (57%) EcP abstracts as in the following examples:

*Eighty-five students (49 male, 36 female; M = 15.2 years, SD = .59)
participated in a*

(EdP 11)

Desires to staywere assessed in a sample of 1805 undergraduates
(EnP 13)

*.....and distributed to 1547 individual investors recruited by stratified
random sampling from Nan Fang Bond Company.*
(EcP 2)

The writers also provide descriptions of tools and data measures within these abstracts and this feature occurs in 24 (80%) EdP, 28 (93%) EnP and 22 (73%) EcP abstracts as in the following examples.

*Utilizing.....responded to two persuasive articles presented through
two distinct media—paper and computer.*
(EdP 22)

*.....participants were first mentally fatigued by performing a
sustained attention test; then they viewed.....*
(EnP 25)

*.....Shared perceptions were measured as similarity in beliefs and
evaluations of tax law complexity, tax mentality, ethics and social
norms,...*
(EcP 9)

Data analysis procedures is also included in these abstracts but appears to be an optional element as it occurs in 14 (47%) EdP, 13 (43%) EnP and 7 (23%) EcP abstracts as in the following examples.

Results of multivariate multilevel analyses showed that
(EdP 23)

*The design of urban environment, in which the families lived, was
assessed by a group of five experts.*
(EnP 12)

....the model was explored in an initial random sample and cross-validated in an additional random sample. In a second step, multi-group analyses were carried out.....

(EcP 24)

Data Collection procedures is also an optional element within these abstracts occurring in 6 (20%) EdP, 8 (27%) EnP and 9 (30%) EcP abstracts as in the examples below.

Participants were asked to diagnose and solve business cases...

(EdP 1)

....were asked to describe a fearful experience with nature in their home country.

(EnP 26)

...we showed participants an underfilled and an overfilled cup containing the same amount of ice cream or orange juice. We asked them to state their WTP and to report how much they liked.....

(EcP 17)

The methods section occurs as a completely independent unit and is also coalesced with the introduction and the results move. Some examples of this move in its various forms across the three disciplines follow below:

4.3.1 Methods move occurring independent of other moves

Eighty-five students (49 male, 36 female; $M = 15.2$ years, $SD = .59$) participated in a.....

(EdP 11)

The main study involved interviews with 160 children (9–12 years old) and 160 parents. Half of the families also participated.....

(EnP 8)

In this study the utility functions of the subjects were assessed using a...

(EcP 18)

4.3.2 Methods move coalesced with the Introduction move

Guided by Shulman, 1986 and Shulman, 1987 tripartate model of teacher expertise the present study examined 162 U.S. and Chinese 3rd grade mathematics teachers' expertise in teaching fractions.

(EdP 3)

To understand the perceptions of rural Muslim communities regarding alternative sanitation systems, members of households, key informants and women and men's focus groups in Machaki village in the district of Karak, North West Frontier Province (NWFP), were interviewed...

(EnP 5)

In order to investigate the antecedents of WTP, we showed participants an underfilled and We asked them to state their and how large they judged them to be (Experiment 2).

(EcP 17)

4.3.3 Methods move coalesced with the results move of the abstracts

Students' beliefs were ascertained by means of a questionnaire and the effects of these beliefs on narrative text comprehension and interpretation were examined. The first study, involving 52 students in grade 11, showed that transaction beliefs positively affected text interpretation in the form of personal and thematic responses. Study 2, involving 202 students in grades 7 and 11, revealed the influence of transaction beliefs on text comprehension, thematic, and personal interpretative responses, and overall meaning construction.

(EdP 2)

By means of multiple regression analyses it was found that the parents' attitude towards chauffeuring was

(EnP 12)

Economists declared significantly less income, were significantly influenced by framing effects and in a qualitative analysis were less cooperative and less concerned with the morality of tax (non) compliance compared to psychologists. When the general linear analysis was repeated for males and females separately it was clear that males declared significantly less when tax was framed as a loss

(EcP 25)

The occurrence of the Methods move in these abstracts is consistent with abstracts in the hard sciences and empirical social science studies particularly in abstracts in marketing (Hyland, 2000) and in abstracts in experimental phonetics and experimental psychology (Martin 2003) but rare in the philosophy abstracts analysed by Hyland. Hyland further notes that the merging of Purpose and Method moves is not only due to the space constraints inherent in abstract writing but also to enable the writer “to insinuate the appropriacy of the technique by strategically linking the approach in an unproblematic and reasonable way to accomplish the research objective” (p. 74). No mention is made in Hyland (2000) and Samraj (2002) regarding the presence or absence of the Method move being coalesced with the Results move in their abstracts but Martin (2003) observed this feature in abstracts in experimental phonetics and experimental psychology although not occurring significantly. The presence of the Methods move in abstracts in these three disciplines is also in contrast to abstracts in Conservation Biology and Wildlife Behaviour where it was found to be an insignificant move (Samraj, 2002).

4.4 Description of the Results move in abstracts across the three disciplines

The results move appears consistently in all the abstracts and appears to be an obligatory move for this genre across the three disciplines which is not surprising given that the results of a study give the impetus for ongoing debate and discourse in this particular community of researchers. Also, as Berkenkotter and Huckin (1995) assert, the abstract being a promotional genre, allows writers to use it to claim that their findings are significant, to capture reader interest and acceptance (cited in Hyland, 2000: 68). Moreover, the guide for authors across these disciplines states that “the abstract must be a single paragraph that summarizes the main findings of the paper” (<http://ees.elsevier.com/cedpsych>). Hyland (2000) found the results or the “product

statement”, present in 94 per cent of the abstracts that he examined. However, Hyland’s (2002) observation that in the soft disciplines the results is “often an argument, where writers discuss or address a topic rather than report research findings” (p.69) does not appear to be true because the results move in these abstracts are devoted *entirely* to reporting research findings. The appearance of this move is also consistent with abstracts in Conservation Biology and Wildlife Behaviour (Samraj, 2002) and in experimental phonetics and experimental psychology abstracts (Martin, 2003).

In this move, the results of a study are presented, normally with relevant evidence such as statistics and examples. The analysis showed the presence of communicative categories in Results sections proposed by Ruiying & Allison, (2003) specifically, Moves 1, 2 and 3.

Move 1 - Preparatory information - which functions as a reminder and connector between sections as it provides relevant information for the presentation of results by way of methodological instruments yielding a particular set of results, or a statistical procedure applied to a particular set of data or a general preview of the section occurs in 19 (63%) EdP , 7 (23%) EnP and 4 (13%) EcP abstracts as in:

The first study, involving 52 students in grade 11, showed that Study 2, involving 202 students in grades 7 and 11, revealed.....
(EdP 2)

Multilevel growth curve analysis indicated significant Path-analyses evidence pointed to the..... Path analyses revealed....
(EdP 4)

In the laboratory setting there was a significant rise of ... Data from the field study confirmed.....
(EnP 9)

By means of multiple regression analyses it was found that...
(EnP 12)

Three experiments found that.....
(EcP 13)

The findings from two experiments on 400 participants support
(EcP 14)

Move 2- Reporting results- which is the move in which the results of a study are presented normally with relevant evidence such as statistics and examples, similar to Brett's (1994) *Statement of findings* through which the author reports objectively the results obtained appears to be obligatory in these abstracts. One way of doing this is by describing the results obtained by comparing the subjects or elements that were involved in the study as in the following examples.

ANOVA results indicated that students with
(EdP 30)

Results from the in-depth study showed that
(EnP 8)

Economists declared significantly less income, were significantly influenced by it was clear that males declared significantly less when tax was framed as a loss.
(EcP 25)

Move 3 - Commenting on results –which serves the purpose of establishing the meaning and significance of the research results in relation to the relevant field. This move includes information and interpretations that go beyond the objective results. This involves how the results can be interpreted in the context of the study, how the findings contribute to the relevant field (often involving comparison with the relevant literature), what relevant reasons may account for the results, or comments about the strength,

limitations or generalizability of the study. Interpreting results was not found in abstracts across the three disciplines. Comparing results with the literature, which is similar to Brett's (1994) showing the similarity or difference of the present research with previous ones was found in 1 (3%) EdP, 2 (7%) EnP and 1 (3%) EcP abstracts as in the following:

The goal instruction to “generate as many reasons as possible” resulted in deeper, more contingent arguments, closer to Mercer’s (1996) notion of.....

(EdP 25)

*The results provide annoyance estimates for each of the six sites expressed **in master-scale units and in pyridine equivalents** that are directly comparable with each other and with those **from other environmental studies** using this procedure*

(EnP 10)

*When participants could not evaluate the two cups comparatively, they regarded the overfilled one as fuller and they were willing to pay more for it. **This replicates previous work***

(EcP 17)

4.5 Description of the Conclusion move in abstracts across the three disciplines

The concluding move appears in 19 (63%) EdP, 18 (60%) EnP and 17 (57%) EcP abstracts. The concluding move merely signals that the implications of the study and suggestions for future research will be discussed to draw or persuade the readers into the article rather than informing them about its actual content. Given below are three relevant examples.

Implications for educators and researchers of cheating are discussed.

(EdP 19)

Implications of this research for pro-environmental actions are discussed.

(EnP 22)

Related phenomena and assorted implications are discussed.

(EcP 6)

The concluding moves also comment on the result that is reported. This statement extends the scope of the results that is obtained by relating it to what is already known in the area of investigation. It appears in 6 (20%) EdP, 7 (23%) EnP and 7 (23%) EcP abstracts.

In general, this study indicates that progress in expertise is not so straightforward (linear) as often assumed.

(EdP 1)

The findings of the studies indicate that not only the energy equivalent noise level, as used in noise abatement rules of many countries, but also the number of aircraft events are a major source of nocturnal aircraft noise induced annoyance

(EnP 9)

They support neither the mainstream economics view that well-being depends only on one's objective conditions nor the psychologists' strong setpoint model in which adaptation to such conditions is rapid and complete. They are consistent with a "bottom up" model in which happiness is the net outcome of both objective and subjective factors in various life domains.

(EcP 7)

Also observed in 1 (3%) EdP and 3 (10%) EnP concluding moves, is the statement of the implications of the results that is reported or "taking the reader from the text into the world by commenting on the implications of the research or its applications" (Hyland, 2000: 74) or providing recommendations or highlighting actions to be pursued, similar to the concluding moves in Conservation Biology abstracts (Samraj, 2002), as in the examples below.

We suggest that knowledge of early literacy skill development may be enhanced by attention to sublexical fluency and that these skills, specifically letter sound fluency, may provide the mechanism that supports early word reading and spelling.

(EdP 6)

To decrease car usage and increase children's independent travel to leisure activities, planners and policy-makers should focus on improvements in the traffic environment and promote a favourable attitude towards independent travel.

(EnP 12)

These data suggest that appeals to family concerns may be an effective strategy for communities concerned about losing young adults through migration.

(EnP 13)

It is obvious that there is not much difference in the constituency of the conclusion move in the three disciplines, in the sense that writers across the disciplines see a need to incorporate the concluding move and that this move is almost equally important in the texts from the three disciplines, as it appears in more than 50% of the abstracts in each discipline similar to abstracts in Conservation Biology and Wildlife Behaviour (Samraj 2002). Conclusions were also observed to be significant in abstracts in experimental phonetics and experimental psychology (Martin, 2003). It does not appear to be an 'optional extra' as in Hyland (2000) where it was used in only 21 per cent of the abstracts analysed especially in abstracts in biology and marketing. There are no significant differences as far as using the conclusion move to give recommendations and/or to show the significance of the research that is being reported is concerned.

4.6 Conclusion

In this chapter I first described the macro structure of the abstracts which is now known to be the Introduction – Method – Results – and Conclusion. Apart from that other

move structures were also found within these abstracts. The internal elements making up each of these rhetorical moves within these abstracts was also explicated. In the next chapter I will describe how the various sections within these RAs are constructed.