

How do Spanish writers organize thesis introduction chapters? A move and step analysis with reference to thesis writing in English

María Carbonell Olivares

Luz Gil Salom

Carmen Soler Monreal

Escuela Técnica Superior de Informática Aplicada

Universidad Politécnica de Valencia (Spain)

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Introduction

- The PhD thesis: a genre?

- Recent studies focused on particular rhetorical features of PhD theses

- overall organisation and structure (Paltridge, 2002)
- particular sections or chapters (introduction: Bunton, 2002; conclusion: Bunton, 2005; literature review: Kwan, 2006)
- some specific features (citation practices: Thompson, 2005)
 - Research is scarce

- Contrastive rhetoric perspective

- *Create A Research Space (CARS)* model (Swales, 1990)

- adequate for overall framework but not for the level of steps
- Bunton's study (2002) on thesis introductions in English

Introduction

Our aim:

- To contrast the rhetorical organization of thesis introduction chapters written in Spanish and in English, at the move and step levels.
 - To identify possible patterns of cyclicity and embedding of moves
 - To focus on the variations of the organization of steps with reference to Bunton's modified *CARS* model

Method

- **Corpus**

- 21 theses
- written in Spanish by students and teaching staff from the Universidad Politécnica de Valencia. Native speakers.
- *ProQuest Information and Learning*
 - Field: computing
 - » Systems engineering and control (14)
 - » Systems data processing and computers (4)
 - » Communications (1)
 - » Applied statistics and operational research (2)

Method

- **Phases**

- 1) **First analysis** of the texts: tagging (manually) according to the move-step structure of Bunton's model
 - Establishing the move sequence of each thesis
 - Creating a provisional list of new steps or rhetorical strategies

- 2) **Second analysis** of the corpus following the revised list of steps; agreed analysis
 - We obtain a modified, more accurate model

Results and discussion

- **Formal level:**
 - Length: 3-19,5 pages (**average: 9,5 pages**)
 - Sections (19/21) and subsections (10/21)
 - **Move-Step level:** similar organizational patterns
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- **Most of the variations from Bunton's model: in M1 (« Background, territory ») and M3 (« Present research »)**
 - important information for the reader given right at the beginning of the thesis
 - lack of extent constraints
 - lack of a conventional structure

Results and discussion – Move level

- **Move structure**

- Few thesis introductions present the **prototypical sequence [M1-M2-M3]** as the only sequence of moves, but alternations of moves, so:
 - Which moves occur in **cyclical combinations**?
 - Are there any **patterns** that are repeated? Which ones can be identified and with which frequency are they repeated?

Results and discussion – Move level

Thesis	Move sequence	M1	M2	M3	Total
T1	M1 – M3 – M1 – M3	2	0	2	4
T2	M1 – M3 – M1 – M3 – M1 – M3	3	0	3	6
T3	M1 – M3	1	0	1	2
T4	M1 – M2 – M3				
T5	M1 – M3 – M1 – M3 – M1 - M2 – M3 – M2 – M3				
T6	M1 – M2 – M3				
T7	M1 – M3 – M1- M3				
T8	M1 – M2 – M3				
T9	M3 – M1 – M2 – M1 – M2 – M3				
T10	M1 – M2 – M3 – M1 – M3				
T11	M3 – M1 – M2 – M3 – M1 – M2 – M1 – M3				
T12	M1 – M3				
T13	M3 – M1 – M3 – M1 – M2 – M3 – M1 – M3 – M2 – M3 – M1 – M3 – M1 – M				
T14	M1 – M2 – M3 – M1 – M2 – M3 – M1 – M3 – M1 – M2 – M3 – M1 – M2 – M – M1 - M3				
T15	M3 – M1 – M2 – M1 – M3 – M1 – M3 – M2 – M3				
T16	M1 – M3 – M2 – M3 – M1 – M3				
T17	M3 – M1 – M2 – M3 – M1 – M3				
T18	M3 – M1 – M3 – M1 – M3 – M1 – M2 – M3	3	1	4	8
T19	M1 – M2 – M1 – M2 – M1 – M2 – M1 – M2 – M1 – M3	5	4	1	10
T20	M1 – M3 – M1 – M3	2	0	2	4
T21	M1 – M2 – M3	1	1	1	3

Cycles of moves containing the following patterns:

[M1 – M2 – M3]

[M1 – M3]

[M3 – M1]

[M1 – M2]

[M2 – M1]

[M2 – M3]

[M3 – M2]

Results and discussion – Move level

- Cycles containing the sequence [M1 – M2 – M3]

Theses	Number of [M1 M2–M3] cycles	Localization of the cycle and comments
T4, T6, T8, T21	1 cycle	One instance of this cycle makes up the introduction
T5	1 cycle	Medial, preceded by 2 cycles of [M1-M3] and followed by one cycle of [M2-M3]
T17	1 cycle	Medial, preceded and followed by M1 and M3
T9	1 cycle	Closing, preceded by [M3-M1-M2]
T10	1 cycle	Initial, followed by [M1-M3]
T13	1 cycle	Medial, preceded and followed by an alternation of M1 and M3, with one M2 in the second set of M1 and M3
T14	5 cycles	Initial and medial, making up most of the introduction (15 out of the 19 moves that make up the introduction)
T18	1 cycle	Final, after an alternation of M1 and M3

Results and discussion – Move level

- Cycles containing the sequence [M1 - M3]
- Cycles containing the sequence [M3 – M1]
- Cycles containing the sequences [M1 – M2] or [M2 – M1]
- Cycles containing the sequences [M2 – M3] or [M3 – M2]
 - only 4 instances
 - alternations of these moves forming [M3-M2-M3]

Results and discussion – Move level

- **Cycles containing the sequences [M1 – M2] or [M2 – M1]**

- Relatively few instances of these combinations
- [M1-M2] is quite used (5/21 theses); very few instances of [M2-M1]
- [M1-M2]: typically in medial position, after M3, and may be preceded by another M3

- **Cycles containing the sequences [M2 – M3] or [M3 – M2]**

- only 4 instances
- alternations of these moves forming [M3-M2-M3]

Results and discussion – Move level

- Embedding between moves

- M1 embedded in M2 or M3

- M2 embedded in M1

- M3 embedded in M1



Connection between the framework of the study and the work presented.

Results and discussion – **Step level**

Variations from Bunton's model (Move 1)

- **Move 1 (Establishing a Territory)**

All of Bunton's steps were found →

- "Claiming centrality"
- "Making topic generalizations and giving background information"
- "Defining terms"
- "Reviewing previous research"
(*except* "Research parameters")

Variations:

Step 2: "Making topic generalizations and giving background information" is too general: rhetorical functions can be further specified

= Descriptions of concepts, devices, techniques, etc., sometimes also from a historical perspective



→ **sub-steps**

Results and discussion – **Step level**

Variations from Bunton's model (Move 1)

Step 2: “Making topic generalizations and giving background information”

- **Sub-step 2A: a problem or need statement** (ex. 1)
(24 cases) (step 1B of M2 by Bunton)

Tagging problem/need statements:

Step 2 in M1 may contain a number of **sub-steps** (2A, 2B, 2C, 2D, 2E)

= **providing background information at the “Establishing a Territory” level, rather than at the “Establishing a Niche” level**

Results and discussion – **Step level**

Variations from Bunton's model (Move 1)

M1-Step 2: “Making topic generalizations and giving background information”

- **Sub-step 2B:** specifies the **limitations** of models, techniques, devices, etc. presented in the background descriptions and generalizations (ex. 2)
- **Sub-step 2C:** giving **significant examples** to clarify or illustrate claims, concepts or the research context (ex.3)
- **Sub-step 2D: “Defining terms”.** (Bunton: an independent step in M1). In many instances “Defining terms” is carried out at the “Territory” level
 - **classifications** (ex. 4)
 - explicit explanations of the **terminology** employed (ex. 5)
- **Sub-step 2E: Giving or anticipating solutions, or** ways to solve problems / to tackle needs (at the Territory level) (ex. 6)

Results and discussion – **Step level**

Variations from Bunton's model (Move 1)

Move 1 (Establishing the research territory)

1 new sub-step:

“Summarizing previous background information” (ex. 7)

- may be considered embedded in Bunton's step 2
- not widely found

1 new step:

“Explaining the institutional or research group context” (ex. 8)

- in 10 introductions
- not mentioned in the literature on thesis and RA introductions

Results and discussion – **Step level**

Variations from Bunton's model (Move 2)

- **Move 2 (Establishing a Niche)**
 - 15/21 theses contained **at least one instance of M2**
 - Usually M2 consisted of **just one of the steps** in Bunton's model
 - **All** of Bunton's **steps** were found but « Counter-claiming »
 - **No new steps**
 - **Embedding** between moves or between steps of different moves: definitions and centrality claims appeared as part of M2 in at least one introduction (ex. 9)

Results and discussion – **Step level**

Variations from Bunton's model (Move 3)

- **Move 3 (Announcing the present research – Occupying the Niche)**
 - **All of Bunton's steps were found**
 - The **objectives** and the **work done** are devoted much space
 - **Embedding**: step 1 (Purposes, aims, objectives) often includes other embedded steps (e.g. step 6–Findings or results: Product of research / Model proposed; step 7–Significance / Justification)
 - Some steps Bunton considered “often present” were **rarely found**:
 - “Method”
 - “Materials or Subjects”
 - “Research questions/Hypotheses”

Results and discussion – **Step level**

Variations from Bunton's model (Move 3)

- **Move 3** (Announcing the present research – Occupying the Niche)

Variations:

Bunton's step 2 (“Work carried out – announcing research”) is realised in three different ways:

Our model:

Step 2A: Work done (ex. 10)

Step 2B: Work or aspects that fall out of its scope (ex. 11)

Step 2C: Previous requirements (ex. 12)

Results and discussion – **Step level**

Variations from Bunton’s model (Move 3)

Variations:

New step: “Indicating the field of the present research” (step 3 in our model)

- 12 instances
- provides a clear frame to understand the scope of the research

(ex. 13)

Bunton’s step 6 « **Findings or results** » is further specified:

- includes the “**prediction**” of results in addition to their “announcement”
- it may include Bunton’s step “**Product of research/(Model proposed)**”
- it may include other ways to express or present findings/results, namely “**Contributions**” and “**Solutions**” (ex. 14)

Results and discussion – **Step level**

Variations from Bunton's model (Move 3)

- **Move 3 (Announcing the present research – Occupying the Niche)**

Variations:

Four new sub-steps in Bunton's "Thesis structure" (step 8):

Sub-step 8A: "Overall thesis structure"	(11 theses)
Sub-step 8B: "Chapter structure"	(10 theses)
Sub-step 8C: "Chapter goal"	(6 theses)
Sub-step 8D: "Chapter contents"	(in most theses it is the only sub-step present)

Results and discussion – **Step level**

Embedding between steps and sub-steps

- **Move 1** (Establishing the research territory)

The highest number of embedding is found inside step 2 (“Making topic generalizations and giving background information”)

- **SS2E [SS2D] 5**
- **SS2E [SS2B] 4**
- **SS2D [SS2D] 6**
- **SS2C [SS2A] 4**
- **SS2C [SS2E [SS2C] 5 [3]**

Results and discussion – **Step level**

Embedding between steps and sub-steps

- **Move 3** (Announcing the present research)

Embedding in M3 between S1, S2, S4 and S8

- **S1 [SS2A] 5**
- **SS2A [S1] 3**
- **SS2A [S4] 3**
- **SS8D [SS8B] 5**
- **SS8D [SS8C] 6**

Results and discussion

Often present [+ occasionally present]

Move 1: Establishing a Territory

Steps

1: Claiming centrality (importance of topic)

2: Making topic generalisations and giving background information

2A: Indicating a problem or need

2B: Indicating limitations

2C: Giving examples

2D: Defining terms (+ classification and comments on terminology)

2E: Giving or anticipating solutions (or ways to solve problems/to tackle needs)

3: **Defining terms (+ classification)*

4: Reviewing previous research

5: Explaining the institutional/research group context

[Research parameters]

Move 2: Establishing a Niche

Steps

1A: Indicating a gap in research

1B: Indicating a problem or need

1C: Question-raising

1D: Continuing (/Extending) a tradition

[Counter-claiming]

Results and discussion

Move 3: Announcing the present research (Occupying the Niche)
Steps
1: Purposes, aims or objectives
2: Work carried out (announcing research) 2A: Work done 2B: Work or aspects out of scope 2C: Previous requirements
3: Field of research
4: <i>Method (+ **Parameters of research)</i>
5: <i>Materials or Subjects</i>
6: Findings or Results (announcing or predicting) May be expressed or presented as: <i>Product of research (/Model proposed)</i> Contributions Solutions
7: <i>Significance/Justification</i>
8: <i>Thesis structure</i> 8A: Overall thesis structure 8B: Chapter structure 8C: Chapter goal 8D: Chapter contents
<i>[Chapter structure]</i>
<i>[Research questions /Hypotheses]</i>
<i>Theoretical positioning</i>
<i>*Defining terms (+ classification)</i>
<i>[Application of product]</i>
<i>[Evaluation of product]</i>

Conclusions

- **Adequacy of Bunton's model** to describe the Spanish thesis introductions analysed.
- **New steps** and, especially **new sub-steps** were identified for a more accurate account of the rhetorical structure of the introduction chapters, as M1 and M3 tend to be extensively developed.
- Absence of space constraints allows for the **frequent cycles of [M1-M2-M3] and [M1-M3]**.
- **Cycling** and **embedding** of moves appear to be two strategies that enable the writer to present the current research in a way that enhances the link of the present research (M3) with the context or background (M1) in which it is being undertaken.
- **Contrastive study** with a comparable corpus of theses written in English.

Spanish PhD theses in computing: A study of the schematic structure of the introduction chapters

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