
Non-Linear Text in Theses

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INTRODUCTION

"Too often writers overlook the importance of graphics in their reports and papers. Correctly done, graphics are attention getting and informative." (Sides, 1991:50) Bjelland testifies that "when used effectively, along with the proper text, the phenomenon of 'synergism' results." (1990:80). Thus, graphics or non linear texts are employed in almost all types of academic writing since they are able to disseminate information efficiently and effectively. Without them, academic writing will be difficult to comprehend and be a lot more cumbersome and wordy.

This paper intends to study the types and amount of non-linear text present in Masters' theses. It is hoped that instructors of academic writing will be able to take note of the findings and apply relevant information in their pedagogy.

OUTLINE OF STUDY

A comparison will be made between the non-linear texts found in Arts and Science subjects. The arts will be represented by theses in the field of Language Studies, and the Sciences by theses from the Biological Sciences.

Theses in the field of Economics are also included to compare the amount of non-linear texts used in this area as opposed to the first two areas mentioned. It would be interesting to find out what Economics can be categorized as since it has been defined in *New Webster's Dictionary and Thesaurus* as "the science which deals with the production, distribution and consumption of the world's resources." Given the nature of data-collection

methods used in Economics, one would expect non-linear texts to play an important part in theses written in this field.

RESEARCH QUESTIONS

The following questions are relevant for this type of study:

1. **What proportion of text is in non-linear form in each thesis? How significant is the amount of non-linear text in each area?**
2. **Which areas have the largest amount of non-linear texts? What comparisons may be made between the various subject areas in this respect? (Languages vs Economics vs Biological Sciences).**
3. **Which types of non-linear texts are found in each thesis? Which types are found in each area?**
4. **Which particular type of non-linear text is preferred in each area?**

MATERIALS AND METHOD

A corpus of six Masters' theses written by Malaysians were used in this study. Two theses were taken from each the following areas: English Language, Economics and Biological Sciences. All of the theses were written in English by the students in partial requirement for their degree.

All calculations were done manually. The total amount of written text in each thesis was calculated as shown below

$$(\text{Number of pages}) \times (\text{Average length of a fully-typed page})$$

The amount of non-linear text in each thesis was measured and the total amount was calculated. Blank pages were not included in the calculation of total text. All figures arrived at were converted into percentages for tabulation in Tables 1 and 2.

RESULTS AND DISCUSSION

The different types of non-linear texts have all but one common function "providing information, usually detail, that is usually too tedious to read in solid text or is too difficult or impossible

to describe accurately in words alone." (Trimble, 1985 103) All of the theses used one form or another of non-linear text. The findings are presented in two sections.

- (1) Amount of Non-Linear Text Found
- (2) Types of Non-Linear Text Used

AMOUNT OF NON-LINEAR TEXT FOUND

The lowest percentage of text in non-linear form occurred in the theses on languages. Theses 1 and 2 Thesis 1 contained 14.81% and Thesis 2 had the lowest amount of non-linear text among the six theses, that is only 6.05%. On average, only 10% of the texts were non-linear These texts relied heavily on linear text in presenting their argument (Table 1).

The highest amount of non-linear text was in the theses on Economics. Thesis 3 had 48.77% of its text in non-linear form, while Thesis 4 had 33.01%. This indicates a heavy reliance on non-linear texts in the writers' presentation of their findings and arguments. On average, over 40% of the texts were in non-linear form

Theses in the Biological Sciences had an average of 29% in non-linear text. This implies that nearly one-third of the texts were in non-linear form These two theses (Theses 5 and 6) fall into the middle category where non-linear text is concerned.

Table 1: Percentage Distribution of Non-Linear Texts in Theses

Percent (%)	Tables	Graphs	Equations	Photographs	Diagrams	Total	Total Linear
English Thesis 1	14.08	00.00	00.00	00.00	00.73	14.81	85.19
English Thesis 2	06.05	00.00	00.00	00.00	00.00	06.05	93.95
Econs Thesis 3	26.74	16.95	04.16	00.00	00.92	48.77	51.23
Econs Thesis 4	27.11	03.44	02.46	00.00	00.00	33.01	66.99
Biol. S Thesis 5	04.	29.53	01.02	01.47	00.13	36.49	63.51
Biol. S Thesis 6	05.49	13.61	00.00	01.51	00.27	20.88	79.12

TYPES OF NON-LINEAR TEXTS

The types of non-linear text found in the theses fall into five main categories. There were tables, graphs, diagrams, equations and photographs. Two types of graph were found. line graphs and bar graphs. Equations are represented with equal signs as shown below:

$$\text{ROEB}^1 = \frac{\text{Profit before tax}}{\text{Shareholders' Funds}} \quad (\text{Thesis 4})$$

Table 2: Types of Non-Linear Texts Most Frequently Used in Theses

Subjects Types	English (%)	Economics (%)	Sciences (%)	Average % of Types Used
Tables	96.05	65.85	17.13	59.82
Graphs	00.00	24.93	75.20	33.38
Equations	00.00	08.09	01.78	03.29
Photographs	00.00	00.00	05.19	01.73
Diagrams	03.50	01.13	00.70	01.78
TOTAL	100.00	100.00	100.00	100.00

The theses on languages used mainly tables. Tables made up 96.5% of the non-linear texts while diagrams made up only 3.5%. The theses on Economics used all types of non-linear texts except photographs with tables being the type most frequently used (65.85%), followed by graphs (24.93%). Equations made up 8.09% of the remaining total of non-linear texts.

The theses in Biological Sciences used all types of non-linear texts. However, graphs instead of tables were the most preferred type of non-linear text. Graphs made up 75.20% of the total amount of non-linear text used in these theses. Tables were the second most common type of non-linear text. Photographs made up 5.19% of the remaining non-linear text. This reflects the nature of the subject area. Photographs appear to be the most effective way of supporting the findings presented.

Out of the five types found, tables were overall the most frequently used non-linear text representation although tables

were not the most preferred type in the Biological Sciences. On average, 59.82% of the total non-linear form found in all three subjects took the form of tables.

Graphs were the second main type of non-linear text found. They made up 33.38% of the total non-linear text found whereas equations made up 3.29%. These two types of non-linear text were not found in the language theses. However, it is premature to say that they are not used at all since other studies on language and linguistics do make use of graphs and equations.

CONCLUSION

From this study, it is clear that non-linear texts are vital in conveying information and findings in academic writing. Teachers of academic writing may find some of the insights of this study relevant for classroom instruction. Students, for instance, could be taught how to use non-linear texts in order to present findings clearly and accurately. They would need to learn, for instance, when it is appropriate to use tables and graphs and when it is not, and where such non-linear material could appear in the text.

It is probably best to introduce students to the great variety of non-linear text types that are applicable to their areas. It would probably be necessary to draw their attention to certain types they may have never used or encountered. More research in this area is called for. An in-depth study could be carried out to identify the particular types of non-linear texts used in specific subject areas so that students will have some choice over the formats used in presenting their findings without being unduly tied down to just tables and graphs.

NOTES

- 1 ROEB refers to the Return on Shareholders' Funds Before Tax.

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