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## Research Paper

### Move Schemata of the Introduction Section of TEFL Professional Articles in Hypertext Environment

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#### Abstract

Current advances in computer technology and the pervasive use of computers in professional or educational activities have greatly influenced EFL students' academic lives. For most academic or professional requirements, they need to read through hypertexts. This raises the demand for meticulous examination of how this new development can be handled most effectively by EFL readers. Meanwhile, genre analysis has been introduced as an effective means which provides EFL students with frameworks within which they can improve their reading and writing abilities (Paltridge, 1994, 1996; Goodmacher, 1996; and Henry & Rosebury, 1998). Since on-line academic or professional texts increasingly tend to appear in hypertext environment, this study attempted to investigate such texts in terms of their move schemata and hyperlinks in order to see whether there is any relationship between hyperlinks and the places of move shifts. For this purpose, the introduction sections of thirty professional articles presented in hypertext were examined in terms of their hyperlinks and move patterns. The results revealed no relationship between the segmentation of texts at hyperlinks and the places of move shifts; in other words, hyperlinks did not occur at the places of move segmentations. It also revealed that the number of hyperlinks both to other articles and to other sections within the same article is far more than the number of the constituent moves in hypertext articles.

**Keywords:** *Hypertext Reading, Genre Schemata, Move, Generic Pattern*

#### Introduction

Today, with developments in electronic communication and emergence of different cybergenres, the constraints of print medium are going to be removed. On-line texts increasingly tend to appear in hypertexts that link different pieces of text together and to relevant texts.

Hypertext is a non-sequential, non-linear, electronic, textual, and hypermedia environment. It creates an interactive context in which reading is contingent upon computers and possible by multiple sources of information linked together (Altun, 2003). Many hypertext designers claim that hypertexts will facilitate reading and writing (and even thinking and learning in general) because unlike linear texts, hypertexts closely resemble the networked associated organization of information in human memory (Charney, 2004).

Bolter (2001) describes hypertext as a remediation of print that builds on many literary traditions (paragraphs, quotations) and refashions the reading space by adding new traditions (links, graphics). He believes that hypertext potentially improves reading experience by enabling readers to learn by exploring associated ideas or seeking clarification through links within the document. He describes this feature as the “fluidity” of electronic texts. He views hypertext as a means to liberate readers as well as writers from the constraints of text boundaries, freeing them to wander through an array of interconnected texts, graphics, and commentary, exploring and creating topical paths of associations. Such open-ended hypertexts are being used in literature and other humanities courses to provide students with access to rich networks of cultural and historical materials relevant to the primary texts under discussion (Cited in Beeman et al, 1989).

Since the World Wide Web has resulted in the emergence of various cybergenres and the number of academic cybergenres which are presented in hypertext environments is growing, it seems important to investigate how this new technology is employed by its users. Therefore, this study seeks to examine the generic structure of the introduction sections of some hypertext professional articles with the focus on both move segmentation and hyperlinks. The purpose of this generic investigation is to see how hyperlinks can be most effectively manipulated for facilitating EFL students' hypertext reading.

### **Review of the literature**

In the literature of hypertext pedagogy, genre-based approaches to teaching reading and writing of hypertext have not been favored although genre-based pedagogies provide useful theoretical and pedagogical tools for helping students make sense of not only the structure of creative hypertexts but also a wide range of compositional concerns. The generic schemata of print professional articles or some sections of them have been analyzed by different practitioners (Dudley-Evans, 1994; Bhatia, 1997; Holmes, 1997; Connor & Mauranen, 1999) and the models of their move patterns have been provided. The various analyses of the introduction section (Swales, 1990), the discussion section (Dudley-Evans, 1994; Hopkins and Dudley-Evans, 1988), the abstract (Salager-Meyer, 1990), and the results section (Thompson, 1993) have all informed approaches to the teaching of academic writing. However, there has been no focused study on the generic structure of the same genres in on-line hypertext environment.

Conventional definitions of genres tend to be based on the notion that they constitute particular conventions of content (such as theme or setting) and/or form (including structure and style) shared by the texts which are regarded as belonging to them (Chandler, 1997: 3). However, genres are not discrete systems consisting of a fixed number of listable items; rather, they may overlap. Specific genres tend to be easy to recognize intuitively but difficult to define. In this regard, Chandler (1997) maintains that the distinctive factor is the relative prominence of the frequency of occurrence of some formal and functional features.

Although form is an extremely important component of a genre, as Brent (2000) mentions, some believe that hypertexts have no formal shape; the reader finds her own way through the text. Certainly, hypertext has no form in the sense of what ought to be read first, second, and third. But there are some fairly well-defined conventions about how information in a hypertext

may be structured and the reader's choices, while highly varied, are far from infinite. For instance, they are constrained by the shape of the nodes and the links that the author has chosen. Kolb (1994) lists a number of different possible forms that hypertext might adopt in response to different purposes. He maintains that "As these forms settle into conventions, readers will come to recognize them and writers can use these expectations to convey meaning. By internalizing such forms as "non-linearity, the students absorb ways of thinking which are specific to hypertext culture" (p. 6).

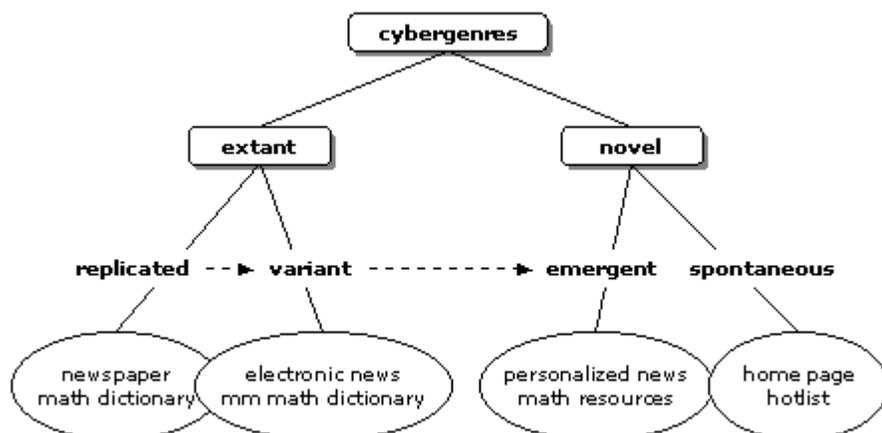
A genre is maintained by the conventions of a community, and in most cases serves specific functions within the system of practices of particular institutions of that community. The forms which a given genre takes as text are the traces of social signifying practices in some community, in some institutional, or at least recognized and regularly recurring situational context. The same holds true when we take into account the visual-spatial meaning resources and conventions of a cybergenre, whether strictly typographical or also including graphical images of one kind or another (Lemke, 2005: 5).

According to Orlikowski & Yates (1998), the growing digitization of communication and the dominance of Internet in the 90's have extended the field of study to digital genres. Genres tend to be linked or networked together in a way that constitutes a coordinated communicative process (e.g. a conference may start with a call for proposals, followed by abstracts and concluded with papers). Such a cluster forms a genre system and is useful for studying the interaction between people in a community.

Crowston and Williams (1999) noted that the Web is an excellent place to study the development of genres because of easy access and its inherent capabilities of experimentation, freedom of structuring, and interactions between many communities. They documented the range of genres in use on the Web by sampling and classifying randomly selected 1000 Web pages. Distinction was based on purpose, rather than on physical form. They identified 48 different genres; most of them were categorized as *reproduced* genres (about 60%, like FAQ, meeting minutes and course descriptions). Following Yates and Orlikowski (1992), who suggested that novel genres are most likely derived from existing ones, they tried to explain the origin of the new kind of Web pages found in the sample. They found that some of these identified genres have some resemblance to their parallel printed material. Shepherd and Watters (1998) used the term *cybergenre* for digital genres and divided them into two classes of subgenres: extant and novel. *Extant* subgenres are based on genres existing already in other media. When an existing genre migrates to a computer environment, it will be initially *replicated*, not fully exploiting the capabilities of the new medium; content and form are preserved. At a later stage in the evolution, *variant* genres are created, a process driven by the technical capabilities of the new medium. The addition of multimedia features and interactivity is a way to create such variants. *Novel* subgenres come into existence because of the technical capabilities of digital media. They may originate from extant genres through replication and variants (emergent cybergenres), e.g. providing news through agents and personalized interfaces, or may not have any counterpart in other media (spontaneous cybergenres):

**Figure 1**

*The evolution of cybergenres (Shepherd & Watters, 1998)*



Dorbin (1994) and Brent (1995) both believe that hypertext could be read along generic and conventional lines and they maintain that writers and designers promote hypertext as a means of improving the older medium, or more precisely, the genres associated with print medium such as the novel, the technical report, and professional essays.

Since the evidence confirms the appropriateness of a genre-based approach to teaching hypertext reading and writing, this study takes a Swalsian genre analysis approach (1981, 1990) to the study of move schemata of the introduction section of TEFL professional articles presented in hypertext environments.

## Method

### Corpora

In this study, in order to compare the move schemata of the introduction section of hypertext articles with those of their non-hypertext parallels, two corpora were used. For hypertext corpus, 30 hypertext articles were selected from among the articles presented in "on-line professional journals of TEFL". Since most on-line journals of the field present their articles in a linear, non-hypertext format, a large body of professional articles were randomly gathered and from among them, the hypertext ones were selected. The corpus was multifarious in title, content, and length, but all the articles were related to current issues of EFL methodology and research. For non-hypertext corpus, a random sample of 30 language teaching articles written by different authors in EFL methodology and research journals most available in Iran was selected.

### Procedure

The first concern of this study was to examine and compare the move schemata of the introduction section of hypertext and non-hypertext on-line professional articles. For this purpose, initially Swales' model for article introductions (1990) was selected. Swales originally suggested that there are four basic moves in article introductions (Cited in Dudley-Evans, 2002):

Move 1: Establishing the Field,

Move 2: Summarizing Previous Research,

Move 3: Preparing for Present Research (often by identifying a gap in previous research), and

Move 4: Introducing Present Research.(see an example of the hyperlinks and the move schemata of a typical hypertext article in Appendix)

In order to find the general differences between the two corpora in terms of the move patterns, the moves were carefully identified and then the frequencies of the parallel moves in the two corpora were calculated. In order to check whether the differences were statistically significant, a chi-square test was employed, assuming 0.05 level of significance.

Regarding the second research question, the hypertext corpus was carefully examined to identify the hyperlinks that occur across each article. The frequency of occurrences of the most frequent hyperlinks was also tallied.

### Results

The results of the chi-square analysis conducted for checking the significance of differences between move frequencies indicated no significant differences in the distribution of the moves across the two corpora. Table 1 below represents the chi-square results.

**Table 1**

*Chi-square results of move frequencies of hypertext and non-hypertext corpora*

Moves	df	X <sup>2</sup>	Critical value of X <sup>2</sup>
Establishing the Field	1	1	3.84
Summarizing Previous Research	1	0	3.84
Preparing for Present Research	1	2.11	3.84
Introducing Present Research	1	0	3.84

In the next stage, the hypertext corpus was studied in terms of its hyperlinks. In the corpus, two sets of hyperlinks were observed: 1) hyperlinks to other parts within the same article, and 2) hyperlinks to other articles/authorities.

Table 2 below represents the frequency of the major hyperlinks within the same article. Each of these hyperlinks has occurred only once in every article.

**Table 2**

*Frequency of occurrence of the major hyperlinks within the same article*

Title of hyperlink	Frequency
Abstract	21
Introduction	30
Literature Review	30
Method	14
Discussion	30
Conclusion	30
References	30
Glossary	3

As mentioned above, there are links to different authors (from whom the writer takes insight or quotes something), professional journals, books, etc. In each article, there are a lot of such hyperlinks. Table 3 below represents the frequency of occurrence of such hyperlinks.

**Table 3**

*Frequency of occurrence of hyperlinks to other articles*

Title of hyperlink	Frequency
Links to other authors/authorities	384
Links to different journals/articles	158
Links to definitions of the key concepts/words/phrases	341

### Discussion and Conclusions

The results of chi-square analysis revealed no significance difference between the distribution of moves in hypertext and non-hypertext articles. In other words, there is no significant difference between the move schemata of the introduction section of the articles across the two corpora. This means that the generic structure of hypertext articles follows the conventionally determined pattern of the articles presented in non-hypertext environment. This finding may be due to the fact that moves are the elements which convey the communicative purpose of a genre whether it occurs in a hypertext or non-hypertext context. However, there is a word of caution here: the fluidity of electronic genres, as suggested by Bolter (2001), does not necessarily imply that there should be any differentiation in move schemata between cybergenres and their parallel conventional genres. Rather, this fluidity can be defined in terms of the existence of different hyperlinks which make it possible for the reader to explore ideas and find access to various associated information about the topic under consideration. Furthermore, this finding may be in line with Shepherd and Watters' (1998) idea that "When an existing genre migrates to a computer environment, it will be initially *replicated*, not fully exploiting the capabilities of the new medium; content and form are preserved". In other words, it can be concluded from the findings that this cybergenre (i.e. hypertext professional articles) is still at its early stages of development, and in later stages, it may adapt more to the technical capabilities of the new medium.

A closer look at the hyperlinks within each article reveals that the rubrics of the main sections (Introduction, Method, Results, and Discussion "IMRD") have frequently been hyperlinked. At the beginning of each hypertext article, the titles of the constituent parts are orderly presented in the same way that a table of contents represents different sections of a book. In some of the articles, there are hyperlinks only to the main sections, but in some others, there is a detailed list of hyperlinks to all subsections of the article. Each of these rubrics links the reader to that specific part. It seems useful because it helps readers read the text non-sequentially and find the information they are looking for more efficiently.

"Hyperlinks to other parts within the same article" can be used as a strategy for finding quick access to desired information. Hyperlinks save the time and effort of hypertext readers. Sometimes, readers do not have time to read all parts of the article or they only need specific information on one of the subsections of the article such as method, discussion, or conclusion. In fact, this is one of the requirements of electronic reading to look for desired information in the most effective way. They also help readers understand that hypertext reading is non-linear. In other words, there is no obligation to read the text from top to bottom; rather, it should be read non-sequentially in order to promote faster and more efficient reading, which is the requirement of electronic communication.

Furthermore, investigation of "hyperlinks to other articles or authors" reveals that they provide extra information on the topic for those readers who require such knowledge. They are windows through which readers can find access to worlds of related information which may be new or interesting to them. In other words, whereas in print articles, the author elaborates on the topic by incorporating different evidence and quotations, in hypertext articles, the reader is guided to those evidence and viewpoints through hyperlinks. These hyperlinks enforce the readers' schemata and enhance comprehension. This may emanate from the idea that readers have different purposes for reading and the reading material should be adequately geared to their immediate needs and interests.

To sum up, as the findings reveal, the hyperlinks within each article usually occur at the rubrics of the main sections (Introduction, Method, Results, and Discussion). However, if the hyperlinks are manipulated in a way that they occur at the places of move changes, it may promote more effective hypertext reading and writing. In other words, the intentional location of hyperlinks at the places of move segmentation for pedagogical purposes may facilitate hypertext reading and writing.

This study may have implications for EFL teachers and learners. EFL teachers can employ hypertext articles for pedagogical purposes. They can manipulate hyperlinks in such a way that each link guides the reader to a specific move of the article not just to one of its subsections. In this way, teaching the generic structure of professional articles may facilitate and accelerate hypertext reading. EFL teachers can also use it as a technique for teaching writing of professional articles. In genre-based approaches to teaching writing, a model of the generic structure of the communicative behavior under consideration is provided (Jordan, 1997 and Master, 1997). Based on this proposed model, the students are then asked to produce similar or parallel texts.

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## Appendix

An example of the hyperlinks and the move schemata of a typical hypertext article

### ***Comprehension, Coherence and Strategies in Hypertext and Linear Text (Foltz 1996)***

#### Introduction

- Approaches to Developing Hypertext
- Research in Hypertext
- Evaluation of Hypertexts
- Guidelines for Developing Hypertexts
- Theory-Based Approaches to Hypertext Design and Evaluation
- Text Comprehension Research and Hypertext
- Predictions of Comprehension
- Modeling Comprehension
- The Role of Coherence
- The Role of Background Knowledge
- The Role of Narrative Schema
- The Role of Readers Abilities
- Readers Strategies in Hypertext and Linear Text

- Two Experiments Applying Text Comprehension to Hypertext
- A Comparison of Linear Text and Hypertext
- Verbal Reports of Hypertext Readers Strategies
- Implications for Hypertext and Linear Text
- Reading Strategies and Comprehension in Hypertext
- Text Comprehension Theory and Hypertext
- Implications for the Design of Hypertexts
- Future Issues for Text and Hypertext Research
- Modeling Text and Hypertext Readability
- Where can Hypertext Succeed?
- Acknowledgments
- References

## **Introduction**

### **Move 1: Establishing the Field**

Hypertext presents a new way to read on-line text that differs from reading standard linear text. Text is typically presented in a linear form, in which there is a single way to progress through the text, starting at the beginning and reading to the end. However, in hypertext, information can be represented in a semantic network in which multiple related sections of the text are connected to each other. A user may then browse through the sections of the text, jumping from one text section to another. This permits a reader to choose a path through the text that will be most relevant to his or her interests.

The features in hypertext supply flexibility to the reader when compared to reading linear text such as books. Clearly some of this flexibility does exist in books (e.g. table of contents and indexes), but it is not as widely used or exploited. Hypertext permits readers to use these features automatically rather than requiring readers to manually refer to them as needed. This provides additional control to the reader in determining the order that the text is to be read, and allows the reader to read the text as if it were specifically tailored to the reader's background and interests. This flexibility does promise an advantage of personalization and eases the burden of finding information, however, is this flexibility actually good or useful to the reader?

### **Move 2: Summarizing Previous Research**

The concept of using the associative paths in hypertext to retrieve and read information has caused great excitement. The promise of universally available hypertexts has been touted as "a seamless and reunited computer world" (advertisement for the Xanadu Hypertext ), having "the potential to become a significant application area; equaling or perhaps exceeding that of word processing, spreadsheets and general database applications" (Begoray, 1990, p. 121), and "because hypertext has the power to change the way we understand and experience texts, it offers radical promises and challenges to students, teachers and theorists of literature" (Landow, 1989, p. 174). Using associative retrieval paths is similar to the way retrieval is performed from human memory, and this may be part of the appeal of hypertext to researchers and developers when they state that hypertext systems will improve a user's ability to find and use information.

### **Move 3: Preparing for Present Research**

While a variety of hypertexts have been developed over the past 20 years, it is often not clear whether there are strong advantages for hypertext. Research in hypertext has often failed to show any significant advantages for reading a hypertext compared to the equivalent text in linear

form. In addition, the effectiveness of various features that can be used in hypertexts can vary greatly depending on the domain and content of the text and the goals of the reader. Up to this point, no standards or definitive rules exist on how to develop an effective hypertext. However, because hypertext encompasses such domains as user-interface design, psychology, education, and information retrieval, theory from these domains can be applied to hypertext in order to aid in the understanding and development of effective hypertexts.

#### **Move 4: Introducing Present Research**

Over the last 40 years, a large body of research has developed which focuses on linear text comprehension, both from a theoretical and an evaluative standpoint. Text research has permitted predictions of comprehension based on such factors as the structure of the text, the background knowledge of the reader, and the reader's abilities. This chapter examines the evaluation of hypertext from the perspective of text comprehension.