

*The Journal of Teaching Language Skills (JTLS)*  
3(3), Fall 2011, Ser. 64/4  
(Previously *Journal of Social Sciences & Humanities*)

## **Establishing Propositional Relations in Reading Stories**

**E. Abdollahzadeh**

Associate Professor

Iran University of Science and Technology, Tehran

email: s\_abdolah@iust.ac.ir

### **Abstract**

This study examined the establishment of coherence relations by Persian EFL learners in their reading of stories. 201 undergraduate EFL learners read narrative passages and selected appropriate coherence elements of different types necessary for the proper construction of meaning. The results demonstrated a consistent pattern of a text-specific hierarchy for the comprehension of conjunctive relations across learners with different proficiency levels. More specifically, adversatives were found to be the easiest connectors by all the three groups followed by causals as the second easiest, then sequentials as the third and more difficult, and additives as the most difficult markers. The results have both theoretical and practical applications and implications for the 'model building' hypotheses on the one hand, and reading comprehension and instruction on the other.

**Keywords:** inference, meaning construction, connectives, reading comprehension, stories

### **1. Introduction**

Reading comprehension studies have been mainly dealing with variables such as ability, age, prior knowledge, motivation, purpose, as well as text variables such as voice, ambiguity, word length or frequency

(Brantmeier, 2005; Zinar, 1990). However, few studies have examined how the reader's comprehension is affected when the salience of a passage's structure is manipulated. Kintsch and Van Dijk (1979) argued that when logical links between and among propositions could not be found, the reader must make an inference. Coherence elements are believed to help the reader identify and link proposition sets. Through them, the reader will be able to organize information stored in the long-term memory and hence access them easily (Spyridakis, 1989; Kintsch and Van Dijk, 1978; Graesser et al., 1997; Zinar, 1990). In a similar vein, Spyridakis (1989, p. 228) stated that coherence elements "...like transitions, interrelate superordinate and subordinate content by adding in words and phrases that emphasize the relationships ... Signals" should help the reader form a hierarchical framework in memory that will facilitate the placement of the incoming information".

Narratives construct a pattern of events with a problematic and/or unexpected outcome that entertains or instructs the reader or listener. They tend to induce 'visualization' in the reader as part of the reading process (Denis, 1982). The most common elements found in narrative texts are characters with goals and motives, event sequences, morals and themes (Graesser, Golding, & Long, 1991). Narrative texts focus on persons, objects and relations in time, i. e. mental process of perception in time (Brooks & Warren, 1952). Researchers like Horiba (2000) tried to discover how native and non-native readers of Japanese process text and represent its meaning in memory when they have differing goals (narrative vs. expository). He argued that narratives have a more predictable organization with global causal structures which appear to guide young and adult readers' comprehension and processing (Goldman and Varnhagen, 1986; Trabasso et al., 1984). Geiger and Millis (2004) found that comprehension differences between procedural and other text types like narratives are mainly due to differences in local coherence. In the same vein, Abdollahzadeh (2006) found that when low-level learners perform on narrative texts in which textual signals are not included, they may find the narratives as difficult as the expository texts.

Prior research on connectives and narrative comprehension suggest a limited picture of the relationship between text signals and comprehension. They essentially focus on the role of causal relations as unique elements in narrative comprehension (Myers et al., 1987; Trabasso et al., 1984; Trabasso & Sperry, 1985). They argue that readers judge causal relations as more important to the interpretation of narratives than any other textual elements (Trabasso & Sperry, 1985). However, readers do not unfold narratives by means of causal relations per se, but may also resort to other connectives like additives and adversative markers (Ben-Anath, 2005). These researchers' focus then runs the risk of limiting their findings since such a restricted focus excludes other types of relations (i.e. concessive, additive, and sequential relations) that readers seek to comprehend while reading stories. Further, almost all these studies have used sentence pairs rather than extended passages in the design of their instruments. As Murray (1997) cautioned, such pairs may present relations that are inherently easy to integrate and comprehend. Sentence pairs may not accurately reflect the effect of connectives as the global macro-level context provided in an extended passage is not taken into account in such designs.

### **1.1 Significance of the study and research questions**

Examining the effects of connecting devices such as logical connectives can help us identify how these devices function in the text and how they contribute to a better understanding of the narrative information. A systematic investigation of different kinds of signals can help us discover whether some are more important for comprehension than others. Accordingly, better models of the cognitive effects of signals could be postulated that can have relevance to reading instruction (Lorch 1989). Previous research has been mainly concerned with the relationship of these signals with the amount recalled or questions correctly answered. Further, almost all these studies, using sentence pairs rather than extended passages in the design of their instruments, have failed to reflect the effect of connectives at the global macro-level. The

assumption in this research is that an inability to connect ideas in the text in an appropriate fashion would impact comprehension of the text as a whole (Goldman and Murray 1992). The interest here is essentially in how readers understand the functions of logical connectors of different kinds and the meaning relationships implied by them.

To shed light on these issues, this research attempted to delve into the way L2 readers at different language proficiency levels can infer logical relations denoted by connectives while reading extended stories. To this end, the following research question was investigated in this study: How do Iranian L2 readers with different levels of language proficiency infer connectives while reading extended narratives?

## 1.2 Background

Coherence elements or connectives are used "to characterize words or morphemes whose function is primarily to link linguistic units at any level" (Crystal, 1991, p. 74). These connectors can refer to a rich set of relationships such as causal, adversative, additive, sequential as well as pragmatic relations (Van Dijk, 1979). They are frequently classified according to the criteria proposed by Halliday and Hassan (1976) model. This model is a broadly used model in different discourse-functional approaches in linguistics. That is why we, given our purposes, chose this model for identifying the connectors in the texts. They present four classes of connectives: (a) additives, which present new information; (b) adversatives, which present relations contrary to our expectations; (c) causals which present true causes and logical inferences, and (d) sequentials (temporals) which present real-time or sequential relationships.

There have been a number of studies investigating the role of connectives in text processing in different narrative and expository text types. Some researchers claim that coherence relations are merely analytic tools which are useful to describe text structure but they should not be given psychological interpretation (Grosz and Sidner, 1986). Others hypothesize that coherence relations should be considered as

cognitive entities (Hobbs, 1990; Mann and Thompson, 1986; Sanders et al., 1993). According to the cognitive representation of coherence, constructing a coherent representation of a text requires that coherence relations be established between text segments or rather between the cognitive representations that readers have of text segments. For instance, Sanders and Noordman (2000) focused on the cognitive status of these relations. They found that explicit marking of the relations resulted in faster processing but did not affect recall. Also, Degand and Sanders (2002) investigated the effect of causal connectives and signaling phrases in expository texts that were manipulated with respect to the presence or absence of linguistic markers. Their results showed that comprehension in the implicit condition was significantly lower than in the explicit condition while the explicit versions did not significantly differ from each other.

Other studies examined the effect of explicitly versus implicitly stated connectives in the comprehension of texts. Geva and Ryan (1985) examined fifth and seventh grade children who read expository texts under four conditions: Implicit (without connectives), explicit (with connectives), highlighted (with conjunctions underlined and capitalized), and deep (the reader had to select conjunctions through a cloze test). The analysis indicated that all groups benefited from the highlighted and explicit conjunctions. "Average and below average readers showed less knowledge of these important cohesive indicators than above average readers" (Geva and Ryan 1985, p. 332). They conclude that such readers show problems with both knowledge of conjunctions and control over their use in comprehending expository text. Nonetheless, these readers benefited from the highlighted condition in accessing and answering both detail and structure questions. Similarly, Golkar (1997) examined the effect of explicit, implicit, and highlighted connectors on EST readers' comprehension. He found significant differences between the performances on the explicit and highlighted versions on the one hand, and the implicit versions on the other hand. However, no significant differences between the explicit and highlighted versions were found.

Goldsmith (1982) investigated the role of adversative connectives in helping good and poor readers to integrate information in texts. Adversative connectives were found to aid poor reader's ability to exclude irrelevant information and improved good readers' performance to foreground information. On a more general note, Goldsmith believes that connectives help readers activate the schema related to the topic under discussion or to its structure. They also help, through their redundancy, alert the reader to the organizational structure of the texts, thus helping the reader to process the information on a deeper level.

Meyer (1984) found that skilled readers possess adequate text organizational skills to generate most of the implicit logical relationships in a text through their structure strategy to read difficult texts even in the absence of conjunctives. This thesis was later questioned by other researchers. For instance, Spyridakis (1989) argued that "...more than likely if a comprehender is faced with a sufficiently difficult text; he/she will function like a poor comprehender. If this is so, then, signals could aid good comprehenders, who have become poor comprehenders due to textual difficulty" (p. 231). She found that logical connectives appeared to contribute to both superordinate and subordinate level of comprehension.

Robertson (1968) also investigated fourth, fifth, and sixth grade reading comprehension of connectives. He chose 17 individual connectives and examined the sentence structures in which they appeared in the student's basal reading texts. Then, he constructed a 150 multiple-choice test in which each connective had to be selected for the slot from the options. The results showed that, based on grade, subjects developed an increasing understanding of each of the 17 selected connectives. Student comprehension of items testing connectives such as 'however', 'thus', 'although', and 'yet' (mostly adversatives) were below the comprehension level of the total student groups on all test items. Significant correlations were also found between understanding of connectives and the subject's sex, age, place of residence and abilities in listening, reading, and written language. Female readers gained higher

marks than male readers on the connective test and children in urban areas scored higher than those in small towns, who in turn did better than those in rural areas. Robertson's study is interesting in the sense that it refers to the developmental nature of the learning of connectives by children. This view is an ontogenetic perspective which indicates that producing texts in writing is not a skill acquired all at once homogeneously, but it follows different paths depending on the requirements, and depending on the text type concerned at different ages (Schneuwly, 1988, 1997).

Segal, Duchan, & Scott (1991) assigned a more central role to connectives. They found out that they not only signaled the structural relations between elements in simple narratives, they were crucial as well in building a coherent mental model for interpreting happenings in the story world without which the reader would not be able to build the intended model. Thus they prefer to use the term 'model-building connectives, for inter-clausal connectives.

They examined a child's oral narratives (a set of 20 stories) over a year, a story written for children by an adult, an adult narrative written for an unknown adult audience. They examined the first 10 occurrences of 'but' in the above mentioned different discourse contexts to discover what the producers of discourse were attempting to convey in the passages that contained the term 'but', and how 'but' functioned to achieve their goal. They conclude that 'but' creates a 'domain' for the interpreter and that the interpreter needs to determine what the domain is, what 'expectations' are associated with the domain, and how they are being violated. By this, they meant that interpreting relations denoted by 'but' requires going beyond the text to understand it, and surprisingly, as Segal, et al. (1991, p. 114) argued, "even five-year-olds seem to have learned its significance". Moreover, understanding connectives used in texts requires consideration of information presented much earlier than the clause preceding it. We can, thus, infer that connectives can create different interpretive relations of continuity (as through additives), discontinuity, causality, and adversity.

All in all, these studies highlight the significance of textual markers of different types and how they may facilitate or constrain the various interpretations that readers might make while reading or producing stories. They further show that the communicative purpose affects the construction of an efficient configuration of textual organizers, and the mastery of narrative comprehension or production implies a restructuring of the configuration of textual organizers in a text.

## 2. Method

### 2.1 Participants

254 male and female students took part in this research. They were selected from undergraduate EFL students of Science and Technology from three state universities in Tehran. To determine the language proficiency level of the participants, a Nelson test (Version 300) was administered. Given the fact that the participants' major was not English, it was assumed that TOEFL and IELTS might be a very difficult test for these learners. Therefore, it was decided that this test may be a better candidate for the purposes of the current study.

These participants were divided into three groups of weak, intermediate, and advanced language proficiency levels based on their mean performance and standard deviation score on this test (Mean=26.21; SD=6.99). As some participants failed to take both tests of the study, the final sample was reduced to 201 participants (see Table 1).

Table 1. The distribution of the participants

Group	Language level	N
1	Weak	33
2	Intermediate	131
3	Advanced	37
Total		201

### 2.2 Instrumentation and procedure

The main instrument for this study was a conjunction comprehension test. The purpose of this test was to check the foreign language readers'



knowledge of logical connectors of additive (ADD), adversative (ADV), causal (CAUS), and sequential (SEQ) types in different text types through a rational cloze procedure. The subjects were required to select the correct conjunction from the multiple-choice items on those connector types. Understanding of five additives (i.e. in addition, for example, for instance, moreover, furthermore), three adversatives (but, however, nevertheless), five causals (consequently, as a result, so, therefore, thus), and six sequentials (first, then, second, third, finally, in short, briefly) was examined. Three representative texts for each text type were selected and the following procedures were observed in them: (a) there were eight cloze slots in each passage, each slot at the beginning of a sentence requiring a different connector type as the correct answer; (b) a minimum of one sentence separated two successive slots; (c) the sequence of correct choices and distracters was different in each passage and across passages.

Initially, several narrative passages that seemed to be of comparably similar features were selected. Then, five passages out of this pool of passages were selected as appropriate ones with comparable features in terms of length (one-page long passages), number of words (Average word frequency=350, Min=313, Max=395), number of paragraphs (4 paragraphs each), and text type (narrative). These passages were shown to three experienced instructors involved in teaching English reading courses, and were deemed appropriate for our intended participants in terms of difficulty level. Their consent as to the readability of the texts was important as the current readability formulas were not suitable for our intended purpose. Readability formulas provide a quick and easy way of estimating the difficulty of a text focusing on word difficulty and sentence length. Notwithstanding, the point is that connectives make sentences longer and readability scores soar, while they ease the difficulty of the text for readers. Beaugrande and Dressler (1981) state that readability formulas ignore the degree of vividness, concreteness, exposition, organization, and content of the texts. Therefore, these formulas, according to Meyer (2003), need to consider reader variables

(verbal ability, age, education, styles, etc.), text variables (such as textual signaling which was examined here), and task variables (mode of presentation, task type, etc.). Unless readability formulas take these points into account, they would not be really reliable. That is why we preferred the judgments of reading instructors to these formulas.

After the trial administration, the researchers decided to include three passages for the final administration. The developed instrument (see the Appendix) was piloted with a group of 10 EFL learners similar to the target population. Participants took the test in one hour. Pilot administration and discussion with two of the researcher's colleagues resulted in some modifications of items as to appropriacy, intelligibility, workability, and item classification. Accordingly, the number of the passages was reduced to three passages, and the administration time to 50 minutes.

The participants took the tests in two sessions. In the first session, they were assigned the Nelson test, and one week later they were assigned the developed test. The collected data were then subjected into the SPSS software for analyses and comparisons.

### 3. Results

First, an overall description of the participants' comprehension of connectives of different types across groups is presented in Table 2.

Table 2. Connective comprehension in narratives

Level	CONCTYPE	Mean
Weak	A	.81
	AD	1.30
	C	1.21
	S	.75
Intermediate	A	1.2
	AD	1.81
	C	1.67
	S	1.41

Level	CONCTYPE	Mean
Advanced	A	1.64
	AD	2.10
	C	2.02
	S	1.91

Note: A=Additive; AD= Adversative= Causal; S= Sequential

An overall comparison of the performance of the groups on the comprehension of coherence elements shows that, in terms of mean rank performance, additives and sequentials were the most difficult to infer by all learners, followed by causals and adversatives respectively (see Table 3).

Table 3. Overall performance on connectives in narratives

CONCTYPE	Mean
A	1.22
AD	1.74
C	1.63
S	1.36

To discover the significance of the differences in mean performances of different groups on the main instrument of the study, Repeated Measures ANOVA was conducted. Mauchly's Test of Sphericity (Table 4) shows the homogeneity of covariances and thus allows us to make further comparisons.

Table 4. Mauchly's test of sphericity

	Mauchly's W	Approx. Chi-Square	df	Sig.	Greenhouse-Geisser	Huynh-Feldt	Lower-bound
CONCTYPE	.926	15.095	5	.06	.951	.976	.333

The Within Subjects Effects data (See Table 5) demonstrated significant differences between connector type and language level, respectively. That is, there were significant differences in the comprehension performance of narratives across connector types. No significant interactions, however, were discovered between connector type and \*language level.

Table 5. Tests of within-subjects effects across connectives and level

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
CONCTYPE	Sphericity	23.663	3	7.888	10.934	.00
	Assumed	23.663	2.852	8.297	10.934	.00
	Greenhouse-	23.663	2.927	8.084	10.934	.00
	Geisser	23.663	1.000	23.663	10.934	.001
	Huynh-Feldt					
	Lower-bound					
CONCTYPE * LGLEVL	Sphericity	1.964	6	.327	.454	.84
	Assumed	1.964	5.704	.344	.454	.83
	Greenhouse-	1.964	5.854	.335	.454	.83
	Geisser	1.964	2.000	.982	.454	.63
	Huynh-Feldt					
	Lower-bound					
Error(CONCT YPE)	Sphericity	428.494	594	.721		
	Assumed	428.494	564.684	.759		
	Greenhouse-	428.494	579.588	.739		
	Geisser	428.494	198.000	2.164		
	Huynh-Feldt					
	Lower-bound					

The Between Subjects Effects (Table 6) showed significant differences in the mean performance on narratives among groups with different language proficiency levels.

Table 6. Tests of between-subjects effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1234.154	1	1234.15	895.31	.004
LGLEVL	57.035	2	28.51	20.68	.00
Error	272.935	198	1.37		

To discover the loci of the differences in connectives and across levels, Post hoc Scheffe analysis was conducted (Table 7). Significant differences between all the groups with weak, intermediate, and advanced language levels in their performance on the narrative comprehension test were found.

Table 7. Pair wise comparisons among groups on the comprehension of connectives

(I) level	(J) level	Mean Difference	Std. Error	Sig.
Weak	Intermediate	-.506	.114	.00
	Advanced	-.903	.141	.00
Intermediate	Advanced	-.397	.109	.001

The post hoc analysis on connector types across narratives (see Table 8) showed significant differences between additives on the one hand, and adversatives and causals on the other.

Table 8. Pair wise comparisons between connector types across narratives

CONCTYPE	CONCTYPE	Mean Difference	Std. Error	Sig.
A	AD	-.516	.099	.00
	C	-.410	.096	.00
	S	-.136	.105	1.00
AD	C	.106	.091	1.00
	S	.380	.106	.003
C	S	.274	.114	.10

Additives, contrary to our expectations, were found to be more difficult to infer in narratives than adversatives and causals by all learners. Moreover, the differences between adversatives and sequentials were also found to be meaningful, i.e. overall the comprehension of sequentials was found to be significantly more difficult across all the learner groups with different proficiency levels. Meanwhile, the differences between causals on the one hand and sequentials and adversatives on the other were not significant, nor was the difference between additives and sequentials.

#### 4. Discussion and Conclusion

This study tried to examine the comprehension of connective elements in reading narratives. It was found that higher level learners can perform significantly better in comparison to lower level learners in their construction of propositional meaning established through connectors. Sequentials and additives were by and large the most difficult markers for learners at all levels to infer. Meanwhile, the comprehension of causal and adversative relations was found to be easier for them.

An interesting finding about the performances of the participants across different proficiency groups is that there was a consistent pattern of performance by all the learner groups in their comprehension of the logical relations of different types. That is, examining the performances across the three learner groups, we notice an absolutely consistent pattern of performances on the connectives. In other words, we can predict a consistent hierarchy of performance across the three learner groups. More specifically, adversatives were found to be the easiest connectors by all the three groups in narratives followed by causals as the second easiest, then sequentials as the third and more difficult, and additives as the most difficult markers.

Causal relations were found easy to infer by all learner groups. Previous research on narrative comprehension refers to the unique and distinct role they play in narrative comprehension (Myers et al., 1987; Trabasso et al., 1984; Trabasso & Sperry, 1985) to the extent that they

accounted for the majority of the events and circumstances depicted in narratives (Trabasso et al., 1984; Trabasso & Sperry, 1985). It appears that readers judge events in a story in terms of cause-effect chains and thus judge causal relations as more important to the interpretation of narratives than other elements such as text structure hierarchy (Trabasso & Sperry, 1985). Accordingly, they performed better in their recognition of such causal relations as such markers might have helped them interpret the story line by identifying cause-effect chains integrated in a causal network that directs the narrative forward to its resolution.

It is hard to explain why learners performed well in inferring adversative relations than other relations like sequential or additive. Based on Murrey's (1997) continuity hypothesis, connectives play a salient role in narrative text processing and thus help readers engage in processing of the events depicted in the story. The result of this engagement would be becoming internal participants rather than external observers in the story and thus identify with the story characters or with the narrator of the text. This sense of becoming 'one' with the story characters would help them overcome the sense of discontinuity (denoted by adversative relations and markers) which might arise as a result of changes in time, place, theme, or characters.

Meanwhile, in empirical studies of personal or picture-based narrations the use of additives and sequentials is very common at both the local and the global level of a text especially in oral narration referring to events that follow each other in time (Vion and Colas, 2004). They code the existence of 'minimal relationships' between propositions, and group sequences of propositions into a whole in which in some cases the links between the content of the different propositions in this 'whole' are not always clear (Jisa, 2000; Peterson & McCabe, 1988). It follows that participants might have failed to recognize such links between propositions denoted by such markers. Of course this remains at the level of speculation. More research with rigorous designs is necessary using verbal protocol and/or recall measures to prove this.

Taking the findings of this study into account, we can argue that there is a hierarchy of difficulty in the comprehension of conjunctions in narratives. Contrary to our expectation, this hierarchy is both text-specific and learner-level specific. Different text types do not cohere in the same way, and methods of conjunction in different genres vary in a statistically significant manner (Smith, 1985; Smith and Frawley, 1983). We may thus speculate that the comprehension of the propositional relations denoted by the conjunctive elements might also vary in different text types (e.g. in arguments or in expositions) due to the different cognitive and rhetorical organization of these text types.

The organizational role played by conjunctive adverbials and their different distribution patterns across different text types assigns a core significant role to these markers. This role highlights the more ‘model-building’ function of these signals (Segal, et al., 1991). That is, they are crucial as well in building a coherent mental model for interpreting happenings in the text world without which the reader would not be able to build the intended model.

#### **4.1 Limitations and recommendations for further study**

It should be mentioned that this study was limited to examining connectives and inferring them in extended stories. The role of such devices in other discourse types was not examined. This issue might be considered as one of the limitations of this study. The role of the presence or lack of other textual features like ‘reference’, ‘ellipsis’, and ‘substitution’ in the comprehension of the abovementioned text types was not investigated either.

Nonetheless, the results of this study demonstrate that consideration of textual signals is essential for comprehension at least at lower levels of reading proficiency. Moreover, when these markers are missing in the texts, it is essential for readers to infer them. Hence, we will come across differences between more or less proficient readers in their comprehension of logical relations implied by such markers when they are not explicit in the text (Irwin, 1982). Accordingly, students’



awareness of the relationship between textual signals and the rest of the text need to be raised. This way, the facilitative role of the explicit teaching of textual connectors on the reading comprehension of EFL learners in general, and ESP students in particular would be highlighted.

Development of understanding of textual markers of different types in reading can be expected in other skills (listening, speaking, writing) too, with training in one skill as a possible aid to the learners' understanding of connectives in another.

Further, It is also argued that although children use these connectives in speech before going to school, they do not develop a sufficient understanding of their meanings years after that (Ozono and Ito, 2003). The reading program can provide systematic training in a way that the learners develop more facility in the written form.

Further research is needed to investigate which signals are more problematic for readers at different proficiency levels, and whether the comprehensibility of logical relations for readers is a function of the type of logical relation implied through the signals in the text, or a function of age, or proficiency in learners' first language. Additionally, we need to investigate the effect of individual signals on the reading comprehension of different text types to find out the contributory effect of each signal in each particular type of text. Logical relationships may be easier to comprehend in narratives than in expository texts (Geva, 2004). Another consideration for research is that most of the research findings in this regard relate to L1 native speakers of English. Further research is needed to examine how non-native readers of English or other languages process different types of logical relationships.

### References

- Abdollahzadeh, E. (2006). The role of textual signals in reading comprehension. *ESP Malaysia*, 12, 1-18.
- Brantmeier, C. (2005). Effects of reader's knowledge, text type, and test type on L1 and L2 reading comprehension in Spanish. *Modern Language Journal*, 89, 37-53.
- Britton, B. K.; Glyn, S. M.; Meyer, B. J. F., & Pen Land, M. J. (1982).

- Effects of text structure on the use of cognitive capacity during reading. *Journal of Educational Psychology*, 74, 51-61.
- Degand, L., & Sanders, T. (2002). The impact of relational markers on Expository text comprehension in L1 and L2. *Reading and Writing*, 15, (7-8), 739-758.
- Faigley, L., & Meyer, P. (1983). Rhetorical theory and readers' classifications of text types. *Text*, 3 (4), 305-25.
- Geva, E. (2004). Conjunction use in school children's oral language and reading. In R. Horowitz (Ed.). *Talking texts: how speech and writing interact in school learning* (pp. 1-22). White Plains, NY: Longman.
- Geva, E., & Ryan, E. B. (1985). Use of conjunctions in expository texts by skilled and less skilled readers. *Journal of Reading Behavior*, 17, 331-346.
- Goldman, S. R., & Varnhagen, C. K (1986). Memory for embedded and sequential story structures. *Journal of Memory and Language*, 25, 401-418.
- Goldsmith, E. (1982, February 16). *An investigation of the role of adversative connectives in helping poor and good readers to integrate information in text*. Retrieved October 2005 from Eric Document, ED 247525.
- Golkar, H. (1997). *The impact of explicit, implicit, and highlighted connectors on Iranian EST students' reading comprehension*. Unpublished MA thesis, The Department of Foreign Languages, Iran University of Science and Technology, Tehran, Iran.
- Graesser, A. C.; Golding, G. M., & Long, D. L. (1991) Narrative representation and comprehension. In R. Barr, M. Kamil, P. Mossenthal, & P. Pearson (Eds.). *Handbook of reading research II* (pp. 171-204). White Plains, NY: Longman.
- Graesser, A. C.; Millis, K. K., & Zwan, R. A.(1997). Discourse comprehension. *Annual Review of Psychology*, 48, 163-189.
- Grosz, B. J., & Sidner, C. L. (1986). Attention, intentions, and the structure of discourse. *Computational Linguistics*, 12, 175-204.
- Halliday, M. A. K., & Hassan, R. (1976). *Cohesion in English*. London: Longman.
- Hobs, J. R. (1990). Literature and cognition. Coherence and conference.

- Cognitive Science*, 3, 67-90.
- Irwin, W. (1982). The effects of coherence explicitness on college readers' prose comprehension. *Journal of reading behavior*, 14, 275-284.
- Jisa, H. (2000). Increasing cohesion in narratives: a developmental study of maintaining and reintroducing subjects in French. *Linguistics*, 38, 591-620.
- Johnson, P., & Pearson, D. P. (1982). *Prior knowledge, connectivity, & the assessment of reading comprehension* (Technical Report No. 245). Urbana: University of Illinois Publications.
- Kintsch W., & van Dijk T. A. (1978). Toward a model of text comprehension and production. *Psychological Review*, 85, 363-94.
- Loman, N. L., & Mayer, R. E. (1983). Signaling techniques that increase the understandability of expository prose. *Journal of Educational Psychology*, 75, 402-412.
- Mann, W. C., & Thompson, S. A. (1986). Relational propositions in discourse. *Discourse Processes*, 9, 57-90.
- Mayer, R. E.; Dyck, J. L., & Cook, L. K. (1984). Techniques that help readers build mental models from scientific text: Definitions of pretraining and signaling. *Journal of Educational Psychology*, 76, 1089-1105.
- Millis, K. K., & Just, M. A. (1994). The influence of connectives on sentence comprehension. *Journal of Memory and Language*, 33, 128-147.
- Myers, J. L., O'Brien, E. J.; Albrecht, J. E.; Mason, R. A. (1994). Maintaining global coherence during reading. *Journal of Experimental Psychology*, 20, 876-86
- Peterson, C. & McCabe, A. (1988). The connective and as discourse glue. *First Language*, 8, 19-28.
- Robertson, J. E. (1968). Pupils' understanding of connectives. *Reading Research Quarterly*, 3 (3), 387-417.
- Rosat, M. C. (1990). For or against an analysis of argumentative textual forms. *Journal of Pragmatics*, 16, 99-112.
- Sanders, T. J. M., & Nordaman, L. G. M. (2000). The role of coherence relations and their linguistic markers in text processing. *Discourse Processes*, 29, 1, 37-60.

- Sanders, T., Spooren, W., & Noordman, L. (1992). Towards a taxonomy of coherence relations. *Discourse Processes, 15*, 1-35.
- Schneuwly, B. (1988). *How does a canal lock work? Explanations written by pupils aged 10 and 14*. Paper presented at the Third European conference on Developmental Psychology, Budapest, Hungary.
- Schneuwly, B. (1997). Textual organizers and text types: Ontogenetic aspects in writing. In J. Costermans, & M. Fayol (Eds.), *Processing inter-clausal relationships: Studies on the production and comprehension of text* (pp. 80-96). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Segal, E. M.; Duchan, J. F., & Scott, P. T. (1991). The role of inter-clausal connectors in narrative structuring. Evidence from adult's interpretation of simple stories. *Discourse Processes, 14*, 24-54.
- Smith, R. N., & Frawley, W. J. (1983). Conjunctive cohesion in four English genres. *Text, 3*(4), 347-373.
- Smith, E. L. (1985). Text type and discourse framework. *Text, 5* (3), 229-247.
- Spyridakis, J. H. (1989). Signaling effects: A review of the research-part I. *Journal of Technical Writing and Communication, 19* (3), 227-240.
- Trabasso, T.; Secco, T., & van den Broek, P. (1984). Causal cohesion and story coherence. In H. Mandl, N. L. Stein, & T. Trabasso (Eds.), *Learning and Comprehension of Text* (pp. 83-111). Hillsdale, NJ: Lawrence Erlbaum
- Van Dijk, T. A. (1979). Relevance assignment in discourse comprehension. *Discourse Processes, 2*, 113-126
- Van Dijk, T., & Kintsch, W. (1983). *Strategies for discourse comprehension*. New York: Academic Press.
- Vion, M., & Colas, A. (2004). On the use of the connective 'and' in oral narration: a study of French-speaking elementary school children. *Journal of Child Lang, 31*, 399-419.
- Zinar, S. (1990) Fifth-grader's recall of propositional content and causal relationships from expository Prose. *Journal of Reading Behavior, 22*, 181-199.