A Review of the Role of Discourse Markers
in ESL/EFL Listening Comprehension[1]

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Abstract

This review article extends the conventional conception of academic listening to include monologic and dialogic listening in classroom genres and institutional talks in the university setting, trying to highlight the studies of discourse markers' role in listening comprehension. The cognitive processes of listening comprehension will be presented before a review of empirical studies which will shed light on recent research on the role of discourse markers in ESL/EFL listening comprehension, in particular focusing on the past 30 years. The author will explore the issue by focusing on two dimensions: 1) academic lectures and institutional talks in a university setting; 2) conventional classroom listening. The final section summarizes to emphasize the necessity of further research and proposes future research directions for the role of discourse markers in ESL/EFL listening comprehension.

Key Words: listening comprehension; discourse markers; effect; cognition; university lecture; conventional classroom listening

Introduction

In spite of the critical role of listening, it has long been overlooked and undervalued by SL/FL teachers and researchers and received less attention than the other language skills. This "Cinderella skill in second language learning" (Nunan,1997) however, for the past few decades,

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has successfully changed its status from being a receptive, passive skill, to being an active and cognitive process. There has been an increased focus on SL/FL listening comprehension and many have acknowledged its importance in language acquisition and research (Field, 2008; Flowerdew, 1994; Lynch, 2011; Nation & Newton, 2009; Nunan, 1997, 1998; Osada, 2004; Richards & Renandya, 2002; Rubin, 1994). Considerable theoretical and pedagogical monographs, in addition to edited books around this area since 1980, have proved the growing importance of listening comprehension in classroom teaching and practice, such as Anderson and Lynch (1988); Blundell and Stokes (1981); Brown (1990); Buck (2001); Field (2008); Flowerdew (1994); Flowerdew & Miller (2005); Lynch (2009); Rixon (1986); Rost (1990, 2002); Ur (1984). They have endeavored to undertake comparative studies into listening comprehension then and now. These studies have enriched the development of interdisciplinary listening research around the issues of approaches, listening strategies, strategy instruction, impediment factors in SL/FL listening, curriculum design and material writing. Factors reported to impair listening comprehension have always been the continuous focus of teachers and researchers for the nature of listening being "complex, dynamic, and fragile" (Celce-Murcia, 1995). In the view of Field (2011), it has an inaccessible nature, and lack of readily available information. Despite this intricate character of listening, current research has presented a tendency of diversity from the perspectives of multidisciplinary interfaces. Arduous efforts have been made by teaching practitioners and researchers, striving to discern and have access to this tangible information processing, thus assisting learners to overcome the difficulty of listening. The endeavor into the role of discourse markers in listening comprehension is one of these.

In this review, academic listening includes conventional classroom listening, university lectures, and institutional talks. In second/foreign language classrooms, pedagogical tasks and test practices still dominate the second/foreign language listening and teaching. The pedagogical tests are the major assessment methods for L1/L2 placement tests and proficiency tests, and measurement for listening proficiency as a second language for classroom-context academic purposes at the tertiary stage. On the other hand, English as a single language has become the global lingua franca for the first time in history (Northrup, 2013). English academic lectures have increased in non-English speaking countries. Bilingual academic lectures and English academic lectures prevail in university settings all over the world as English is

increasingly gaining importance, signifying globalisation and internationalisation of the local culture and linguistic environment. Both conventional classroom listening and university lectures cover reciprocal and non-reciprocal listening.

Cognitive Processes in Listening Comprehension

L2 listening is the least researched of four language skills (Vandergrift, 2006), not just because it was downgraded and peripheral, but it is the most difficult one to acquire. Field (2003) points out that the listening process is not accessible to inspection in the way that skills such as speaking and writing are. According to Rumelhart, although it is not clear exactly how, language is processed at different levels simultaneously, such as phonological, syntactic, semantic, and pragmatic (Flowerdew & Miller, 2005). However, it is a basic skill in second language acquisition. With the understanding of the nature of listening, though research in listening comprehension and SL/FL listening instruction is still in its infancy, increasing recognition of its pivotal role in pedagogic settings have given it increased recognition. Listening is an internalized skill, takes place in the mind of the learner and cannot be studied directly (Field, 2008). Field (2008) argues that we don't know much about the processing of the listener's mind, and whether they can operate successfully or not. The only evidence available is indirect and takes the form of responses to exercises and tasks similar to those that testers favour. A listener has to deal with acoustic signals reached to their ear and decode them. The process of decoding itself is not enough. The listener brings the sounds together to construct meaning based on his prior knowledge and context. Both decoding and meaning building are interwoven processes and pose difficulty to listeners.

Research into the cognitive processes of listening comprehension calls attention to the two basic processes, known as the bottom-up and top-down processes (Chaudron & Richards, 1986; Flowerdew & Miller, 2005; Lynch, 1998, 2002; Mendelsohn, 1998; Nunan, 1998; Oxford, 1993; Rost, 2002; Rubin, 1994). Bottom-up processing is a type of information processing based on incoming data from the environment to form a perception. In listening, bottom-up processing refers to the piecing together of acoustic cues and segmenting them to lexicon, then to phrases and finally to form meaningful sentences and discourse. According to this model, the different types of knowledge necessary in the listening process are applied in a serial, hierarchical fashion (Flowerdew & Miller, 2005). While in top-down processing, listeners use

co-text, context and prior knowledge (topic, genre, culture and schema knowledge) to construct and reconstruct incoming data to make sense of it. The term was first employed by the psychologist Bartlett in 1932 (Nunan, 1998), and his original work was the basis for recent developments in the areas of speech processing and language comprehension. Knowledge in our heads is organized into interrelated patterns, like stereotypical mental scripts or scenarios of situations we experience every day. When listeners receive acoustic signals, certain related mental schema will be activated and help them create a mental representation of what they hear. The two processes interact during the listening comprehension. There are numerous types of text and numerous types of listening according to a number of variables, including listening purposes, task types, the role of the listeners, and task difficulty. While listeners use both levels of processing, the amount each level is used depends on the various listening requirements. As Chaudron and Richards (1986) points out, bottom-up processing assigns grammatical status to words and assigns topics and meanings used in the message. However, top-down processing involves prediction and inferencing and enables the listeners to by-pass some aspects of bottom-up processing. Especially when cross-cultural events are concerned, the prior knowledge or the common ground in Clark's (1996) approach can help us to anticipate and predict or interpret the possible procedure or propositions and meaning in the text. What Field (2011) assumes is listening employs two sources of information: perceptual and conceptual. Perceptual is based on auditory input while conceptual draws upon the listeners' own world knowledge.

Research into the processes of listening comprehension has shown that the role of discourse markers (henceforth DMs) has aroused steady interest and maintained continuous enthusiasm. The underlying question may be framed as for whether DMs as linguistic devices enable the listeners to track the appropriate relationship between and above sentences, therefore facilitating comprehension.

Theoretical Framework of Discourse Markers

The terminology of DMs has proved no less troublesome than determining what listening is. Different approaches define DMs in different ways, thus endowing them with different meanings and functions. There is no agreement about what characteristics in a language should be referred to as DMs. Hence, studies on DMs have referential divergence and overlapping.

Various terms are employed according to different theoretical preoccupations and their particular linguistic functions. Among others, there are some influential attempts made to characterize DMs in a more general way.

Schiffrin (1987) represents one of the influential perspectives. She establishes the term "discourse markers" in socialinguistic research, defining sequentially dependent elements which bracket units of talk, and proposing the contextual coordinates within which an utterance is produced and designed to be interpreted. In her view, DMs contribute to coherence by establishing multiple contextual coordinates simultaneously, thus facilitating the integration of various components of speech.

Redeker (1991) proposes a closely related characterization of DMs. Her discourse model, like Schiffrin's, is based on coherence effected between adjacent discourse units. She defines these DMs as discourse operators (DOs) ---"linguistic signals of textual coherence links."

Based on Sperber and Wilson's (1987) Relevance Theory, Blakemore (1992) maintains that DMs should be analyzed as linguistically specified constraints on contexts and suggests that there are at least four ways in which information conveyed by an utterance can be relevant: allow the derivation of a contextual implication; strengthen an existing assumption; contradict as existing assumption; specify the role of the utterance. She calls them "discourse connectives".

In Fraser's (1990, 1996, 1999) grammatical-pragmatic approach, a DM is a linguistic expression, and has a core meaning, which signals the relationship of the basic message to the foregoing discourse. He calls such expressions "pragmatic markers", which a) have a core meaning enriched by the context; b) signal the relationship that the speakers intend between the utterance the DM introduces and the foregoing utterance.

Schourup (1999) argues that no definition seems likely to win universal acceptance in view of the unresolved theoretical differences and varying background assumptions that inform these definitions. Sometimes discourse particles by Schourup and other terms mentioned above are used interchangeably, but in most cases, they serve different functions and are not the same list of markers. There is no general accepted list of DMs or general agreement on category. Thus in this review, a conventional term discourse markers will be adopted.

Empirical Studies on the Role of Discourse Markers in Listening Comprehension

In what follows, the review will address the role of DMs in listening comprehension over the past 30 years. Some studies focus on the general effect of DMs, while others investigate specific individual DMs, posing the questions of whether there is any effect of DMs on listening comprehension and to what extent in two dimensions: 1) academic lectures and institutional talks in a university setting; 2) conventional classroom listening.

Effect of DMs on Academic Lectures and Institutional talks in a University Setting

Lecture is the most extended classroom academic genre, plays a central role in academic learning and has attracted considerable attention from researchers whose interests are English as a second or foreign language (Benson, 1994; Flowerdew, 1994; Waggoner, 1984). Empirical studies done to investigate the relationship encompass two directions: the first direction is carried out on the monologic lecture mode. This direction is subdivided into two perspectives: from the perspective of lecturing style: reading vs. conversational; from the perspective of the lecturer status: native speakers vs. non-native speakers. The second direction turns to dialogic lecture mode and institutional talks in a university setting, which are reciprocal and interactive, such as classroom seminars, group discussion, task-based instruction, office hours and face to face consultation.

Monologic Lectures

The conventional and most popular form of university lecture is monologic. This nature of the lecture requires native or non-native listeners to comprehend and interpret the semantic relations lying beneath the surface text in order to achieve a coherent interpretation of the monologues (Thompson, 1994). Thompson argues that the absence of explicit surface markers, such as conjunctions, will pose difficulties though she finds that lexico-grammatical cohesion could indicate the scope of the clause relations. Olsen and Huckin (1990) assert that a more important factor contributing to non-native speakers' difficulties in comprehending listening is for them to recognise 'cues' within lecture talk.

Lecturing Style: Reading vs. Conversational

A number of researchers suggest that there is a relationship between discourse markers and different parts of the text (Alonso et al, 2002; Asr & Demberg, 2013; Ben-Anath, 2005;

Bestgen, 1998; Coulthard & Montgomery, 1981; Fischer, 2000; Fraser, 2006; Hovy, 1995; Lenk, 1998; Redeker, 2000,2006; Sanders & Noordman, 2000; van Dijk, 1979). Dating back to 1975, a study by Cook (1975) tested the functions of connectives which served as the indicators of topic continuation. Following this, research into the effect of DMs on academic lectures has become an important aspect of second language acquisition in the 1980s since Chaudron and Richards (1986) conducted a pioneering experiment to investigate how different categories of DMs affect the degree to which non-native students understand university lectures. After that, numerous studies replicated Chaudron and Richards' experiment, and research addressing this question began to increase. The key focus of the empirical studies is whether different categories of DMs facilitate listening comprehension. Among these studies, some go further, examining the extent of the effect of DMs on lecture comprehension. Theoretical frameworks and methodologies are various. Some get to the similar conclusion as Chaudron et al.'s, while other results are contradictory and mixed. The conflicting findings attribute greatly to the lecturing styles - reading or conversational, scripted or unscripted - due to the methodological differences as for whether the study is based on experimental lectures or course-embedded lectures.

Chaudron and Richards (1986) found facilitative effects of macro-markers which led to better recall of text material. The authors categorized DMs into two groups: macro-markers (higher-order markers marking major transitions) and micro-markers (lower-order markers linking clauses and sentences). In their experiment, four scripted versions with or without macro or micro-markers of the same lecture are used to examine four groups of subjects' comprehension, by employing three measures: recall cloze, multiple-choice and true-false test. Chaudron and Richards's findings are influential in the last century and also trigger other researchers' further investigation into DMs' role in academic lectures. It was found that the micro-markers did not aid the learners' retention of the lecture content, and the over-use of micro-markers possibly detracts from the overall coherence of the lecture. These results have exerted great influence in ELT for a long period. Dunkel and Davis's (1994) study adopted a similar but simplified methodology to that of Chaudron and Richards, examining the differences between the lecture information recall of first language listeners and second language listeners relative to the presence and absence of the rhetorical signalling cues

(discourse markers) in the discourse. The results led them to conclude that there was no positive effect for either macro- or micro-markers.

Both studies prove no positive effect of micro-markers. These results are contradictory to various descriptive and empirical study findings that DMs play a positive role in language processing and tracing, or that a positive relationship exists between adjacent discourse segments, thus contributing to the comprehension of a text (Aijmer, 2004; Ben-Anath, 2005; Bestgen, 1998; Borderia, 2006; Fraser, 2006; Hansen, 2006; Hovy, 1995; Koda, 2008; Redeker, 2000; Sanders et al, 2000; Segal, Duchan, &Scott, 1991; Tietze et al, 2009; Tyler, 1992; van Dijk, 1979).

In 1995, Flowerdew and Tauroza (1995) questioned Chaudron et al. (1986) and Dunkel et al.'s (1994) analysis of the role of micro-markers as fillers in lecture comprehension, arguing that the negative findings of their studies are the results of experimental design. They believed that the research designs by Chaudron and Richards might have skewed their results. Flowerdew et al. (1995) attribute the contradictory to disputable methodology and differences in experimental procedure---the materials used do not accurately reflect the uses and placement of discourse markers as they occur in natural L1 discourse. In their study, the authors attempt to verify their hypothesis (that subjects comprehend a lecture better when discourse markers are included than when they are deleted) by (a) highlighting recent interpretations of the role of discourse markers in the comprehension process, (b) examining the differences between naturally occurring lecture discourse and the materials used in previous studies, and (c) examining the effects of systematically manipulating naturally occurring discourse markers. The authors concluded that with all three measures, the subjects who viewed the original version of the lecture scored higher than those who viewed the deleted version.

Another study by Flowerdew and Miller (1997) posed the question of 'authenticity' in the teaching of academic listening. Their findings highlight the difference in micro structuring between authentic lectures from those written texts or scripted lectures. One of the differences they pointed out is the use of discourse markers such as *and, so, but*, in real lecture texts. This study further supports Flowerdew and Tauroza's (1995) examination of the facilitative effects of DMs on listening comprehension. Thereafter, some studies begin to control the "authentic/interactive" material as a variable in the experiments. The dispute between "scripted

or unscripted", or "reading-style or conversational-style" thus sparks, and is considered to be an important variable for the acceptability of the results. However, there are still many studies that are beyond this consideration.

As Flowerdew et al. (1995) points out, to find out about the role of DMs in lectures, unscripted, conversational-style texts are to be adopted as a more appropriate research methodology. Scripted texts have a higher lexical density with more complex relations of coordination and subordination, while conversational lectures feature a higher proportion of sentence fragments, are structured according to tone units and use DMs to mark the beginning or end of tone groups. That can explain part of the reasons why previous studies have varied or even contradictory results. This view is shared by Flowerdew et al. (1995).

With regard to the discussion of reading vs. conversational lecturing styles, a central issue is related to the lecture genres, and the relationship between lecturers and students. Flowerdew (1994) is probably the most comprehensive work on academic listening, but interpersonal factors among the abundant publication have not received much attention. It goes without saying that there has been growing interest in this issue recently. Despite the monologic nature of academic lectures, more research finds that metadiscourse and proper interaction between lecturers and students aid lecture comprehension.

Thompson (2003) maintained that L2 students face the task of interpreting in real time a monologue that is both linguistically and cognitively demanding as they attend a lecture. She reported on a comparative study of text organisation in six authentic undergraduate lectures and 10 talks selected from EAP materials published over the past 25 years. The study focuses on the roles of text-structuring metadiscourse and intonation in signalling the larger-scale organisation of academic talks. She argues that both metadiscourse and intonation are used by academic speakers to help an audience form a coherent "mental map" of the overall talk and how its parts are interconnected.

Morell (2004) studied interactive lecture discourse for EFL university students. In her empirical study, she describes and compares textual and interpersonal discursive aspects (personal pronouns, discourse markers, questions and negotiation of meaning) of three non-interactive and three interactive lectures. The interactive lectures are found to be characterized

by a greater amount of elicitation markers. The findings of the comparative analysis are used to promote interaction in originally non-interactive lectures. She thus points out that research on interpersonal aspects of language may shed light on the importance of interaction for the improved comprehension and progress in communicative competence.

Besides the discussion of the authenticity and dynamics of lecture, a few studies attempt to investigate the degree of the effects of DMs, namely on different levels of information in the text. Jung (2003a) examined the effects of discourse signalling cues on L2 learners' listening comprehension of high- and low-level information in academic lectures. Jung (2003a) reviewed the previous studies into the effects of discourse signalling cues on second language listening comprehension, specifically focusing on those of Chaudron and Richards, Dunkel and Davis, Flowerdew and Tauroza. Jung points out the existing disputable research results are due to the methodological drawbacks. Thus in his study, he tried to explore the relationship between cues and L2 listening comprehension by employing a more rigorous and refined research design that involved a) using an unscripted lecture; b) controlling for the learners' L2 listening proficiency; c) controlling for the learners' background knowledge of the lecture. The author argues that cues play a significant role in L2 listening comprehension, facilitating L2 learners' listening comprehension of high- and low-level information, as well as the combination of the both. The signalled group listening to a lecture with cues performed significantly better in recall of both high- and low-level information than the non-signalled group listening to a lecture without such cues. A variety of factors such as text structure, text types, learners' background knowledge, learners' L2 listening proficiency, assessment tasks and text materials might explain the discrepancy observed between his finding and the previous findings. The limitation of the study, as he himself realized, is to investigate and confirm the effects of explicit classroom instructions regarding cues on L2 learners. His other article (2003b) in the same year is a confirmation of his findings about the relationship between explicit markers and text understanding.

In a later discussion, Jung's (2006) findings extended previous research documenting the facilitating role of the markers in listening comprehension. By a qualitative analysis, he investigated more specifically into how L2 learners misunderstand the text when the markers are absent in the academic monologue. The results show that the lack of markers appears to

contribute significantly to L2 learners' misinterpretation of the text. When these markers are missing, listeners experience difficulty understanding the message, and communication problems ensue. This study further supports his previous findings for the role of DMs in the comprehension of academic lectures.

In a similar study, Zhuang (2012) adopts the same methodology as Jung (2003a), combining quantitative and qualitative analysis. Instead of using high- and low-level information, Zhuang employs the terms global- and low-level information. She tries to probe into the cognitive process of comprehension, analysing listeners' retrospection on the tasks. While a level of control took place in both studies, Zhuang failed to control the background noise, leading to confounding results among high-proficiency learners concerning their summary tasks. The research conclusion coincides with Jung's (2003a) that conjunctives facilitate EFL learners' listening comprehension in a lecture setting, and learners who listen to the texts with conjunctives comprehend more information both on a global level and on a local level than those who are exposed to the texts without conjunctives. A big difference between Jung and Zhuang's experiments is that Jung used unscripted lecture which are more authentic, while Zhuang used scripted lecture.

Since the discussion of interactive style of lecture, more studies shift from the general effects of DMs to the effects of specific types of DMs in lecture comprehension. Eslami-Rasekh and Eslami-Rasekh (2007) aimed to gain insight into the effect of discourse markers on academic listening comprehension of university students in English in a foreign language setting. Two groups of students listened to two different versions of a lecture. The two versions were different according to quantity and type of discourse markers. Special attention was given to two types of DMs, textual and interpersonal. The findings reveal that the more extensive use of frame markers facilitates the listening comprehension of EAP students. This pattern provides the listeners with repetition and reinforcement of the content. The results of this study lend further support to the idea that discourse markers have a positive impact on comprehension. However, this study is somewhat limited as only multiple choice tests of listening comprehension were used.

A study by Rido (2010) investigated the function of discourse markers as an interpersonal-interactive feature in a science lecture in a second language setting in Malaysia.

This research employs a qualitative method while the data is gathered through non-participant observation and video recordings of two science lectures at the Faculty of Science and Technology in Malaysia. Rido identified various discourse markers, analysing them according to Chaudron and Richards's categories: macro markers and micro markers. In his study, Rido found that macro-markers such as *that means, I mean, which means to say that, so, now* and *so anyway* signal the transition of the moves and indicate a shift of one topic/subtopic to another topic/sub-topic. Meanwhile, micro markers such as *and, or* and *because* signal the internal or ideational relations within sentences. His findings are also in line with some previous studies that the use of discourse markers will aid lecture comprehension. He suggests that interactive discourse structuring is used to guide listeners through ongoing speech and has been shown to have a positive effect on lecture comprehension.

<p style="text-align:center">Lecturer Status: Native Speakers vs. Non-native Speakers</p>

The comprehensibility of L2 or non-native lecturers has aroused much attention. Among the factors, the contributions of the DMs made to comprehensibility are such one of them. Several studies (Crawford Camiciottoli, 2004; Huang, 2004; Khuwaileh, 1998; Williams, 1992) have adopted a comparative approach to examine the comprehensibility of native and non-native lecturers' production, providing an additional perspective through which to explore the role of DMs in listening comprehension.

Williams (1992) made an examination of the planned and unplanned production of 24 non-native speaking teaching assistants collected over a 2-year period in various university departments in a US university. The videotapes are recorded and analysed compared to 5 native-speaking teaching assistants as baseline data, suggesting that there is a greater difference between the 2 conditions in the degree of discourse marking than in grammatical accuracy. She holds that discourse moves are more likely to be marked overtly and explicitly in planned production than in unplanned production. The findings show that the increased marking in the planned condition appeared to contribute significantly to comprehensibility. She thus concludes that ITA's explicit marking of discourse structure is a crucial element of the comprehensibility of non-native speaker production.

Khuwaileh (1998) studied the use of chunks, phrases and body language and the role of facilitating understanding of academic lectures in a Jordanian university. Nattinger (1986) defines chunks as conventionalized structures that occur more frequently and have more idiomatically determined meaning than language that is put together each time. As mentioned in Khuwaileh's study, chunks are macro-markers delineated in Chaudron and Richards's study, such as introductory chunks such as "what I'm going to talk about today", helpful chunks like "let me turn to…" and phrases of illustration such as "as a case in point…". Thus chunks are an alternative term for DMs in this study. Two lectures were tape-recorded on the same topic by two English-speaking lecturers, one native English speaker and one L2 lecturer to compare and contrast the learners' comprehension of lectures. The result shows that teachers use various ways and means to have their messages understood properly. However, the native speaker's lecture with more chunks and phrases and other means of communication better attracts learners' attention with the conversational style of delivery. Learners in this lecture have better performance in the follow-up quiz than the others. Khuwaileh concludes that chunks, phrases or body language play a crucial role in the learners' comprehension of academic lectures. Khuwaileh (1998) and Williams's (1992) findings reveal that lectures with more explicit markings are relatively more comprehensible regardless of the background of the lecturers. However, native English speakers tend to use more DMs which aid learners' lecture comprehension.

Comparative studies are also fulfilled in corpus-based approach. Crawford Camiciottoli (2004) has done a comparative corpus-based study on interactive discourse structuring in L2 guest lectures. In the study of Crawford Camiciottoli (2004), discourse structuring and elicitation markers also refer to what Chaudron et al. called "macro-markers" in their pioneering study. They are typically 'chunks' based on first and second person pronouns and modal/semi-modal verbs, thus constituting a form of interaction between lecturer and audience that interrupts the flow of informational content. Crawford Camiciottoli (2004) argues that with globalization, cross-cultural lecture experiences are more frequent, and guest lecturers in L2 settings are becoming popular. The results also gave her an indication that the use of discourse structuring expressions in non-native lecturers and L2 lecturers help both L2 listeners and lecturers themselves. This concluding remark is similar to that of Khuwaileh (1998).

A more recent study by Z. Eslami-Rasekh, A. Eslami-Rasekh and Simin (2011) compared the English and Iranian EFL lectures to identify the frequency of use and various types of discourse markers by means of a corpus linguistics analysis, in order to describe the use and function of DMs for better comprehension and retention of lectures. For this purpose, a corpus of ten spoken lectures, half (5 North-American English lectures, NAC) taken from MICASE (Michigan Corpus of Academic Spoken English) and the other half (5 Iranian EFL lectures, IC) were recorded at one of the Universities in Iran. Results of this comparative analysis show that DMs are used more in the IC than in the NAC. An overall view on individual categories suggests that micro-markers have got the highest rate in contrast with macro-markers and operators. These markers express the speakers' intentions and affect the illocutionary force. They conclude to suggest that students who want to improve their lecture comprehension process for successful academic training and results should be aware of it. The findings that non-native lecturers use more DMs are contradictory to Khuwaileh's (1998) native lecturers using more DMs in a conversational style of lecture. The conflicting results may attribute to the size of the lecture corpus.

In a study of Huang's (2004) investigation on how native speakers' English affects Chinese students' understanding of academic lectures, American professors' use of discourse markers contributes to Chinese students' difficulty in lecture comprehension. Huang's conclusion asserts that American lecturers' use of signal words (discourse markers) help them to understand a lecture. However, more specifically, arts students realize the usefulness of the discourse markers to a higher degree than science students.

As is evident from the limited citation above, the discussion on lecture characteristics is disputable as far as the amount and use of DMs in lectures. More direct empirical studies are needed to address the question of the DMs' role in native or non-native speakers with other variables incorporated such as rate of speech, accent, and inclusive pronouns *we, out, and let's*.

Dialogic Lecture Mode and Institutional talks

Besides the studies on spoken monologue lectures, a proportion of them are on dialogic lectures and institutional talks. However, direct research on the use and functions of DMs and the effect of DMs on these communicative events is still rare. There is a considerable difference between reciprocal and non-reciprocal listening due to the nature of two kinds of talks.

Although monologue lecture may remain to be a principal genre of instruction in a university setting (Lee, 2009), a variety of other communicative events such as classroom seminars, classroom discussions, face to face consultation, team projects, tutorial interviews, and task-based instructions all require reciprocal listening skills. Borrowing the term from Lemke (1990), *dialogue* is more consistent with *discussion* when it comes to classroom seminar and discussions.

Schiffrin (2001) argues that DMs tell us not only about the linguistic properties (semantic and pragmatic meanings and functions) and the organization of social interactions, but also about the cognitive, expressive, social and textual competence of those who use them. Effective use of DMs by lecturers not only help them to organize their discourse in the classroom but also fulfil interpersonal and pragmatic functions, and help to create a more inviting atmosphere for active participation. That is, in communication, lecturers and learners share the expectation that learners are aided in their interpretation of the message by lecturers' use of contextualization markers. Learners expect to be guided in their understanding of the message by the markers that explicitly highlight the relative importance of ideas, and signpost cohesive links between ideas.

Direct research that has looked at the effects of DMs on dialogic discussions and institutional talk comprehension is far from diverse in focus and findings with regards to monologue lectures. Chapetón Castro (2009) investigated classroom interaction in the context of English as a foreign language. A non-native lecturer of English and five adult students of EFL participated in the study. Qualitative and quantitative analyses were adopted to examine the questionnaires and audio-recordings. It provided an account for the main functions of DMs. The study reveals that discourse markers fulfil a number of textual and interpersonal functions which may contribute greatly to the coherent and pragmatic flow of the discourse generated in classroom interaction. Implication for this study also comes to the necessary research on the implicit and explicit teaching of DMs in EFL classrooms for better comprehension and interaction.

House (2013) studied how ELF speakers improved their pragmatic competence by using the discourse markers *yes/yeah, so and okay* as expressions of (inter)subjectivity and connectivity. The database of the study consists of 42 audio-recorded and transcribed 10--30

min ELF academic consultation hours between German university professors, their assistants and international graduate (post MA) ERASMUS students from Spain. Findings of the case studies suggest that speakers of English as a lingua franca in academic consultation hours tend to strategically re-interpret certain discourse markers in order to help themselves improve their pragmatic competence and thus function smoothly in the flow of talk.

The interactive dimension of communication also shifts researchers' attention from traditional lecture-orientated study to other prevailing forms of academic events such as seminar. Both Rendle-Short (2004) and Waring (2003) try to examine seminar by employing conversation analysis, focusing respectively on specific discourse markers *um* and *also*, which indicate the coherent relationship to the prior in an interactive environment.

Waring (2003) primarily used a conversation analytic framework in examining two data corpora to demonstrate the intricate operation of the adverb *also*. Data included a series of graduate seminar discussions and television roundtable discussions. She argues that the semantic features of *also* are strategically deployed to accomplish complex interactional goals in a disjunctive or disaffiliated environment. In a disjunctive environment, *also* can be invoked to legitimize one's speaking rights – to get the floor. In a disaffiliated environment, *also* can be mobilized to either soften or strengthen an action in subsequent talk.

Rendle-Short (2004) reported the findings of research into the role played by *um* in a series of computer science seminars. Traditional conversation analysis techniques adopted, the study focuses on the way in which *um* indicates structure in the academic seminar by maintaining coherence across bits of talk. Rendle-Short points out that DMs are overwhelmingly used in computer scientist seminar talk as a way of signposting, indicating the structure of the talk to the listening audience. They play an important role in indicating the beginning of each section of talk, ensuring that the talk is presented as a coherent piece of spoken discourse. She argues that in specific well defined environments *um* functions as a discourse marker and its use and functions in seminar talk indicate the structure of the talk to the listening audience.

Effect of DMs on Conventional Classroom Listening

Conventional classroom listening or an EAP listening program is a special listening practice either for the purpose of training learners' listening ability or for the purpose of passing national and international tests such as TOFEL and IELTS. There is a great environmental and experiential discrepancy between real-world lectures and conventional comprehension tasks with learners attending to an audio recording in a classroom. (Field, 2011) Compared with studies on the role of DMs in academic lectures, the dearth of studies on such classroom task-oriented listening comprehension is apparent.

Zhang's (2012) study aimed to explore the relationship between the discourse-marker-based model and listening comprehension as well as the different effects of such a kind of instruction on liberal arts and science students. The research participants consist of 120 Chinese college students of non-English majors from two different departments of Xi'an University of Science and Technology. An experiment has been carried out by applying the theory of discourse markers (instruction-interaction-induction-internalization) to enhance the English listening skill proficiency. Based on the results of the data analysis, the conclusion drawn is that discourse-marker-based listening instruction can improve students' listening comprehension of non-English majors, and that liberal arts students benefit more from discourse-marker-based listening instruction.

Sadeghi and Heidaryan (2012) investigated the effect of teaching pragmatic discourse markers on EFL learners listening comprehension of Iranian Advanced EFL learners. A selection of 50 male and female learners of English in the Payam-Noor University of Songhor Branch participated in this study. Their major was English Translation. The experimental group received strategy training in recognition of discourse markers in audio-texts during an intervention period of twelve weeks. Based on analysis and description of data, the authors conclude that instruction of metadiscourse markers in Iranian EFL courses is quite successful for improving learners' listening ability.

Both studies adopt the experimental approach to examine the effects of teaching DMs on FFL learners' listening comprehension. Zhang's intervention period is longer. With regard to the test instrument, a standardized TOEFL test is chosen by Sadeghi and Heidaryan, while Zhang's is not known. The limitation of Sadeghi and Heidaryan's experiment is with the

design of measurement, as Sadeghi and Heidaryan pointed out themselves that 20 multiple choice questions in their study could not reflect the overall effect of DMs, and other factors also need to be controlled for further research.

To explore the overall effects of DMs on the learners' listening comprehension is complicated, and even more so to understand to what degree DMs affect listening comprehension during the information processing. As Fox Tree (1999) points out, in listening classroom setting, hearers are nonparticipants and also are not intended addressees. They are overhearers. As Schober and Clark (1989) confirmed, addressees have privileged abilities to participate in the ground process, thus leading them to outperform overhearers. Field (2011) noticed that L2 conventional classroom listeners are highly strategic and substantially rely upon pre-set written questions that accompany a comprehension task. There are a multitude of differences between conventional classroom listening and authentic lectures. The limited studies cited above prove, a period of DMs instruction is effective, which reversely confirms that DMs have a positive effect on listeners in the conventional classroom.

Summary and Future Directions

Research on the role of DMs in listening comprehension is a critical component, contributing to the understanding of this complex processing. This review has highlighted the most important and direct empirical studies in the past thirty years. They delineate the role of DMs in listening comprehension, namely the examination of whether DMs facilitate listening comprehension or not with the presence or absence of DMs, or with instruction. The empirical studies show certain similarities in that they yield positive effects of DMs. A few further explore the degree of information processed with the presence of DMs as far as types of lecture, amount of background knowledge, student proficiency level, and types of DMs. There are also studies that attempt to clarify how different types of DMs impact processing and communication. The increased attention to DMs has led to more solid evidence in support of their processing benefits for lecture understanding, either facilitating interpretation, guiding and signalling understanding, or signposting the transition of speakers' moves. However, there are still opposing findings and opinions, as Koda (2008) notes that the function of connectives does not simply facilitate the understanding of discourse in reading, and it even interferes and

reduces the scope of elaborations. No research has revealed the non-positive effects of DMs on listening yet.

More research is needed to examine the effect of DMs on listening comprehension, incorporating other variables such as speech rate, note-taking, strategy use, discourse structure, and student proficiency level. Also, with learners' increased proficiency in the language, we need to ask: do DMs play the same significant role or not?

The following are some directions proposed for future research:

1. Comparative and contrastive study. Only a few studies focus on native and non-native lecturers' use of DMs to explore the differences and offer some implications for teaching. Further research is needed to identify to what degree the effects of DMs as an interactional tool on academic lectures play, compared with other means such as questions, body language and visual supports. A number of PhD dissertations have contributed to the study of the effect of the variables such as prior knowledge, speech modification, listening proficiency, comprehension strategy, visual supports and discourse signalling cues on listening comprehension. (Abe, 1999; Burger, 2001; Chung, 1990; Jeon, 2007; Jung, 2001; Kao, 2006; McBride, 2007; O'Bryan, 2010; Reid, 2003) However, contrastive research on the effects of different incorporated variables together with DMs on listening comprehension is open to investigation.

2. Dialogic communicative events in the university setting. Research on academic discourse focuses more on monologic lectures. With regards to international students or students in a SL/FL setting, other speech events are inevitable for students to cooperate and interact with others and become socialized into the university community. Study on seminars, office hours, face to face consultation and tutorials are areas yet to be explored.

3. Conventional classroom listening. This review has briefly overviewed two types of classroom listening comprehension, which are direct reports of the effect of DMs on listening comprehension. Conventional classroom listening is still an ESL/EFL skill course in ESL/EFL settings and serves the learners in the real, authentic lectures. However, Field (2011) believes that we know comparatively little of the processes

upon which a student relies when attending a lecture in a second language, and that instructors are disadvantaged by the inaccessible nature of listening. Systematic analysis of conventional listening tasks is necessary considering its place in pedagogical setting.

4. Listening materials design. The study on factors affecting listening comprehension such as text characteristics, interlocutors, task characteristics, listener characteristics and process characteristics has shown fruitful results in L1 and L2 since the mid-eighties. One factor left underexplored is that of listening materials design. The role of DMs in listening comprehension have been recognized in teaching listening comprehension in second and foreign language classrooms, however, the relationship of teaching materials and listening comprehension is beyond the consideration of researchers. Romero Trillo (2002) argues that pragmatic fossilization of DMs among non-native adults is due to the non-natural teaching environment and leads to communication failure. The findings of his corpus-driven comparison between children and adults suggest there is urgent need to bring the consistent teaching of pragmatic markers to language instruction. Fung (2007) also suggests that the restricted range of DMs used by Hongkong students and frequent use of particular markers are a reflection of unnatural linguistic input ESL learners are exposed to. It is plausible to say teaching materials play a significant role in teaching pragmatic markers and aiding listening comprehension in addition to pragmatic competence in the real world. Questions are raised: Are local textbooks for ESL/FSL learners embedded with the instruction of DMs? To what extent will textbooks with naturally occurring language facilitate learners' successful overall language use and help learners speak appropriately and competently?

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